

**The person-organization fit of accounting students:  
Long-term value change following an education intervention**

by

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**Abstract**

The accounting profession continually has problems with hiring and keeping qualified staff; and many accounting scandals have shown a lack of ethical behavior on the part of Certified Public Accountants (CPA). This suggests a misfit between those in the profession and the ethics that the profession strives towards. Research has shown that the congruity of personal values with organizational values, person-organization fit (P-O fit), is an important factor in the hiring, socialization, and retention of employees. In addition, ethical behavior has been found related to P-O fit. Accounting educators have been called upon to address these problems by inculcating accounting students with the values of the accounting profession.

This research firstly reports on the results of a comparison of the personal values of upper level accounting students in Georgia with the personal values of CPA leaders in Georgia. Personal value priorities were measured with the Rokeach Value Survey (RVS). The findings indicated that these samples of Georgia CPA leaders ( $N = 193$ ) and accounting students ( $N = 516$ ) significantly differed in the priority given to 24 of the 36 (66.7%) RVS values. This result suggests a lack of P-O fit between accounting students and the accounting profession.

Secondly, this research reports on the effectiveness of two education interventions designed to improve the P-O fit of accounting students: a Curriculum Modification Intervention and a Value Self-Confrontation (VSC) Intervention. These education interventions were delivered online as part of the content of two distance learning classes on accounting ethics. The curriculum of both classes were augmented with content aimed at increasing the priority given to the value of *courageous*. The two classes were designated as either Group 1 or Group 2. Group 1 received only the Curriculum Modification Intervention. Group 2 received both the Curriculum Modification Intervention and the VSC Intervention, which was targeted at increasing the priority given to the four values of *capable*,

*courageous*, *honest*, and *responsible*—values related to the Code of Professional Conduct and Bylaws (2012) of the American Institute of Certified Public Accountants.

The results indicated that Group 1, from the beginning to the end of class (short-term value change), did not increase the priority given to *courageous*. Thus, the stand-alone Curriculum Modification Intervention did not result in the desired effect. Group 2, on the other hand, did increase the short-term priority given to all four of the targeted values. Moreover, Group 2 increased the long-term priority given to two of the four targeted values: *capable* and *courageous*. The higher priority given to these values at the end of class persisted for 15-16 weeks. The effect sizes indicated practical significance. These results suggest that the VSC Intervention was effective at inducing both short-term and long-term value change in the priority given to values of importance to the ethics of the accounting profession.

These findings have implications for CPA firms, specifically with regard to hiring ethically “fitting” staff and fostering an ethical culture in accounting firms. The results of this research also provide input that may be helpful in improving accounting pedagogy, especially the pedagogy of accounting ethics education and distance education.

**Key words:** person-organization fit, P-O fit, CPA firm turnover, personal values, value change, value self-confrontation, VSC, Rokeach Value Survey, RVS, Certified Public Accountant, CPA, ethics education, accounting students, online education, distance learning.

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## **DECLARATIONS**

I declare that “The person-organization fit of accounting students: Long-term value change following an education intervention” is my own work and that all sources that I have used or quoted have been indicated and acknowledged by means of complete references.

I future declare that I have not previously submitted this work or part of it for examination at Unisa for another qualification or at any other higher education institution.

Donald Lamar Ariail Sr.  
November 20, 2017

# **CHAPTER 1**

## **INTRODUCTION**

The present study is composed of two parts: first, an investigation of the congruence of the personal values of accounting students with the values of the accounting profession; and, second, the testing of the efficacy of two educational interventions aimed at increasing the priority given by accounting students to four values that are important to accounting professionals. These four values are integral to the Code of Professional Conduct and Bylaws (2012) of the American Institute of Certified Public Accountants (AICPA), the leading organization of Certified Public Accountants (CPA) in the United States.

This chapter begins with definitions of critical terms (1.1) used throughout this work. These definitions are followed by background for this research (1.2), which includes the prevalence of turnover in the CPA profession in the United States and the unethical behavior of some CPAs that has negatively impacted the publics' trust in financial markets. The following sections are in turn presented: a statement of the problem (1.3); goals and objectives (1.4); the importance of the research (1.5); the content of the research (1.6); research delineations (1.7); research limitations (1.8); research methods (1.9); and, lastly, the chapter divisions (1.10).

### **1.1 DEFINITIONS OF CRITICAL TERMS**

The terms Georgia, certified public accountant, public accounting, certified public accounting leader, upper level accounting students, personal values, person-organization fit, and value self-confrontation are used with specificity throughout the present work. A brief explanation of each of these terms follows. In-depth discussions of most the terms will follow later.

### 1.1.1 Georgia

Georgia is one of the 50 states of which the United States of America (variously referred to as U.S.A or U.S.) is comprised. This state is located in the Southeastern Region of the country. Georgia is not unique in regards to its accounting standards, nor is it unique in the examination it gives to prospective Certified Public Accountants.

### 1.1.2 Certified Public Accountant (CPA)

In the United States, certified public accountants are licensed to independently attest to the fair presentation of financial statements in conformity with Generally Accepted Accounting Principles (Gibson, 2013). Each of the 50 states and five jurisdictions (District of Columbia, Puerto Rico, U.S. Virgin Islands, Guam, and the Commonwealth of Northern Mariana Islands) requires applicants for licensure to pass the Uniform CPA Examination administered by the American Institute of CPAs (AICPA, n.d. a) and to meet specific requirements of each state or jurisdiction. When the CPA designation is used in connection with accountants from countries other than the United States, the term CPA is preceded by the name of the country: e.g., Cyprus CPA, Australian CPA.

### 1.1.3 Public Accounting

The term “public accounting” in the United States can apply to an individual CPA firm or to the industry of professional accountancy in which CPAs practice. The term “public accounting firm,” therefore, is used interchangeably with “CPA firm”, and the term “public accounting” is used to designate the collective body of CPA firms. CPAs are often described as practicing public accounting—that includes, but is not limited to, practicing the attestation function. While CPAs are licensed

specifically for the attestation function (auditing), they also provide services in various other areas such as taxation and business consulting.

#### 1.1.4 Certified Public Accounting Leader

For the purpose of this study, a CPA leader is defined as an accountant who holds a license in the state of Georgia to practice public accounting and who is at the level of partner or owner of a firm in the practice of public accounting, or who is at the level of controller or chief financial officer in industry. Thus, these practitioners, who have risen to leadership positions in public accounting firms or in corporations, can be considered (Rokeach, 1979) the “gatekeepers” of the values of the accounting profession.

#### 1.1.5 Upper Level Accounting Students

Upper level accounting students are defined in the present study as accounting students at the junior, senior, or graduate level of their education. Earning a bachelor’s degree in the United States commonly involves a four-year course of study: The first two years (freshman and sophomore years) are most often spent taking core courses (liberal arts courses that are not part of one’s specialization), while the last two years (junior and senior years) are usually spent taking courses in one’s major (specialization courses). Generally, students will have declared an accounting major by their junior year. Graduate accounting students will have either completed a bachelor’s degree in accounting or will have taken undergraduate accounting courses as pre-requisites for being admitted to a graduate program in accounting. Such students are usually working towards meeting the 150 semester hour (a semester hour is one hour per week of formalized study for an academic semester, with an academic year being composed of two semesters) requirement for taking the CPA exam (NASBA, Georgia, n.d.)—most

students who have earned a bachelor's degree in the U.S. will have completed about 120 semester hours of coursework.

#### 1.1.6 Personal Values

Milton Rokeach's (1973) definition of personal values, as defined in Section 1.6.2.1.1, is utilized in the present study. Personal values are measured with the 18 terminal values and 18 instrumental values that comprise the Rokeach Value Survey (RVS; Rokeach, 1973).

#### 1.1.7 Person-Organization Fit (P-O fit)

Various types of fit between individuals and organizations have been proposed or operationalized: e.g., person-job fit (Cooper-Thomas & Poutasi, 2011; Chen, Wang, & Hsu, 2013), needs-supply fit (e.g., Kristof, 1996), and P-O fit, which is the focus in this study. Kristof (1996) conceived of P-O fit as being either supplemental, complementary, or both. Chatman's (1989) definition of P-O fit, which is included in Kristof's (1996) conceptualization of P-O fit, as being complementary, focused on P-O fit as an agreement between personal values and organizational values. According to Chatman (1989),

person-organization fit [is] . . . the congruence between the norms and values of organizations and the values of persons. In order to determine the effects that organizational membership will have on an individual's values and behaviors and the effects that an individual will have on an organization's norms and values, we need to first assess the extent of agreement between the person's values and the organization's values. (Chatman, 1989, p. 339)

#### 1.1.8 Value Self-Confrontation (VSC)

Value Self-Confrontation (VSC) is the method of value change developed by Milton Rokeach (1973). Rokeach's method of inducing changes in values, attitudes, and behaviors (Greenstein, 1989), including various iterations of his methodology, has been used in the majority of VSC studies (2.2.1) and, in a modified version, is utilized in the present study.



## **1.2 BACKGROUND**

There has been a problem in the United States with accounting students transitioning from the classroom to public accounting. High voluntary turnover, defined as unwanted employee attrition (Elkjaer & Filmer, 2015), amongst certified public accountants (e.g., Roth & Roth, 1995; *Inside Public Accounting*, 2015; *CPA Practice Advisor*, 2015), has resulted in ongoing staffing concerns (AICPA PCPS, n.d.). A further problem involves the unethical actions of some CPAs that have called into question the integrity of the profession and the reliability of their financial products. Overviews follow of the problems with turnover in the CPA profession and with the unethical behavior of CPAs.

### 1.2.1 Turnover in the CPA Profession

Employee turnover in the CPA profession is prevalent and costly. Over the years, various remedies have been suggested. The prevalence of turnover (1.2.1.1), the cost of turnover (1.2.1.2), and some of the suggested remedies (1.2.1.3) are presented below.

#### 1.2.1.1 Prevalence of Turnover

The turnover of employees trended up from 2013-2014 in both the United States and Europe. The overall turnover rate in the United States was the highest at 13%, with the 19-37 age group having the highest rate (Elkjaer & Filmer, 2015). Voluntary turnover in 2015 by selected industries ranged from a low of 6.1% for employees of utility companies to a high of 14.2% for employees in banking and finance (Compensation Force, n.d.).

In the United States, employee turnover in public accounting has been a long-term problem. In the 1990s, Roth and Roth (1995) reported turnover rates of 25%. Over 20 years later, estimates of turnover rates remain in the double digits. The 2015 National Benchmarking Report, in which 527

accounting firms (including 200 of the largest firms) were surveyed, found professional staff turnover averaged about 17%, while more than 20% at larger firms—those with over \$75 million in revenue (Inside Public Accounting, 2015). Quoting a Cornell University study, *The CPA Practice Advisor* (2015) indicated that “. . . many firms [are] experiencing an average turnover rate of up to 25 percent per year. . .” (*CPA Practice Advisor*, 2015, para. 2).

Current per year turnover rates (17% to 25%) in public accounting are similar to the rates estimated in the 1990s and are well above the high rate of 14.2% currently estimated for banking and finance. In a 2015 news release, Kelly Platt, the publisher of *Inside Public Accounting*, made the following observation regarding the effects that high turnover is having on CPA firms: “Turnover among experienced staff is forcing partners to take on work they would normally delegate” (Inside Public Accounting, 2015, para. 5). Having partners do the work normally performed by relatively low-paid staff adversely impacts the profitability of CPA firms—it lessens the leverage that is standardly employed in public accounting (Toffler & Reingold, 2003).

The AICPA’s Horizons 2025 (2011) survey of over 5,000 CPAs predicted the need to attract and retain employees as one of the ten themes expected to be important over the next 15 years. This prediction was supported by the recent findings of the Private Companies Practice Section (PCPS) of the American Institute of CPAs’ biannual survey of the top issues of concern to CPA firms: “. . . Staffing concerns have dominated the PCPS’s top issues findings since the survey’s beginnings, with the exception of the years following the economic meltdown, when issues related to finding and keeping clients soared in importance” (AICPA PCPS, n.d., p. 3). The 2015 survey again reported that staffing issues are a major concern of all but the smallest CPA firms—those firms with only one CPA. Finding qualified employees was the number one issue of CPA firms with two to five and with six to ten professionals; and it was the number two issue of CPA firms with 11-20 and over 22 professionals. Retaining qualified staff was the number four issue of firms with six to ten professionals and the number one issue of firms with 11-20 and with over 21 professionals (AICPA PCPS, n.d.).

The supply of accounting students and the demand for accounting students are both high. Enrollment in accounting programs for the 2013-2014 academic year reached a record level of 253,082—an increase of 19% in master’s degree programs and an increase of 3% in bachelor degree programs. CPA firm hires of new accounting graduates also reached a record level of 43,252 in 2014: an increase of 7%. Nevertheless, the hiring and retaining of qualified staff remain top concerns in public accounting (AICPA PCPS, n.d.).

According to the AICPA’s 2015 Trends Report (n.d.), a report that includes data regarding the supply and demand for accounting graduates, the shortage of qualified staff is being affected by a flattening of the number of accountants taking the Certified Public Accounting Exam (CPA Exam). In 2014 there was a 2.9% decrease in the number of individuals taking the CPA Exam. Since 2011, the number of accountants taking the Exam has been relatively flat: 90,630 in 2011, 93,106 in 2012, 94,345 in 2013, and 91,578 in 2014 (AICPA 2015 Trends Report, n.d.). Moreover, Kolar (2016) reports that the AICPA has recently indicated that “43% of the candidates who started the CPA Exam never finished it” (Kolar, 2016, p. 34). Since passing the CPA Exam is a hurdle to advancing in public accounting, students not taking and passing all four parts of this exam suggests that many accounting students may not be planning to pursue a long-term career in the profession. Accounting graduates may be entering the profession in order to acquire the training and experience needed for getting a lucrative accounting job in industry (Jankowski, 2016).

Short-term stays in public accounting are resume enhancers. According to Cohn (2012), after three to six years of employment in public accounting, CPAs have gained much of the training and experience that is highly marketable to industry. In response to this adverse trend, the AICPA has instituted a number of initiatives aimed at increasing CPA Exam participation and at improving hiring and retention in CPA firms. These initiatives include increasing the number of scholarships offered to accounting majors, actively promoting public accounting on college campuses, and improving the accounting education transition from two-year colleges to four-year, bachelor granting, institutions. In

addition, the AICPA has developed “The Recruitment and Retention Tool Kit [which] highlights best practices for attracting, recruiting, and retaining a diverse workforce” (Nilsen, 2015, para. 14).

The leveling of accountants taking the CPA Exam, the low rate of candidates that persevere to pass the Exam, along with the lucrative job opportunities available outside of public accounting (Jankowski, 2016) may be factors in the turnover of experienced staff. The Inside Public Accounting (IPA) National Benchmarking Report for 2016 indicated that CPA firm employees with three to eight years of experience decreased by 5% as a percentage of total staff (Inside Public Accounting, 2016). These employees are likely in the 19-37 age group in which turnover in the United States is the highest.

Another “driver” of employee turnover in public accounting is perhaps related to students having negative perceptions of CPA firm work environments. The seasonal nature of the business often results in high work-hour demands during the busy season—the timeframe from January through mid-April when many certified audits and federal and state tax returns are completed (Roth & Roth, 1995; Jankowski, 2016). Students may perceive public accounting as being a demanding, inflexible profession that lacks work-life balance. The laws, regulations (AICPA PCPS, n.d.), and professional standards that followed the accounting scandals at the turn of the century have also made the practice of public accounting more technical, which has increased the amount of time required to complete the audit of financial statements. The increased time required to complete audits coupled with decreases in experienced staff has resulted in audit staff being pressured to do more work in less time (Jankowski, 2016). The pressures of working in public accounting can contribute to “burnout” (e.g., Almer & Kaplan, 2002; Herda & Lavelle, 2012) and promote a work environment conducive to fraud (Svanberg & Ohman, 2013; Soltani, 2014). Pressure is one of the three conditions posited as related to white-collar crime: the other two being opportunity and rationalization (Cressey, 1953/1973; AICPA, 2009; Ariail & Crumbley, 2016).

The practice of public accounting may not be a good fit for all accounting graduates. Jankowski (2016) suggests that public accounting firms can reduce turnover by accommodating the needs of the new generation of accounting students:

Public accounting is not suited for everyone; however, it is crucial to cater to those employees who are best fit for the occupation by prioritizing employees as the number one resource within a public accounting company. Establishing this mindset will ultimately lead to fostering a culture within the company that is inviting and encourages longevity within the firm. (Jankowski, 2016, p. 26)

In addition to accommodating the unique needs of the new generation of entrants into the CPA profession, as suggested by Jankowski (2016), research (e.g., Chatman, 1991; Yamamura & Westerman, 2007; Hinkle & Choi, 2009) suggests that employers also need to focus on choosing employees whose values fit those of the accounting profession. That is, a focus of recruitment efforts directed at finding employees that not only have the technical skills needed for the job, but also have personal values that are congruent with those of the organization—employees who have P-O fit. By focusing on P-O fit, research (e.g., Chatman, 1991; O'Reilly, Chatman, & Caldwell, 1991) indicates that firms will, through better selection and socialization, also increase their retention of employees.

#### 1.2.1.2 Cost of Turnover

The turnover of employees is costly for all types of companies. Koch (2006), for example, reported that “. . . one Fortune 25 organization’s estimated turnover cost [was] . . . in excess of \$1 billion!” (Koch, 2006, p. 29). Writing for CBS News, Lucas (2012) estimated the average total cost related to the turnover of employees making up to \$50,000 at about 20% of their salary. With public accounting being a knowledge business (*CPA Practice Advisor*, 2015) composed of staff who have earned college degrees, the voluntary turnover of employees in public accounting is even more costly. The *CPA Practice Advisor* (2015) estimated the cost of turnover in CPA firms at 30% of annual salaries.

In their 2015 survey of accounting salaries, Robert Half (n.d.) indicated that average salaries in public accounting for staff accountants with one to three years of experience ranged from \$51,500 to \$83,250; and for senior accountants, salaries ranged from \$62,500 to \$106,500 (Robert Half, n.d.). Using The *CPA Practice Advisor’s* (2015) 30% estimate of turnover cost, the loss of one employee would cost a CPA firm from \$15,450 to \$31,950. This cost range may, however, be conservative.

Hillmer, Hillmer, and McRoberts (2004) suggested that the total cost of turnover is composed of both tangible and intangible costs. Tangible costs include, but are not limited to, screening, interviewing, testing, background checks, hiring bonuses, wages, fringe benefits, training, orientation, and technology. Additional tangible costs can include those related to employee separation, such as the cost of lawsuits (Koch, 2006). Intangible costs, that may be difficult or impossible to estimate, include learning curve related costs (ramp-up costs) and costs that result from the lower productivity of unhappy employees (Hillmer et al., 2004). Such intangible costs are, therefore, unlikely to have been included in the *CPA Practice Advisor's* 30% estimate of the cost of turnover. In actuality, the costs related to lost productivity may exceed the direct costs of turnover. For example, Finnegan's (2015) costing model, which includes loss of productivity, estimated the cost of the turnover of one nurse at \$41,000, which was 54.7% of their average compensation and benefits of \$75,000. The \$41,000 total cost was composed of direct costs of \$11,750 (15.7%) and lost productivity of \$29,250 (39%).

#### 1.2.1.3 Suggested Remedies

Suggested remedies for the problem of employee turnover are many. They include making sure that new hires have a realistic understanding of the demands of jobs in public accounting (Roth & Roth, 1995); improving socialization through mentoring, social events (Chatman, 1991), sports teams, and community projects (MacLean, 2013); addressing the needs of the new generation of CPA firm employees by providing flexible working conditions (Almer & Kaplan, 2002); employing a management system that is motivating and team building (Cory, Ward, & Schultz, 2007; MacLean, 2013; Jankowski, 2016); and hiring employees that fit the firm's culture (Cory et al., 2007; *CPA Practice Advisor*, 2015; Vien, 2017).

Roth and Roth (1995) proposed that giving prospective employees a "realistic preview" of both the pros and cons of working for the CPA firm could help reduce subsequent turnover. Such previews

could be delivered by various means such as in person, by video, or by brochure. “Negative aspects might include long hours, frequent travel, and repetitive tasks” (Roth & Roth, 1995, p. 68).

The *CPA Practice Advisor* (2015) indicated that CPA firms should address problems of staff turnover by striving to develop firm cohesion, a “team mentality,” by making sure that the firm’s reward system incentivizes employees to work towards achieving firm goals, and by providing career enhancement opportunities. “High-performing employees chose to remain with their firms based primarily on respect for the organization’s mission statement, growth opportunities, and salary” (*CPA Practice Advisor*, 2015, para. 6).

MacLean (2013) emphasized the importance played by socialization, formulated as improving the feeling of firm ownership (perceptions of sharing the values of the group), in decreasing employee turnover in CPA firms:

The development of firm ownership, or the connection of employees to the firm’s mission, is essential in reducing turnover. Once an employee feels personally related to a cause, he or she will feel the need to passionately contribute and remain with that cause until it is fulfilled. (MacLean, 2013)

MacLean (2013) also suggested that socialization might be improved by CPA firms encouraging company sports teams and community projects.

Almer and Kaplan (2002), MacLean (2013), and Jankowski (2016) stressed the importance given by the current generation of new accountants to having flexible working arrangements. Almer and Kaplan (2002) suggested that having “. . . flexible work arrangements can enhance the satisfaction and retention of valued employees” (Almer & Kaplan, 2002, p. 31). Allowing staff to work from home (telecommuting) is one flexible arrangement promoted by MacLean (2013).

The Hanke Group, P.C., a CPA firm in the state of Texas, U.S.A., addressed the problem of staff retention by first focusing on hiring employees that are perceived to fit their firm culture: “The recruiting and selection processes focus on identifying unique individuals who will thrive in their community-minded, best-service-driven environment” (Cory et al., 2007, p. 62). Second, the firm has developed a unique employee management system that promotes employee socialization by being both motivating and team building (Cory et al., 2007).

Retention expert Charles Hecht (as cited in Vien, 2017) recommended that employee retention efforts should begin with a focus on hiring employees that fit both the values and culture of the firm. Hecht suggested that focusing on attracting employees with perks was ill advised. “. . . Instead, organizations should define their values and culture, then attract and retain staff whose passions align with their own” (as quoted in Vien, 2017, p. 25). According to Hecht, “authenticity starts with who you hire and who’s recruited, who’s interviewed, and the filter you create for people who join your organization” (as quoted in Vien, 2017, p. 26).

All of the above advocated approaches for decreasing employee turnover appear related to elements of P-O fit. Roth and Roth’s (1995) idea of making sure that employees have realistic work expectations can be related to the P-O fit element of self-selection (e.g., Swider, Zimmerman, & Barrick, 2015). Cory et al.’s (2007) focus on identifying unique individuals that will fit the firm’s culture and Hecht’s (as cited in Vien, 2017) focus on selecting individuals who fit both the values and culture of the organization can be related to the P-O fit element of organization selection (e.g., Cable & Judge, 1997; Chen et al., 2013; Chiang & Suen, 2015; Hoek, O’Kane, & McCracken, 2016). The *CPA Practice Advisor’s* (2015) promotion of a “team mentality,” Cory et al.’s (2007) team building approach and the motivating of employees to achieve firm objectives, and MacLean’s (2013) emphasis on improving feelings of firm ownership can all be related to the P-O fit element of socialization (Chatman, 1991; Sweeney, Quirin, & Fisher, 2003; Church, 2014 ). These employee retention strategies thus distill into improving P-O fit—first, hiring employees whose values fit the values of the firm; and, second, improving the value congruence of employees through socialization.

### 1.2.2 Unethical Behavior of CPAs

When a number of corporate frauds (e.g., Waste Management, Enron, Sunbeam, Tyco International, and WorldCom) were exposed around the turn of the last century (e.g., Lease, 2006; Clikeman, 2009), it was found that accounting professionals at many of these companies had violated ethical principles of



professional conduct. Accountants, including CPAs, were complicit in many of these frauds. The Enron and WorldCom frauds and the unethical practices of CPAs at the international accounting firm of Arthur Andersen provided the impetus for the passage by the United States Congress of the Sarbanes-Oxley Act of 2002 (Sarbanes-Oxley Act of 2002, 2002; Clikeman, 2009; Ryu, Uliss, & Roh, 2009).

This presentation of the unethical behavior of CPAs is focused on the RVS values that are an integral part of the Code of Professional Conduct and Bylaws (the Code; 2012) of the AICPA. As an introduction to the personal values embedded in the Code, excerpts from the Code are presented (1.2.2.1). Overviews follow of the Enron fraud (1.2.2.2), the WorldCom fraud (1.2.2.3), the Arthur Andersen scandal (1.2.2.4), the Sarbanes-Oxley Act of 2002 (1.2.2.5), the Bernie Madoff fraud (1.2.2.6), a post-SOX fraud, and recent and future accounting frauds (1.2.2.7). The ethical failures of CPAs in connection with Enron, WorldCom, Arthur Andersen, and Bernard L. Madoff Investment Securities, LLC (BMIS) provide examples of the ongoing problem that the CPA profession has with unethical acts by practitioners in both public practice (Andersen and BMIS) and industry practice (Enron and WorldCom)—an ethics problem that is posited in this work as related to personal value priorities. The focus will be on the nature of the incidents, the cost and consequences thereof, and also, in some cases, the remedies suggested thereafter.

#### 1.2.2.1 Code of Ethics

The ethical standards of the accounting profession are enumerated in the codes of ethics of various professional accounting organizations: e.g., the Institute of Management Accountants (IMA; n.d.), the International Federation of Accountants (IFAC, 2006), and the AICPA. The Code of Professional Conduct and Bylaws (2012) of the AICPA, the predominant organization of CPAs in the United States, is the accounting ethics code most applicable to the present study. The Code includes six Principles. The following are selected excerpts from each Principle (emphasis added):

- Article I—*Responsibilities*  
 . . . As professionals, certified public accountants perform an essential role in society. Consistent with that role, members of the American Institute of Certified Public Accountants have *responsibilities* to all those who use their professional service. (Code of Professional Conduct and Bylaws, 2012, ET Section 52, p. 2813)
- Article II—The Public Interest  
 . . . The accounting profession’s public consists of clients, credit grantors, governments, employers, investors, the business and financial community, and others who rely on the objectivity and *integrity* of certified public accountants to maintain the orderly functioning of commerce. . . . In discharging their professional *responsibilities*, members may encounter conflicting pressures from among each of those groups. In resolving those conflicts, members should act with *integrity*, guided by the precept that when members fulfill their *responsibilities* to the public, clients’ and employers’ interests are best served. (Code of Professional Conduct and Bylaws, 2012, ET Section 53, p. 2815)
- Article III—*Integrity*  
*Integrity* is an element of character fundamental to professional recognition. It is the quality from which the public trust derives and the benchmark against which a member must ultimately test all decisions. . . . *Integrity* requires a member to be, among other things, *honest* and candid within the constraints of client confidentiality. *Integrity* requires a member to observe both the form and spirit of technical and ethical standards. (Code of Professional Conduct and Bylaws, 2012, ET Section 54, p. 2817)
- Article IV—Objectivity and Independence  
 . . . The principle of objectivity imposes the obligation to be impartial, intellectually *honest*, and free from conflicts of interest. . . . Regardless of service capacity, members should protect the *integrity* of their work, maintain objectivity, and avoid any *subordination of their judgment*. (Code of Professional Conduct and Bylaws, 2012, ET Section 55, p. 2819)
- Article V—Due Care  
 The quest for excellence is the essence of due care. Due care requires a member to discharge professionals responsibilities with *competence* and diligence. It imposes the obligation to perform professional services to the best of a member’s ability with concern for the best interest of those for whom the services are performed consistent with the professional’s *responsibility* to the public. . . . *Competence* represents the attainment and maintenance of a level of understanding and knowledge that enables a member to render services with facility and acumen. (Code of Professional Conduct and Bylaws, 2012, ET Section 56, p. 2821)
- Article VI—Scope and Nature of Services  
 . . . Each of these Principles should be considered by members in determining whether or not to provide specific services in individual circumstances. (Code of Professional Conduct and Bylaws, 2012, ET Section 57, p. 2823)

As emphasized above, the Code stresses that CPAs should act with integrity which is defined in Webster’s New International Dictionary (emphasis added) as “moral soundness; *honesty*; freedom from corruption influence or practice; esp., strictness with the fulfillment of contracts, the discharge of agencies, trusts, and the like.” In addition, CPAs are expected to act *responsibly*, perform their duties *competently*, and not subordinate their judgment to others, such as client management, a behavior that often requires personal *courage* (IEPS 1, 2007; Ariail, Hays, & Vasa-Sideris, 2012). Thus, the author

suggests that the four personal values of *capable*, *courageous*, *honest*, and *responsible* are embedded in the Code (2012).

#### 1.2.2.2 Enron

Enron was formed in 1985 when InterNorth bought Houston Natural Gas (HNG). Kenneth Lay, a Ph.D. in economics and the former CEO of HNG, became the CEO of the merged companies. With 40,000 miles of gas pipeline stretching across the United States, Enron was able to take advantage of the U.S. government's deregulation of natural gas. The company could buy where it was cheap and sell where it was dear (Clikeman, 2009). Enron experienced rapid growth, which included the addition of major operations overseas: e.g., a water utility operation in the United Kingdom, and power plants in India, Brazil, and Nigeria (McLean & Elkind, 2003). Revenues increased from \$13.3 billion in 1996 to \$100.5 billion in 2000, by which time it was the seventh largest corporation in the United States. The company was admired for its innovation-driven growth. Stock market analysts, almost unanimously, rated the company's stock as a good buy (Clikeman, 2009). On August 23, 2000, the market price of Enron's stock reached a high \$90.75 per share ("Enron historical stock price," n.d.).

Under Lay's leadership, one of Enron's innovations was the development of a bank for natural gas (Clikeman, 2009). The gas bank was "a place where customers could enter into long-term contracts to purchase or sell fixed quantities of gas at stable prices" (Clikeman, 2009, p. 246). The gas bank idea came from Jeff Skilling, who was then working as a consultant for Enron (McLean & Elkind, 2003).

In 1990, Skilling, who had earned an MBA at Harvard and then risen to a director level at the consulting firm of McKinsey and Company, was hired to run the bank. One of Skilling's demands for joining Enron was that he be allowed to use mark-to-market accounting. Enron's application to the United States Securities and Exchange Commission (SEC) to use this accounting method for its long-term gas contracts was approved (McLean & Elkind, 2003).

Mark-to-market accounting allowed profits to be recorded immediately when a contract was signed—even though the delivery of the commodity (e.g., natural gas, electricity) might be delayed for years. Profits were immediately recorded based on estimates of what would eventually be earned. Mark-to-market accounting, which was allowed by Generally Accepted Accounting Principles (GAAP), worked well for widely traded commodities since fairly realistic valuations could be made. Nevertheless, mark-to-market was open to abuse when valuations were highly subjective, as was the case in many of Enron’s subsequent uses of this accounting method—an abuse that allowed Enron to “manufacture” earnings (Clikeman, 2009). For example, in the fourth quarter of 2000, “Enron Broadband [a division of Enron] ended its year by booking \$53 million in earnings on a deal that was well on its way toward collapse and hadn’t produced a single penny of profit” (Clikeman, 2009, p. 290).

The gas bank became a part of the Wholesale division run by Skilling. This division, which handled trading activities, transformed Enron from being mainly a natural gas company into being primarily a commodities company that traded a wide range of new and often innovative contracts. In 1999, Enron Online, an online trading platform for some 35 commodities, was established. By the 1990s, the majority of Enron’s earnings came from trading commodities (Clikeman, 2009).

A problem with Enron’s use of mark-to-market accounting was that after a contact was signed, and the estimated profits were booked, more growth depended on continually making new and bigger deals. And, as the company grew, the new deals often depended on Skilling coming up with innovative ideas (e.g., trading contracts in electricity, broadband, and the weather) that could be used to record estimated profits (McLean & Elkind, 2003). According to McLean and Elkind (2003) and Gibney (2005), the main thing that mattered to Skilling was the idea. He believed that future profits should be captured as soon as the idea was formed.

As Skilling moved from running the Wholesale division to being Enron’s chief operating officer (COO) and then CEO, he created a tone-at-the-top where the end justified the means. Employees were both encouraged and pressured to make deals that “created” earnings (McLean & Elkind, 2003). Skilling’s goal in “making the numbers” was to give the company the appearance of profitability and

growth. Higher stock prices depended on the company regularly meeting targeted quarterly and annual earnings numbers. Under Skilling's unethical leadership, budgeted numbers were not based on realistically projected revenues and costs, as is the method normally used in financial budgeting (Garrison, Noreen, & Brewer, 2012). Rather, as described by McLean and Elkind (2003) "Skilling's method of arriving at Enron's quarterly and annual targets was downright perverse" (McLean & Elkind, 2003, p. 127). Targeted amounts were determined ("backed into") based on market expectations of earnings per share (EPS)—expectations that had been communicated to Wall Street by Lay, Skilling and other of Enron's financial executives (McLean & Elkind, 2003).

An unethical climate and a lack of an ethical tone-at-the-top were among the many similarities found by Soltani (2014) between U.S. and European accounting scandals. Regarding the unethical cultures at these organizations, Soltani (2014) stated that "there . . . [was] clear evidence of poor ethical climate and [a] lack of commitment to ethical principles and deontology. . ." (Soltani, 2014, p. 266). As to the unethical leadership of these organizations, Soltani (2014) stated that ". . . the permissive attitude of management towards . . . [tone-at-the-top] had a significant influence on [the] control consciousness of the employees who had practically no opportunity to question the possible wrongdoing and misconduct behavior in the company" (Soltani, 2014, p. 267). Moreover, Soltani (2014) suggested that the failure of CEOs to communicate the core values (including ethical values such as integrity) "lead to organization deviance" (Soltani, 2014, p. 272). Other researchers have identified an unethical tone-at-the-top with corrupt corporations (e.g., Amernic & Craig, 2013; Campbell & Goritz, 2014), aggressive financial reporting (e.g., King, 2013), and reduced audit quality (Svanberg & Ohman, 2013). Enron's unethical tone-at-the-top, coupled with its reward system, promoted a corporate culture of corruption.

With a large portion of their compensation composed of rewards in the form of performance bonuses and stock options, executives were incentivized to achieve targeted earnings so that the market price of Enron's stock would continue to rise. Reaching the expected numbers required the company to show a steady growth in EPS, which Skilling continually targeted at 15% per year. Skilling's targeted increase in EPS became impossible to meet through normal operations. Thus, in order to meet the

numbers, Enron's executives and accountants resorted to numerous end-of-period accounting manipulations (McLean & Elkind, 2003; Gibney, 2005; Clikeman, 2009), many of which were facilitated by sham transactions between Enron and the special purpose entities (SPE) created by Andy Fastow.

In 1990 Andy Fastow was hired by Skilling, who became his mentor. In 1998, the 36-year-old Fastow was promoted to CFO—a position that normally requires extensive knowledge of accounting; knowledge that Fastow did not have. Prior to joining Enron, Fastow had earned an MBA and then worked at a bank where he gained practical knowledge in securitization. The Comptroller of the Currency Administrator of National Banks (1997) defines securitization as “. . . the structured process whereby interests in loans and other receivables are packaged, underwritten, and sold in the form of “asset-backed securities” (Comptroller of the Currency Administrator of National Banks, 1997, p. 2). At Enron, Fastow used his finance skills to develop “creative” methods of financing which often took the form of SPEs (McLean & Elkind, 2003; Hays & Ariail, 2013). During his tenure at Enron, Fastow put together some 3,000 SPEs (Clikeman, 2009).

SPEs that met specific requirements were permitted by GAAP. Correctly formed and operated SPEs allowed Enron to keep the liabilities and assets of the SPE off its balance sheet while reporting the SPE's earnings on its income statement. That is, it allowed Enron to avoid consolidation (Thomas, 2002). International Financial Accounting Standard 10 defines consolidated financial statements as “the financial statements of a group in which the assets, liabilities, equity, income, expenses and cash flows of the parent and its subsidiaries are presented as those of a single economic entity” (IFRS 10: Appendix A, 2011, para. 1). In addition, SPEs allowed Enron to meet certain financial ratios (e.g., return on assets) needed to maintain its credit rating (Thomas, 2002; McLean & Elkind, 2003; Clikeman, 2009). Thomas (2002) provided the following simplified explanation of how these often convoluted SPEs were structured and utilized:

The company contributes hard assets and related debt to an SPE in exchange for an interest. The SPE then borrows large sums of money from a financial institution to purchase assets or conduct other business without the debt or assets showing up on the company's financial statements. The company can also sell leveraged assets to the SPE and book a profit. (Thomas, 2002, p. 43)

The following is Reinstein and Weirich's (2002) summarization of the GAAP rules for the nonconsolidation of SPEs:

The three basic rules for nonconsolidation of an SPE require that the independent equity investor continuously invest at least 3% of the SPE's assets; exercise control of and assume the risks of the SPE; and like all other transactions, provide real (potential) economic benefits to Enron. (Reinstein & Weirich, 2002, p. 22)

While many of Enron's SPEs met the requirements of GAAP, others did not. The ones that violated GAAP were often structured to give the appearance of compliance—the appearance of following the letter of the rule without following its spirit. Fastow used these non-compliant SPEs to manipulate Enron's financial statements in order to hide liabilities from investors and creditors and to falsify Enron's earnings (Thomas, 2002). For example, Fastow “. . . used SPEs to ‘park’ troubled assets that were falling in value, such as certain overseas energy facilities, the broadband operations or stock that had been spun off to the public” (Thomas, 2002, p. 43). Enron sold assets to the SPEs at inflated prices with side agreements to repurchase the assets at a later date. Some of the SPEs violated GAAP by eliminating the risk that the independent investors were supposed to retain. These SPEs included no-loss guarantees backed by Enron stock, which became a problem as the price of Enron's stock fell (Thomas, 2002). In addition, equity investors often lacked actual control (Hays & Ariail, 2013) and at least two of the SPEs, LJM1 and LJM2 (collectively referred to as LJM), that were specifically created to help Enron manipulate its financial statements, were actually run by Fastow, himself an equity investor (Clikeman, 2009):

The partnerships, LJM1 and LJM2, were capitalized with a few million dollars of Fastow's money and more than \$400 million raised from banks and investment banks that did business with Enron. From 1999 to 2001, the LJM partnerships bought tens of millions of dollars of assets from Enron. The transactions created an obvious conflict of interest for Fastow. As Enron's CFO, he had a fiduciary duty to the corporation's shareholders to negotiate a high selling price. But as an investor in the LJM partnerships, he clearly wanted to purchase the assets at the lowest possible price. . . . Subsequent investigation revealed that Fastow earned more than \$30 million from the partnerships during their two-year existence. (Clikeman, 2009, p. 251)

The LJM partnerships were approved by Lay, Skilling, and Richard Causey, Enron's chief accounting officer (CAO), and by the BOD (LJM Approval Sheet, n.d.). Skilling and Causey were later charged with promoting these fraudulent SPEs to the BOD (United States District Court, 2004, July 7).

Though the rise of Enron had been fast, its fall was even faster. On October 16, 2001 Enron announced a third quarter loss of \$618 million and that it would reduce shareholder equity by \$1.2 billion (U.S. District Court, March 7, 2002). Less than a month later, on November 8, 2001, Enron announced that it would restate its financial statements for the years of 1997 through the second quarter of 2001. The restatement would reduce previously reported income by \$586 million. Shortly thereafter, on December 2, a little over a year after its stock price peaked, Enron declared bankruptcy (United States District Court, 2004, July 7). By December 31, 2001, Enron's stock had dropped in price to \$0.60 per share ("Enron historical stock prices," n.d.). Enron's bankruptcy was, at that time, the largest in U.S. history (McLean & Elkind, 2003).

The bankruptcy was devastating to investors and employees. "The collapse obliterated more than \$60 billion in market value, almost \$2.1 billion in pension plans and, initially 5,600 jobs" ("Enron sentences will be tied," 2006, para. 9). About 11,000 employees (Lynch, 2001) lost an estimated \$850 million in retirement savings—money they had invested in Enron stock ("401(k) investors sue Enron," 2001). Up until shortly before the collapse, Enron executives, including Lay and Skilling, urged employees to put their savings into Enron stock. At the same time these executives were selling large quantities of their own Enron shares (Bragg, 2002; McLean & Elkind, 2003; Gibney, 2005; United States District Court, 2004, July 7).

In the Enron accounting scandal, much of the press coverage was directed at the roles played by three of the top executives: Ken Lay, Jeff Skilling, and Andy Fastow. All of these executives were found guilty of various criminal offenses: ". . . Lay, 64, was convicted on all six conspiracy and fraud charges he faced" (Emshwiller, McWilliams, & Davis, 2006, para. 8) but died before he was sentenced (Clikeman, 2009). ". . . Skilling, 52 years old, was convicted on 19 of 28 counts of conspiracy, fraud and insider trading" (Emshwiller et al., 2006, para. 3). He received a prison sentence of 24 years, which



was later reduced to 14 years (Carney, 2013), and was ordered to pay restitution of approximately \$45 million (Emshwiller, 2006; Clikeman, 2009). “Fastow, who was originally charged with 98 felonies, was sentenced to only six years in prison followed by two years of community service” (Clikeman, 2009, p. 255). Fastow testified against Lay and Skilling, pled guilty to two counts of conspiracy, paid a fine of \$250,000, and forfeited \$23.8 million in assets (United States District Court, 2004, January 14).

Rick Causey was another top Enron executive who was involved in the accounting manipulations but whose participation in the fraudulent scheme seems to have received relatively little press coverage. Nevertheless, without his cooperation and assistance, many aspects of the fraud could not have been perpetuated. As CAO, Causey managed Enron’s accounting and was responsible for preparing the financial statements and their related disclosures. These reports were distributed to the public and were included in filings with the SEC. Causey also participated in communications with analysts and stockholders (McLean & Elkind, 2003; United States District Court, 2004, January 14)

Causey, the only CPA amongst the top executives that were prosecuted, had previously been in charge of Arthur Andersen’s audit of Enron. He joined Enron in 1991 and was subsequently promoted to CAO, a position at Enron that was at the same level as the CFO—the position held by Fastow. Causey and Fastow both reported directly to Skilling and Lay. Causey, along with Lay and Skilling, at first refused to plead guilty to the government’s charges. All three were indicted together (United States District Court, 2004, July 7). Causey was accused of numerous counts of participating in a fraudulent scheme: e.g., the fictitious sale of assets to SPEs, the arbitrary manipulation of asset values, concealing debt, manufacturing cash flows, masking the losses of segments of the company, using reserve accounts to mask earnings volatility, and providing false and misleading information to the SEC, the investing public, and stock analysts (United States Securities and Exchange Commission, 2003). Before the trial date, Causey agreed to cooperate with the government in the prosecution of Lay and Skilling and pled guilty to one count of securities fraud. He received a 66 month prison sentence and had to forfeit \$1.25 million (Department of Justice, 2006).

A November 15, 2006 Release by the U.S. Department of Justice gave the following details of Causey's admission of guilt:

Causey admitted to conspiring with members of Enron's senior management to make false and misleading statements in Enron's filings with the Securities and Exchange Commission (SEC)—and in analyst calls—about the financial condition of Enron, which did not fairly and accurately reflect the company's actual financial performance as he knew it. Causey also admitted to participating with others in senior management in efforts to use Enron's public filings and public statements to mislead the investing public by making false and misleading statements and omitting facts about the true nature of Enron's financial performance. (Department of Justice, 2006, para. 3)

The complaint filed by the U.S. SEC against Causey described him as “. . . a principal architect and operator of the scheme to manipulate Enron's reported earnings” (United States District Court, 2004, January 22, para. 12). The following five selected examples of specific charges against Causey, which were included in the Federal indictment of Causey, Skilling, and Lay (United States District Court, 2004, July 7), provide insight into some of the ways Causey was accused of being complicit in the fraud:

- Skilling and Causey fictitiously sold to LJM, at a profit of \$65 million, an interest in a power plant located in Brazil. In a secret side-deal, Enron agreed to repurchase the asset at a profit
- Enron fictitiously sold an interest in a power plant to Merrill Lynch. The power plant was built on barges moored off the coast of Nigeria. In another secret side-deal, Skilling and Causey agreed to repurchase the asset at an inflated price. This transaction produced an artificial profit of \$12 million and cash flow of \$28 million.
- Causey manipulated the model used to produce the mark-to-market valuation of Enron's investment in Mariner Energy. The arbitrarily inflated value of Mariner allowed Enron to incorrectly record earnings of \$100 million.
- In the first quarter of 2001, Causey used accounting manipulations to conceal losses of Enron Broadband Services (EBS). He significantly decreased the segment's publicly reported loss by moving expenses to other segments, by arbitrarily increasing the lives of fixed assets (thereby decreasing the expense for depreciation), and by substantially reducing the amounts correctly accrued for employee bonuses.

- Causey improperly “parked” over \$1 billion of commodity profits in a reserve account. “In the first quarter of 2001, Skilling and Causey improperly used hundreds of millions of dollars of [this reserve] . . . to conceal from the investing public hundreds of millions in losses within Enron’s [Enron Energy Services] business unit” (United States District Court, 2004, July 7, p. 24).

Causey’s complicity in the Enron fraud suggests that he lacked a Code driven moral compass. As a CPA, his unethical actions were not responsible and were not in the public’s interest. His behavior epitomized a lack of integrity: (1) he was not honest—he lied in his verbal and written communications (in the form of financial statements and disclosures, or lack thereof) directly and indirectly to the investing public; and (2) he did not prioritize the spirit of technical standards over their form—he manipulated accounting transactions in order to give Enron the appearance of profitability. In addition, his unethical behavior showed a lack of competence: he did not perform his accounting duties “. . . with concern for the best interest of those for whom the services [were] . . . performed consistent with the professional’s responsibility to the public” (Code of Professional Conduct and Bylaws, 2012, ET Section 56, p. 2821). Causey’s behavior as a CPA employed in industry practice were, therefore, not in accordance with the Code (2012) related professional values of *responsible*, *honest*, and *competent*.

### 1.2.2.3 WorldCom

WorldCom was headquartered in Clinton, Mississippi, a college town with about 23,000 residents. Founded in 1983 as Long Distance Discount Services (LDDS), it was one of many resellers of long distance services that arose following the 1982 breakup of AT&T. Fueled by the acquisition of other small resellers, LDDS rapidly grew into a mega telecommunication company with annual revenues of \$38 billion. With the acquisition in 1989 of Advantage Companies, Inc., LDDS became a publicly traded company. After its acquisition of Williams Communication in 1995, the company’s name was changed to WorldCom. By the late 1990s, the company operated in 65 countries, had 100,000 employees, and its stock was the fifth most widely held in the United States (Cooper, 2008).

Bernie Ebbers, one of the company's founders and its long-time chief executive officer (CEO), was the motive force behind WorldCom's growth. Ebbers, originally from Canada, had moved to Clinton, Mississippi to play basketball at the local college. He subsequently was a coach, a high school teacher, and a garment factory manager. Prior to investing in LDDS, he was the owner of seven motels and had accumulated a net worth of about \$3 million. The motels served as the collateral for a \$650,000 loan used to start LDDS. By 1999 Ebbers was one of the wealthiest individuals in the United States. Ebbers' acquisition strategy was simple: He only acquired companies that would increase WorldCom's EPS. Using this strategy, WorldCom acquired some 70 companies. One of the later acquisitions was MCI, a company much larger than WorldCom, which was purchased in 1998 for \$36.5 billion. After that purchase, WorldCom's long distance market share in the United States was second only to that of AT&T. "Acquisitions, a key part of [Ebbers'] strategy" wrote Cynthia Cooper, "[had] grown WorldCom much faster than internal evolution would have" (Cooper, 2008, p. 128). In 2000, WorldCom's attempt to purchase Sprint, the second largest telecommunication company, was thwarted by regulators in both the United States and Europe. In the same year, the Dot.Com stock market bubble burst; and in the following year, 2001, the market for telecom stock also crashed (Cooper, 2008).

With no large telecommunication companies left to acquire, and with a decrease in the public's euphoria over internet stocks (a euphoria that Alan Greenspan (1996) referred to as "irrational exuberance") and the stocks of telecom companies, WorldCom's stock price plummeted from its once high of \$64 per share. According to Cynthia Cooper (2008), as 2001 came to an end ". . . the telecom party—driven by the Telecom Act of 1996, low interest rates, and the belief that the internet would continue to grow at a phenomenal rate—was over" (Cooper, 2008, p. 200).

The WorldCom fraud began in the third quarter of 2000 when the company's already closed books indicated that line costs (the cost of leased telecommunication lines) were higher and earnings were lower than expected by Wall Street stock analysts (Cooper, 2008). According to Scott Sullivan, the CFO and WorldCom's acquisitions guru, Ebbers told him that "we have to hit the numbers [which Sullivan] . . . took as an order to make [fraudulent] adjustments and hit the earnings per share number. .

.” (Cooper, 2008, pp. 339-340). Sullivan then told David Meyers, WorldCom’s Controller, that the third quarter financial statements must be wrong due to a mathematical error that would automatically adjust the next quarter. Sullivan, who was later described by Judge Jones as “the fraud’s architect” (Cooper, 2008, p. 355), instructed Meyers to make accounting adjustments to decrease line costs, and thereby inflate the company’s earnings. Since Meyers could not personally make entries into the accounting system, he obtained help from Buford Yates, an accounting director. Yates, with the assistance of two other accountants, Betty Vinson and Troy Norman, proceeded to make adjusting entries that reduced line costs on the income statement. The offsetting entries reduced various reserve accounts on the balance sheet (Cooper, 2008).

When the adjusted amounts did not automatically reverse in the last quarter of 2000, line costs and earnings for the year were again out of line with the guidance that had been given to Wall Street. The fraud moved forward—the lies of the third quarter had to be covered with more lies in the fourth quarter. Line costs on the income statement were again decreased with offsetting entries made to reduce reserve accounts on the balance sheet (Cooper, 2008).

The fraud continued for a total of seven quarters. After the second quarter, however, the reserve accounts were depleted to a level where they could no longer be used (Cooper, 2008). Sullivan then came up with a creative way to continue propping up WorldCom’s earnings: “Count the excess line costs as capital assets instead of expense” (Cooper, 2008, p. 9). A “newly minted” account called “prepaid capacity” was used to make adjustments totaling 100s of millions of dollars in each of the five subsequent quarters. These adjustments resulted in line cost expenses being decreased on the income statements and asset accounts being increased on the balance sheets. The prepaid capacity amounts were hidden (buried) in asset accounts such as furniture and fixtures, transmission equipment, computer equipment, and communication equipment (Cooper, 2008).

The line costs expense, which was one of the largest expenses on the income statement, was an ongoing operating expense for the use of telecommunication lines. These fiber optic lines had been leased by WorldCom at a time when the demand for internet capacity was expected to be limitless. As

required by GAAP, these operating lease expenses had always been deducted on the income statement. With Sullivan's scheme, line cost expenses were first deducted as required, and then, after the books were closed for the quarter, management surreptitiously reallocated the expenses to asset accounts on the balance sheet. The change from expensing this cost to capitalizing it as an asset was arbitrary—the multimillion dollar adjustments were made to keep both the line cost expenses and earnings in line with the projections that management had given to stock analysts. Another goal of the employed accounting manipulations was to avoid detection by the external auditors (Cooper, 2008).

The CPA firm of Arthur Andersen, the external auditors of WorldCom from 1986 to December 2001 (United States District Court, 2002, March 7; Edelman & Nicholson, 2011), did not detect the massive fraud. Andersen's audits had relied on the effectiveness of the company's internal controls, analytical procedures that compared financial ratios (such as line costs to revenues) from period to period, and the assertions by management that no adjustments had been made after the books were closed. All of these audit procedures were made ineffective by management's collusion and by Andersen CPAs trusting, without verifying, false statements made by WorldCom's accountants. In another breach of audit procedures, Andersen told the WorldCom accountants in advance which asset accounts they would test. This forewarning resulted in the auditors not finding any of the fraudulent prepaid capacity adjustments. Prepaid capacity amounts were transferred to other accounts before the selected accounts were scrutinized (Cooper, 2008).

The fraud was discovered in 2002 by Cynthia Cooper, the WorldCom vice-president in charge of internal auditing, and her team of internal auditors (Cooper, 2008). Once Cooper began auditing the company's reserve accounts and capital expenditures, she encountered numerous delaying tactics, obstructions, and bullying. According to Cooper (2008),

the CFO asked me to delay our audit work. The Controller insisted that we were wasting our time and should be auditing other areas of the company. The Chairman of the Audit Committee—a subset of the Board—instructed me to ask for support for the entries, and to wait for Scott, the CFO, to provide me with an explanation. (Cooper, 2008, p. ix)

In addition, when Cooper's team was auditing the allowance for doubtful accounts, one of the reserve accounts that had been arbitrarily reduced, WorldCom's management restricted their access to the

accounting books, a restriction that continued during their internal audit of prepaid capacity. The restricted access was meant to keep the internal auditors from seeing half of the “after closing” adjusting entries—the amounts that had reduced expenses on the income statements. Arthur Andersen’s audit partner also denied Cooper’s request to review the testing of accounts recorded in Andersen’s audit workpapers. He told them that “I report to Scott and David. . . . These workpapers belong to them” (Cooper, 2008, p. 213).

Despite pressure to stop her investigations, Cooper courageously persisted (Cooper, 2008; Ariail, 2009a). After she reported her findings to the full BOD, WorldCom reported that their financial statements had to be restated by \$3.8 billion. The restatement amount subsequently grew to about \$11 billion (Cooper, 2008). In July 2002, WorldCom declared bankruptcy: “. . . the largest bankruptcy in corporate history, listing \$41 billion in debt and \$107 billion in assets” (Cooper, 2008, p. 296).

WorldCom’s downfall resulted in financial devastation for both employees and investors: thousands of jobs were lost (Cooper, 2008) and investors suffered about \$175 billion in lost market value (Kadlec, 2002).

The four accountants (Meyers, Yates, Vinson, and Norman) who were implicated in the fraud eventually plead guilty to various criminal acts. Myers and Yates received prison sentences of one year and one day. Vinson received a five month prison sentence, with an additional five months of house arrest; and Norman received a three-year probated sentence. Sullivan, who provided Federal Prosecutors with detailed information about the fraud and testified against Ebbers, was given a prison sentence of five years. Sullivan “. . . testified that he ‘falsified the financial statements of the company to meet analysts’ expectations,’ and that for each of the seven quarters . . . he told Bernie . . . about the fraudulent adjustments” (Cooper, 2008, p. 339).

Ebbers steadfastly insisted that he was innocent of any wrongdoing; that he was unaware that Sullivan was manipulating the earnings of the company. Despite a lack of evidence—other than Sullivan’s testimony—of Ebbers’ involvement in the fraud, the 63-year-old former CEO was given a 25-year prison sentence. One of the jurors stated that “he was the man who was in charge. It was just

kind of hard to sit there and think that he didn't know what was going on" (as quoted in Cooper, 2008, p. 352). Members of the BOD were not charged with criminal offenses. Nevertheless, in a lawsuit filed by WorldCom creditors and investors, the company's outside directors were accused of not fulfilling their oversight duties. Ten of them agreed to settle their cases for a total of \$54 million (Weil, 2005).

The indictment filed in the United States District Court Southern District of New York (2002, August 28) against Sullivan and Yates indicated that the five main perpetrators of the fraud were all CPAs: Sullivan, Meyers, Yates (Ackman, 2002), Vinson, and Norman. All of these accountants failed in their ethical obligations as CPAs. The fraudulent actions of these industry employed CPAs violated five of the AICPA's six Principles of the Code of Professional Conduct and Bylaws (2012): They failed in their ethical duties to act (1) responsibly, (2) in the best interest of the investing public, (3) honestly and with integrity, (4) without subordinating their professional judgment, and, (5) with competence and professional due care. Thus, like Causey at Enron, these accountants failed to uphold Code related professional values that require CPAs to be *capable (competent), courageous, honest, and responsible*. Despite knowing that falsifying the financial statements was wrong, they were all complicit in this egregious fraud (Code of Professional Conduct and Bylaws, 2012).

On the other hand, Cynthia Cooper, who was also a CPA in industry practice (Cooper, 2008), showed tremendous moral courage by not subordinating her judgment—by not backing down in the face of bullying and harassment by her superiors. She acted with integrity. She personified the Code of Professional Conduct and Bylaws (2012) of the AICPA and the ethical values of the accounting profession (Ariail, 2009a; 2009b).

#### 1.2.2.4 Arthur Andersen

The CPA firm of Andersen, DeLany & Co. was founded in 1913 by Arthur E. Andersen and Clarence W. Delany—Delany left the firm in 1918, at which time the firm's name was changed to Arthur Andersen & Co., and subsequently to Arthur Andersen, LLP (AA). Andersen was born in 1885 to



parents who had emigrated from Norway to Chicago, Illinois. After the death of his father in 1901, Andersen was forced to work to support himself and had to attend night school to complete his high school education. At approximately the age of sixteen, he was employed as a mail boy at Fraser & Chalmers (subsequently Allis-Chalmers Manufacturing Company), where he rose to the position of assistant to the controller. In 1907, the 22 year old Andersen joined the CPA firm of Price Waterhouse. During his tenure at Price Waterhouse, he passed the CPA exam. From 1911 until 1913 he was the controller of Jos. Schlitz Brewing Co. During the years of 1911-1922 Andersen worked as an accountant during the day and taught night classes at Northwestern University School of Commerce (*The first fifty years*, 1963). The School of Commerce had been founded in 1908 as “. . . an off-shoot of the economics work at the university. . .” (Hotchkiss, 1913, p. 199). Andersen was head of the accounting department during the years of 1912-1913 and was promoted to full professor in 1915, two years before he had earned his bachelor’s degree from Northwestern. He led AA until his untimely death in 1947 (*The first fifty years*, 1963).

In describing the personal attributes of Arthur Andersen, the book published by AA to commemorate the 50<sup>th</sup> anniversary of the firm’s founding emphasized Arthur Andersen’s internal attributes, especially the attribute of courage:

The first [important attribute] was an inexhaustible supply of courage—courage to hang on during the first few years of the new firm when discouragements were many and the going was rough; courage to step out of the well-trodden paths of his contemporaries and blaze his own trails; courage to adhere rigidly to self-imposed high standards of ethics, principles, and quality of performance; courage to risk everything he had with young men, and to force his associates to assume responsibilities. (*The first fifty years*, 1963, p. 9)

An oft quoted example of his ethical courage involved his refusal, when the firm was in its infancy, to acquiesce to the unethical demands of the president of an important railway client; one that generated significant audit fees for his small firm. The following description of this incident was reported in AA’s 50<sup>th</sup> year commemorative book:

The company had distorted its earnings by deferring relatively large charges that properly should have been absorbed in current operating expenses. Mr. Andersen was insistent that the financial statements to which he attached his [audit opinion] . . . should disclose the facts. The president of the company, an autocratic man, accustomed to having his own way, came to Chicago and demanded that Mr. Andersen issue a report approving the company’s procedure in deferring

these operating charges. Mr. Andersen informed the president that there was not enough money in the City of Chicago to induce him to change his report. [Andersen] . . . lost the client, of course, at a time when the small firm was not having easy sailing, and the loss of a client was almost a life and death matter. The soundness of Andersen's judgment in this case was clearly indicated when, a few months later, the company was forced to file a petition in bankruptcy. (*The first fifty years*, 1963, p. 20)

Following his death on January 10, 1947 the announcement by his partners included the following statement regarding how Andersen's high moral character was a legacy for the firm:

. . . But after all is said, it was in Arthur Andersen's character that he was most truly great. Throughout his business career he labored for what was right, and for what was honest and above reproach. Through his unswerving application of the highest principles to the conduct of the affairs of this firm, he has left us, as a priceless heritage, that reputation of independence and integrity that is universally associated with the name of Arthur Andersen & Co. (*The first fifty years*, 1963, p. 12)

Arthur Andersen epitomized a leader who imparted to his followers a sense of ethical courage and personal integrity. He created an ethical tone-at-the-top. His personal motto, which became the motto of AA, was "think straight—talk straight." In a newspaper editorial, Andersen gave the following explanation of its origin:

About forty-five years ago, my mother told me in Norwegian, 'Think straight—talk straight'. . . . No finer heritage could possibly be passed on from one generation to another. It has been as a firm rock to which I could anchor in a storm. Never has it failed me. (As quoted in *The first fifty years*, 1963, p. 13)

Barbara Toffler, who was from the mid-to-late 1990s in charge of AA's ethics consulting practice, suggested that Arthur Andersen's motto implicitly included the requirement to "do straight." According to Toffler, while Andersen's motto and core values continued to be outwardly promoted, the firm incentivized unethical behavior—its actions did not conform to its words; it no longer "walked the talk" of ethical behavior (Toffler & Reingold, 2003).

AA's 1999 annual report included the following sentence: "After all, to be successful in the future, we must hold fast to our core values: Integrity, Respect, Passion for Excellence, One Firm, Stewardship, Personal Growth" (Toffler & Reingold, 2003, p. 233). In specifying how in the mid-to-late 1990s AA's ethical words were no longer followed with ethical actions, Toffler and Reingold (2003) expounded on the status in practice of each of these core values:

But in terms of *action*, every one of these [core values] . . . was in question: Integrity seemed to be suspect, as Waste Management, Sunbeam, The Baptist Foundation of Arizona, and so many other accounting problems bubbling just under the surface showed. Respect was shown for the biggest clients, but not for the ultimate client—the investor. The Passion for Excellence had been severely challenged by internal fighting and a pressure not to lose the client. One Firm, I almost never experienced it. Stewardship? The billions lost by in the collapse of so many clients made a mockery of the concept. And Personal Growth, in a period of excessive turnover and an unending pressure to meet unrealistic goals, did not seem to be very high on the Firm’s to-do list. (Toffler & Reingold, 2003, p. 233)

Before it started its plummet to the bottom, AA had become the world’s fifth largest public accounting firm with about 85,000 employees located in 85 countries (Toffler & Reingold, 2003; Ainslie, 2006). Its growth included expansion into non-audit services such as internal auditing and consulting. While Arthur Andersen’s legacy for integrity had for decades been its mainstay, at some point the firm’s culture shifted from ethical to unethical. Keeping audit billings up and using audits as leads to other services became more important than providing quality service (Toffler & Reingold, 2003).

The quality and integrity of AA’s services were called into question though it’s auditing of a number companies where, in the 1990s and early 2000s, high profile accounting scandals came to light: Global Crossing, McKesson, Boston Chicken, Waste Management, The Baptist Foundation, WorldCom, and Enron, among others. While Toffler and Reingold (2003) suggested that the collective weight of negative perceptions caused by the accounting failures of so many of AA’s clients would have resulted in the firm’s eventual failure, it was the actions taken by AA partners in connection with the Enron fraud that caused the firm’s demise in 2002 (Toffler & Reingold, 2003),

As Enron rapidly grew in the 1990s, so did the fees charged by AA for auditing and consulting services: \$46.5 million in 1999; \$58 million in 2000; and \$50-55 million in 2001. As previously noted, on October 16, 2001, Enron had reported a substantial loss for its third quarter and indicated that a massive adjustment to shareholder’s equity would be needed. The very next day, the SEC opened an inquiry into Enron’s use of SPE’s. AA’s team of Enron auditors were informed on October 19 of the SEC’s inquiry (United States District Court, 2002, March 7).

According to the Federal indictment filed against Arthur Andersen on March 7, 2002, at the time the SEC inquiry was opened, AA was aware of the following information that was potentially damaging to the firm: (1) The anticipated adjustment to reduce shareholders' equity was the result of previous improper accounting interventions. (2) Charges against income in the third quarter of 2001 were incorrectly categorized as non-recurring. While AA had advised Enron that the charges should be reported as recurring, they had taken no actions to disclose or to correct the reporting. (3) AA had been forewarned by an internal whistleblower, who was a former AA employee, that Enron's use of SPEs was possibly fraudulent. The warning had included disclosure of Enron's improper use of side-agreements. (4) AA's audit team had allowed Enron to use SPE methodologies that conflicted with those approved by AA specialists. (5) In 2000 the AA audit team at Enron had received a low evaluation by AA's management. And, (6) in anticipation of litigation over their audits of Enron, AA had, on October 9, 2001, retained outside legal representation (United States District Court, 2002, March 7).

With the above knowledge—information that had not been disclosed to the public—and in anticipation of imminent litigation and government investigations, the Federal indictment of AA accused the firm of engaging in a massive criminal effort to obstruct justice. During the period from October 23, 2001, which was only a few days after AA had been made aware of the SEC investigation, until November 8, 2001, when the SEC served AA with a subpoena, AA personnel purportedly shredded tons of Enron related records (United States District Court, 2002, March 7). According to the indictment, the following AA activities justified a criminal charge:

. . . Andersen partners assigned to the Enron engagement team launched on October 23, 2001, a wholesale destruction of documents at Andersen's offices in Houston, Texas. Andersen personnel were called to urgent and mandatory meetings. Instead of being advised to preserve documentation so as to assist Enron and the SEC, Andersen employees on the Enron engagement team were instructed by Andersen partners and others to destroy immediately documentation relating to Enron, and told to work overtime if necessary to accomplish the destruction. During the next few weeks, an unparalleled initiative was undertaken to shred physical documentation and delete computer files. Tons of paper relating to the Enron audit were promptly shredded as part of the orchestrated document destruction. The shredder at the Andersen office at the Enron building was used virtually constantly and, to handle the overload, dozens of large trunks filled with Enron documents were sent to Andersen's main Houston office to be shredded. A systematic effort was also undertaken and carried out to purge the

computer hard-drives and E-mail system of Enron-related files. . . . In addition to shredding and deleting documents in Houston, Texas, instructions were given to Andersen personnel working on Enron audit matters in Portland, Oregon, Chicago, Illinois, and London, England, to make sure that Enron documents were destroyed there as well. (United States District Court, 2002, March 7, Section III, Items 10 &11)

Despite the evidence of record destruction and testimony by the prosecution's star witness, David Duncan, the partner in charge of the Enron audit, AA fought the charge against them. The firm claimed that the destruction of the Enron documents was made in accordance with the firm's regular document retention policy, which was its policy of destroying confidential documents once an audit had been completed; and, that destroying Enron records was not intended to impede the SEC's investigation. A finding of intent to impede was required for a criminal conviction (Toffler & Reingold, 2003).

On June 15, 2002, the jury returned a guilty verdict. Interestingly, the jury did not base their finding of obstruction of justice on the shredding of Enron records. They had completely discounted Duncan's admission ". . . that he had destroyed Enron audit documents because of rising fears of a federal investigation" (Raghavan, 2002). Instead, they found AA guilty based on an e-mail from an in-house attorney, Nancy Temple, to David Duncan. In the e-mail Temple had asked Duncan to alter a memo that had been sent to Enron in which ". . . Andersen had initially disagree[d] with Enron's characterization of its huge write-downs as 'non-recurring'" (Toffler & Reingold, 2003, p. 222; Weil & Barrionuevo, 2002).

The verdict carried a penalty of five years' probation and a fine of \$500,000. However, the criminal conviction alone delivered a deathblow to AA. It caused the firm to lose its license to perform certified audits, which ended its life as a public accounting firm (Ainslie, 2006). AA ceased all auditing as of August 30, 2002 (Beltran, Gering, & Martin, 2002; Toffler & Reingold, 2003). Prior to the verdict, AA had already lost some 650 audit clients (Beltran et al., 2002). Toffler and Reingold (2003) noted that "in a business based reputation, no company would want to be audited by a firm whose name had become synonymous with scandal" (Toffler & Reingold, 2003, p. 218). In a review of the government's decision to criminally prosecute AA, Ainslie (2006) argued that the collateral damage, which included

massive job losses, resulting from the prosecution outweighed any benefit that accrued to the public. “No one went to jail as a result of its conviction, nor could they have under the law” (Ainslie, 2006, p. 100).

In what Bravin (2005) referred to as an epilogue, the United States Supreme Court (2005, May 31) overturned AA’s conviction. The reversal was based on the judge’s faulty charge to the jury as to what constituted corrupt persuasion: Writing in a unanimous decision by the court, Chief Justice Rehnquist’s opinion included the following statement: “A ‘knowingly . . . corrup[t] persuade[r]’ cannot be someone who persuades others to shred documents under a document retention policy when he does not have in contemplation any particular official proceeding in which those documents might be material” (United States Supreme Court, 2005, May 31, para. 5). This welcomed verdict did little to improve AA’s tarnished reputation, and it was too late to revive the 89 year-old firm (Weil & Barrionuevo, 2002). Lynn Turner, the chief accountant at the SEC, stated that “they can never clear their name. In the court of public opinion, they have been tried, convicted, and hanged. And, after WorldCom, there was just nothing you could say” (As quoted in Toffler & Reingold, 2003, p. 223).

David B. Duncan, CPA, was charged with ordering the shredding of Enron’s confidential records (Eichenwald, 2002a; Raghavan, 2002). He was indicted on April 9, 2002 on one criminal count of obstruction of justice for impeding the SEC’s investigation (United States District Court, 2002, April 9). Duncan pled guilty to the charge and testified against AA (Eichenwald, 2002a). In his testimony, Duncan admitted that much soul-searching had made him realize “. . . that he had indeed shredded records to keep them away from the government” (Eichenwald, 2002a, para. 10). John Riley, a practice director for AA, also testified that while the shredding was taking place, he had told Duncan that “. . . this wouldn’t be the best time in the world for you guys to be shredding a bunch of stuff” (as quoted in Eichenwald, 2002b, para. 6). However, once AA’s conviction was overturned, Duncan withdrew his guilty plea and the Justice Department did not further pursue the matter (“Accountant and S.E.C. reach deal,” 2008). Duncan was also charged by the SEC with not conducting the audits of Enron with due

professional care, which was a violation of Generally Accepted Auditing Standards, AU Section 150.02 (2001). He entered into an agreement to be barred from practicing before the SEC.

Duncan, having joined AA after graduating from Texas A&M University, became a partner in 1995 and was earning about \$1 million per year at the time the Enron scandal broke. According to his pastor, he had a non-confrontational personality. He was considered a client pleaser. Duncan was reported to have had a “clubby relationship” with Richard Causey and to have played the role of an advocate for the client, rather than a public “watch dog” when presenting complicated accounting problems to AA specialists for review and approval. He accepted Enron’s position on the use of SPEs over that of AA’s specialists, to whom he lied about the details of the SPEs (Raghavan, 2002).

From an ethical viewpoint, Duncan appears not to have been, as required by the Code, objective and independent of the client in both fact and appearance (Code of Professional Conduct and Bylaws, 2012, ET Section 55). It also seems that he was dishonest in his advocacy and distortion of the facts concerning the SPE methodology desired by Enron. Not being honest is a violation of the Integrity principle of the Code of Professional Conduct and Bylaws (2012). Both his actions and indications of his psychological makeup (Raghavan, 2002) point to a lack of the ethical courage (e.g., IEPS 1, 2007; Ariail et al., 2012) needed to stand up to the pressures exerted by Enron’s executives. He did not exhibit the integrity and courage that had been Arthur Andersen’s legacy (*The first fifty years*, 1963). In addition, Duncan’s actions suggest that he was more interested in keeping the client and AA happy than in fulfilling his responsibilities to the public. In not exhibiting due professional care in the conduct of his audit of Enron, he failed to fulfill his ethical obligation of competence. Due care in the conduct of an audit are required by Article V of the Code (Code of Professional Conduct and Bylaws, 2012, ET Section 56). Not performing the Enron audit with “. . . due professional care and the necessary skepticism . . .” was the violation charged by the SEC (“Accountant and S.E.C. reach deal,” 2008, para. 3).

### 1.2.2.5 Sarbanes-Oxley Act (SOX)

The Enron and WorldCom frauds, the failure of Arthur Andersen, the plethora of other accounting scandals that came to light around the turn of the century, worked to create a loss of confidence in the CPA profession. In writing about the accounting issues related to the Enron accounting scandal, Reinstein and Weirich (2002) observed that “the accounting profession is facing a major overhaul because of a credibility crisis. Accountants’ overall image has quickly fallen from the top to near the bottom of all professions” (Reinstein & Weirich, 2002, p. 21). The United States Congress soon reacted to these unethical actions by companies and accountants and the publics’ loss in confidence in the accounting profession by passing the Sarbanes-Oxley Act of 2002 (SOX; 2002). SOX ranks only second in significance to the 1933 and 1934 Securities Acts in its impact on public corporations and the accounting profession in the United States (Clikeman, 2009).

From the corporate accounting standpoint, the law made the CEO and the CFO personally responsible for maintaining adequate internal controls and for the fair presentation of their company’s financial statements (Sarbanes-Oxley Act of 2002, 2002). These SOX requirements resulted in an expanded role for internal auditing, changes in the required makeup of Boards of Directors, and in the CEO and CFO having greater involvement in insuring that the financial statements were presented fairly—previously, CEOs (e.g., Lay, Skilling, Ebbers) often indicated that they were not responsible for what the accountants did with the financial statements. All of these corporate level weaknesses were apparent in the Enron and WorldCom frauds (Clikeman, 2009).

SOX is a far-reaching law that established the Public Company Accounting Oversight Board (PCAOB); provided for enhanced corporate governance and financial statement disclosures; improved corporate accountability; increased criminal penalties for corporate fraud (including imprisonment for up to 20 years); and increased penalties for white-collar crime (including imprisonment for up to 25 years). The PCAOB is, in part, empowered to regulate companies and their auditors to ensure fair financial reporting by public companies of all sizes—all companies listed on stock exchanges in the



United States. It is invested with the power to adopt or modify current auditing standards, including ethical standards and CPA firm quality control standards. SOX requires CPA firms that conduct audits of public companies to register with the PCAOB. Registered CPA firms are subject to inspection and disciplinary actions; are required to be independent, which precludes them from providing certain non-audit services to audit clients; and are required to have a five-year rotation of audit partners. Registered CPA firms are, in addition, required to report directly to an independent audit committee of the board of directors, instead of reporting to the company's management. SOX's corporate governance provisions include requirements for corporate management to establish, maintain, and continually evaluate the company's internal controls; disclose to the auditors any internal control deficiencies and discovered frauds related to internal controls; and to refrain from manipulating or misleading auditors (Sarbanes-Oxley Act of 2002, 2002; Holt, 2006).

Financial frauds continue to negatively impact the accounting profession. The promulgation of new standards and regulations, such as SOX, have not deterred the unethical behavior of some CPAs. The overview that follows of the Bernie Madoff fraud is an example of a post-SOX accounting scandal in which a CPA in public practice was complicit.

#### 1.2.2.6 Bernie Madoff (BMIS)

In the 1960s Bernie Madoff founded the broker-dealer firm of Bernie L. Madoff Investment Securities, LLC (BMIS). A separate investment advisory firm was later formed. In the 1970s, BMIS was one of the founding members of the NASDAQ Stock Market. In the 1980s, Madoff served on NASDAQ's board of governors and as chairman of the BOD (Gregoriou & Lhabitant, 2009). By 2008, BMIS “. . . handled approximately 10% of the NYSE volume. . . [and was] . . . one of the top market makers in NASDAQ” (Gregoriou & Lhabitant, 2009, pp. 5-6).

Madoff's advisory services primarily managed accounts referred by feeder funds. Using a split-strike strategy (a stock investment strategy that utilizes a combination of puts and calls), Madoff

promised his investors stable returns of 8-12%. According to Gregoriou and Lhabitant (2009) “over his seventeen-year track record, Madoff apparently delivered impressive total returns of 557% with no down year and almost no negative months . . .” (Gregoriou & Lhabitant, 2009, p. 8).

In reality, what appeared to be too good to be believed was, in fact, not true. Madoff had for years falsified his firm’s performance. He used money invested by new investors to pay returns to old investors—the classic Ponzi scheme (cf. Zuckoff, 2005). Madoff’s stellar reputation, both on Wall Street and in the Jewish Community of New York City (Pollack, 2016), along with the appearance of long-term stock market success—steady and relatively high returns—blinded investors to signs that a fraud was being perpetrated. Gregoriou and Lhabitant (2009) pointed out numerous warning signs, which was described in the title of their work as a “riot of red flags:” (1) a lack of segregation of operational duties that negated third party oversight; (2) a fee structure based on trading commissions (advisory services usually received performance fees); (3) a lack of functional independence (Madoff’s brother, two sons, and a niece and nephew were employed in key functional positions); (4) an unusually small advisory staff (five or fewer employees supposedly managed \$17 billion in assets); (5) a lack of SEC registration (Madoff’s small number of investors—under 15 investors, all of whom were large feeder funds—allowed him to avoid registering until 2006); (6) a climate of secrecy that impeded the performance of due diligence; (7) a lack of electronic access to daily trades (feeder fund managers were mailed daily paper trade tickets—paper tickets that were easily falsified); (8) an unusually low level of volatility (unusual given the investment strategy supposedly employed); (9) an incongruent explanation of why the firm’s quarterly filings with the SEC showed a relatively small number of security positions (supposedly positions were converted to cash each quarter in order to keep secret Madoff’s discretionary trading—an explanation that was incongruent with BMIS’ low volatility); and (10) a lack of certified audits by a recognized CPA firm (Gregoriou & Lhabitant, 2009), especially by a firm with a single auditor (Fuerman, 2009).

The last warning sign is of particular interest to the present study. The Madoff fraud, the largest Ponzi scheme in history and one that lasted for almost two decades, was aided by BMIS’s auditor

(Goldstein, 2015). This fraud is an example of egregious conduct by a CPA in public practice that began long before the passage of SOX and continued for years afterwards. Madoff's \$50-65 billion (Zambito, Sandoval, & McShane, 2009; Yang, 2014) fraud, that resulted in about 5,000 investors losing at least \$17.5 billion, was facilitated by David Friehling, CPA, the president elect of his local chapter of CPAs and a community leader (Blodget, 2008; Yang, 2014). Friehling was the sole active CPA at Friehling & Horowitz, CPAs, P.C. (F&H), a three-person public accounting firm (Parsons, 2010). From 1991-2008, F&H certified that the financial statements of BMIS were fairly presented (United States District Court, 2009, March 18).

According to the Securities and Exchange Commission's March 18, 2009 complaint against Friehling and F&H, Friehling conducted sham audits of BMIS, which included not confirming the existence of securities purportedly owned by the fund, not independently confirming customer accounts, not properly confirming bank balances, not adequately documenting his work, and not being independent of his audit client (United States District Court, 2009, March 18). Prosecutors charged that Friehling "... routinely rubber-stamped Madoff's bogus books while making millions from illicit investments with the con man" (Zambito et al., 2009, para. 2 ); and, according to SEC official James Clarkson, Friehling "... essentially sold his [CPA] license to Madoff for more than seventeen years while Madoff's Ponzi scheme went undetected" (as quoted in Klock, 2010, p. 36). Friehling's conduct violated all six Articles of the Code of Professional Conduct and Bylaws (2012) of the AICPA.

For 2008, *The Economist* gave Madoff its scoundrel of the year award, one of its annual "swimming naked awards" ("The swimming naked awards," 2008). At the age of 71, Madoff pled guilty and received a 150-year prison sentence. Friehling pled guiltily and cooperated with the government in bringing its case against Madoff. Despite being complicit in financially devastating thousands of investors, including non-profit organizations such as Yeshiva University and Tufts University and charitable organizations such as The Carl & Ruth Shapiro Family Foundation, the Mark Zuckerman Charitable Trust, the Jewish Foundation of Greater Los Angeles (Coolidge, 2008), Hadassah, and the Eli Wiesel Foundation (Pollack, 2016), Friehling was sentenced to three years, with

no jail time (Yang, 2014; Goldstein, 2015). Considering that under Section 807 of SOX (Sarbanes-Oxley Act of 2002, 2002) defrauding shareholders carries a maximum prison sentence of 25 years, Friehling's sentence was relatively short.

Friehling's total lack of integrity was another instance where the CPA profession failed to protect the public's interest—an occurrence that potentially further eroded the public's confidence in the accounting profession and thereby lessened confidence in the financial markets. Writing in 2010 about the Madoff fraud, Klock (2010) observed that “. . . it is clear that investor confidence in the integrity of the markets remains seriously below what it used to be” (Klock, 2010, p. 46).

#### 1.2.2.7 Recent and Future Accounting Frauds

The Bernie Madoff fraud was only one example of accounting scandals disclosed since the passage of SOX. Other large U.S. and international accounting frauds at companies listed on stock exchanges in the United States (and thus subject to SOX) were discovered in 2003 at HealthSouth (Beam & Warner, 2009; Armstrong & Balch, 2015) and at Royal Ahold (Knapp & Knapp, 2007; Klumper & Geuzebroek, 2007). Additionally, in connection with a \$4.9 billion fraud, which was described as “. . . one of the largest and most brazen corporate financial frauds in history” (United States Securities and Exchange Commission, 2003, para. 1), Parmalat in 2003 was charged by the U.S. Securities and Exchange Commission with providing misleading financial statements to investors in the United States (United States Securities and Exchange Commission, 2003). Other major accounting frauds were also unveiled in 2005 at AIG (American International Group) and in 2008 at Lehman Brothers (Dowd, 2016).

Writing in *Law360*, David Woodcock (2015), a former chairman of the SEC Enforcement Division's Financial Reporting and Auditing Task Force, provided the following prediction about the future of accounting frauds:

The only thing that can be stated with certainty is that accounting fraud is unlikely to disappear completely. While conditions may not be prime right now, there is no guarantee that improved economic conditions or decreased regulatory focus could not pave the way for more widespread

accounting fraud. And we can be pretty sure that the next crisis won't look exactly like the last. (Woodcock, 2015, para. 30)

Warren Buffet, Chairman of the Board of Berkshire Hathaway, famously told shareholders in the 2001 Annual Report that “after all, you only find out who is swimming naked when the tide goes out” (Buffett, 2002, p. 10). The “tide has been in” since 2009 in the U.S. stock markets. As of the end of 2016 stock prices continued to increase in a bull market (Galgani, 2016). With the Dow Jones Industrial Average in 2017 hitting all-time highs over \$22,000, some believe that the bull market could soon change to a bear market (Kollmeyer, 2017), which is defined as a 20% or more drop in market prices (Housel, 2015). When that happens, investors may again find that some public companies have been “swimming naked”; that financial accounting frauds were masked by the “rising tide” of the bull market (Toffler & Reingold, 2003).

While the revelation of major accounting frauds are direct examples of accounting failures—failures that produce public outcry and often result in the promulgation of new professional standards, regulations, and/or laws—they are not the only measures of such failures. A recent increase in the number of class action lawsuits related to accounting issues is another indication that SOX has not cured all accounting ills. Cornerstone Research (2015) publishes *Accounting Class Action Filings and Settlements*. Their 2015 report included the following summary of accounting related class action securities litigations:

- There were 71 securities class action filings with accounting allegations in 2015, exceeding the average over the past 10 years of 67.
- The total Disclosure Dollar Loss . . . Index for accounting cases filed in 2015 rose to its second highest level in the last seven years.
- The number of accounting case filings that included allegations and announcements of internal control weaknesses increased to the highest level since 2006.
- The number of accounting case settlements rose to the highest level since 2010.
- The total settlement value for accounting cases was almost three times the level in 2014. (Cornerstone Research, 2015, p. 1)

Other indications of ongoing ethics related accounting problems, both in the United States and abroad, are provided by global fraud reports issued by the international accounting firms of

PricewaterhouseCoopers (PwC), and Ernst and Young (EY), and by the Association of Certified Fraud Examiners (ACFE). Each of these recent reports provides accounting related findings.

PwC's *Global Economic Crime Survey 2016* (PwC, 2016), which included responses from 6,337 executives located in 115 countries, reported the overall rate of economic crime in 2016 at 36%; a rate that was down by 1% since 2014, but up by 6% since 2009. From 2014 to 2016, the rate of economic crime increased by 7% in Africa (from 50% to 57%), by 5% in Europe (from 35% to 40%), and by 4% in the Middle East (from 21% to 25%). For the same period, reported economic crime decreased by 4% in North America (from 41% to 37%), by 6% in Eastern Europe (from 39% to 33%), by 2% in Asia Pacific (from 32% to 30%), and by 7% in Latin America (from 35% to 28%). Overall, the rates of economic crimes in the 2016 report ranged from a low of 28% in Latin America to a high of 57% in Africa (PwC, 2016).

Out of 13 specific categories of economic crimes reported by PwC, accounting fraud, which was 18% of the total, was the fifth most prevalent type of economic fraud. It was less frequent than the theft of assets, cybercrime, bribery and corruption, and procurement fraud, but was more frequent than human resources fraud, intellectual property infringement, insider trading, tax fraud, mortgage fraud, competitive/anti-trust law infringement, and espionage (PwC, 2016).

EY's *14<sup>th</sup> Global Fraud Survey* (EY, 2016) reported the results of 2,825 interviews conducted mainly with CFOs and COOs. CFOs are not infrequently U.S. or non-U.S. CPAs (Durfee, 2005; Aier, Comprix, Gunlock, & Lee, 2005; Gershon, 2013) or chartered accountants (Lam, 2007; SpencerStuart, 2013). The results found that "36% of all CFOs could rationalize unethical conduct to improve financial performance" (EY, 2016, p. 14). The rate of CFOs who would unethically manage earnings was highest in Malaysia at 80% and lowest in Brazil at 4%. Selected results for other countries include the United States at 32%, the United Kingdom at 36%, South Africa at 40%, and Germany at 42% (EY, 2016). Regarding unethical earnings management and the falsification of financial statements, the EY report stated the following:

Our survey found that a significant minority of executives continue to justify unethical acts to improve a company's performance. When presented with a series of options, more than one-

third would be willing to justify inappropriate conduct in an economic downturn, while almost half would justify such conduct to meet financial targets. . . . Four percent, a significant minority of respondents, could justify misstating financial performance, peaking at 1 in 10 in Africa. (EY, 2016, p. 12)

Between July and October 2015, The Association of Certified Fraud Examiners (ACFE) surveyed 41,788 Certified Fraud Examiners (CFE). Useable surveys were received from 2,410 CFEs located in 65 countries. The respondents provided information about the largest occupational frauds they had investigated since 2014. The results indicated that the highest percentage of frauds had occurred in accounting departments: “. . . We see that more frauds came from the accounting department (16.6%) than anywhere else and that the median loss in those cases (\$197,000) was slightly larger than the typical scheme” (ACFE, 2016, p. 55).

While the frequency of the discovery of major accounting frauds has decreased since the passage of SOX, major frauds continue to be “brought to light”—both in the United States and internationally. With the stock market in the United States at an all-time high, it is inevitable that the current bull market will eventually change to a bear market. At that time, more accounting frauds may be revealed (Toffler & Reingold, 2003). Nevertheless, there are other recent indications that accounting misconduct has not waned: Class action lawsuits related to accounting issues have increased, economic crimes (including accounting fraud) continue to be a global issue, a relatively large percentage of CFOs can rationalize unethical earnings management or fraudulently misstating financial statements, and accounting departments are the location where most frauds are found.

Since laws, such as SOX, are not enough to stop accounting misconduct, Woodcock (2015) suggested that the best approach for dealing with fraud is for companies to focus on their ethical cultures:

Regardless of the overall trends, however, we know that companies with strong ethical and compliance cultures experience less fraud and discover it more quickly. So the best approach for those who want to avoid problems is to build and nurture an ethical and compliance culture that minimizes the pressures and opportunities that might tempt otherwise good people to engage in misconduct. (Woodcock, 2015, para. 30)

Research has indicated that Woodstock’s ethical culture approach for dealing with accounting misconduct has both personal values and P-O fit implications.

The relative importance to ethical judgments of personal value priorities and perceived ethical cultures at two international accounting firms was investigated by Douglas, Davidson, and 6 (2001). Their findings indicated that in high moral intensity situations, the ethical judgments of auditors were directly affected by their personal values while being indirectly affected by the ethical culture. In a more recent study of accounting professionals, Bobek, Hageman, & Radtke (2015) found a relationship between the constructs of ethical culture and P-O fit: “In particular, the degree of organizational fit and participation in shaping and maintaining the ethical environment are important for non-leaders; the stronger these attributes, the more likely non-leaders are to perceive their firms’ ethical environments as strong” (Bobek et al., 2015, p. 139).

A number of researchers (e.g., Arel, Beaudoin, & Cianci, 2012; Elliot, Marquis, & Neal, 2013; King, 2013; Murphy & Dacin, 2011; Svanberg & Ohman, 2013; Amernic & Craig, 2013; Campbell & Goritz, 2014; Soltani, 2014) have linked the communication by leaders of an ethical culture to ethical behavior. The relationship between leader-follower value congruence, P-O fit, and ethical leadership was explored by Lee, Choi, Youn, and Chun (2017). Their findings, with a sample of employees and supervisors in South Korea, found the effectiveness of ethical leadership related to P-O fit. In this regard, they stated the following:

This study . . . suggests that ethical leadership becomes more salient and more effective for employees whose values are consistent with those of their leaders. In order to facilitate followers’ moral decisions and actions, organizations need to pay attention not only to leaders’ ethicality but also to value congruence between leaders and followers. (Lee et al., 2017, p. 56)

### **1.3 PROBLEM STATEMENT**

No theory grounded educational based intervention currently exists to facilitate the person-organization fit (P-O fit) of accounting students. That is, to improve the congruence of the personal values of accounting students with the institutional values of the accounting profession. This void impairs the selection of prospective accountants, their subsequent socialization and retention in accounting, and the promotion of desired ethical behavior—behavior consistent with values embedded in accounting codes



of ethics, such as the Code of Professional Conduct and Bylaws (2012) of the American Institute of Certified Public Accountants.

#### **1.4 GOALS AND OBJECTIVES**

The goals of this research are twofold: first, to identify the level of fit of the personal values of accounting students with the values of the accounting profession (P-O fit); and, second, to develop and test two education interventions designed to improve P-O fit by increasing the importance given by students to values prioritized by the accounting profession (Mintz & Morris, 2011). These goals are achieved by focusing on the following six objectives:

**Objective 1:** To describe the importance of P-O fit in selection, socialization, and retention in the accounting profession, and the specific importance of personal value priorities in this regard.

**Objective 2:** To develop an appropriate methodology for testing the P-O fit of accounting students with the accounting profession.

**Objective 3:** To report on the extent of the P-O fit of accounting students with the accounting profession.

**Objective 4:** To describe value change studies that have utilized the VSC intervention procedures developed by Rokeach (1973).

**Objective 5:** To develop and apply two education intervention programs for changing the personal values of accounting students to be more congruent with the values of the accounting profession.

**Objective 6:** To report on the differential effectiveness of the two value change methodologies.

## 1.5 IMPORTANCE OF THE RESEARCH

The accounting profession demands a supply of accountants who are both technically and professionally competent. The accounting academy strives to meet that demand. By addressing the value priorities and P-O fit of accounting students, the present study has important implications for both the practice and teaching of accounting.

### 1.5.1 From a Professional Perspective

Decreasing employee turnover by selecting quality employees, socializing new hires into the culture of the firm, and retaining trained staff are top public accounting issues (AICPA PCPS, 2015; *CPA Practice Advisor*, 2015; *Inside Public Accounting*, 2015). Hiring and keeping good employees are hypothesized (Schneider, 1987; Chatman, 1989; Chatman, 1991) as being positively impacted by P-O fit. P-O fit has been found relevant to the selection of employees (e.g., Chatman, 1991; Anana & Nique, 2010; Swinder, Zimmerman, & Barrick, 2015), to the socialization of employees (e.g., Chatman, 1991; Clikeman & Henning, 2000; Fogarty, 2000; Sweeney et al., 2003; Sellers & Fogarty, 2010; Church, 2014; Windsor & Dagwell, 2014), and to the retention of employees (e.g., Chatman, 1991; O'Reilly et al., 1991; Yamamura & Westerman, 2007; Hinkle & Choi, 2009; Inabinett & Ballaro, 2014).

The present study examines the P-O fit of accounting students with the accounting profession. It also explores the effectiveness of two education interventions aimed at improving the P-O fit of accounting students by increasing the priority given to values esteemed by CPA leaders. Better value congruence of accounting graduates at their entry into the profession may improve selection—both their chances of self-selecting a desirable CPA firm (e.g., Swider et al., 2015) and their chances of organization selection—being considered a good fit by CPA firm recruiters (e.g., Chatman, 1991; Ahadiat & Smith, 1994; Cory et al., 2007; Jackling & De Lange, 2009). CPA firms may be able to utilize knowledge of the P-O fit of entry level accountants to improve methodologies for choosing

qualified applicants and/or for improving methods (such as by training and mentoring) for better socializing both new and existing staff into the values of the firm (e.g., Chatman, 1991; Fogarty, 2000; MacLean, 2013; Windsor & Dagwell, 2014).

In attesting to the fair presentation of financial statements, public accountants are charged with protecting the interests of many stakeholders, including creditors and the investing public. In the unanimous decision by the United States Supreme Court (1984) in the case of Arthur Young & Company, one of the then Big Eight international accounting firms (Wootton & Wolk, 1992; Katz, 2002), Chief Justice Warren Burger made the following statement regarding the financial “watchdog” role played by public accountants: “This ‘public watchdog’ function demands that the accountant maintain total independence from the client at all times, and requires complete fidelity to the public trust” (United States Supreme Court, 1984, March 21, p. 465).

As was illustrated in the Enron, WorldCom, Arthur Andersen, and BMIS accounting scandals, some CPAs failed in their duty to act as public watchdogs. Integrity and concern for the public’s trust were absent in the behaviors of Causey at Enron, Sullivan, Myers, Yates, Vinson, and Norman at WorldCom, Duncan at Arthur Andersen, and Friehling at BMIS.

In a 2003 response to a question posed by the present author regarding his views on the underlying reasons for the recent accounting failures, Scott Voynich, who was at that time the chair elect of the AICPA, indicated that the loss of public trust (a “crisis in confidence”) in the accounting profession was caused by a loss of devotion and adherence to the profession’s core values:

The events of the last eighteen plus months have focused a bright light on the profession’s core values: integrity, competence and objectivity. Unfortunately, the failures have rightly caused the public to ask if we have been true to those core values. For the first time in my memory our credibility has been called into question and that is the most troubling consequence of these recent events. In point of fact, our core values are actually the solution and we have to do whatever it takes to live up to those values and to instill them in the next generation of CPAs. The real solution to our crisis in confidence rests with the rank and file CPA. Each CPA has a significant influence in their professional and personal community and the best opportunity to shape opinion. How we live our values on a daily basis will have more impact, good or bad, than any high profile CPAs. I am more concerned about those who make a difference than about those who make headlines. (S.S. Voynich, personal communication, September 13, 2003)

Mintz and Morris (2011) suggest that the core values of the accounting profession are those embedded in codes of professional conduct such as the Code of Professional Conduct and Bylaws (2012) of the AICPA:

Values are basic and fundamental beliefs that guide or motivate attitudes or actions. In accounting, the values of the profession are embedded in its codes of ethics that guide the actions of accountants and auditors in meeting their professional responsibilities. (Mintz & Morris, 2011, p. 5)

The value change part of the present study utilizes two educational interventions aimed at increasing the priority given by accounting students to the four RVS instrumental values of *capable*, *courageous*, *honest*, and *responsible*. These four values, which were ranked in the Pilot Study (3.5.1.2; Table 5) as most important by CPA leaders, are values embedded in the Code: the values of *capable* (*competent*), *honest*, and *responsible* are directly addressed, while the value of *courageous* is implied. The need for personal courage is often required of CPAs in their efforts to remain objective and independent (e.g., IEPS 1, 2007; Ariail, 2009a; Ariail, 2009b; Ariail, Hays, & Vasa-Sideris, 2012) by “. . . avoid[ing] any subordination of their judgment” (Code of Professional Judgment and Bylaws, 2012, ET Section 55.02, p. 2819).

The value methodology employed in the present research is thus aimed at addressing two accounting profession problems: employee turnover and ethical behavior. It is primarily aimed at improving the P-O fit of accounting students; a change in values posited to have a positive impact on CPA firm turnover. It is secondarily aimed at increasing the priority given to values embedded in the Code—a change in value priorities posited to have a positive impact on ethical behavior.

### 1.5.2 From an Academic Perspective

The art of accounting is believed to have developed before writing in Mesopotamia. This early form of accounting, which used clay tokens and their impressions to represent duplicate counts of various goods, evolved around 3200 BCE into cuneiform writing (Schmandt-Besserat, D., 1978, 1982, 1986, n.d.). However, the first written explanation of double-entry accounting, the accounting system still

used today, appeared over 500 years ago in a chapter of *Summa De Arithmetica, Geometria, Proportini Et Proportionalita* authored by Fra Luca Pacioli, a renowned mathematician and mentor of Leonardo da Vinci (Carey, 1969; Gleeson-White, 2012). Nevertheless, accounting is, when compared to the traditional professions of law, medicine, and theology, a relatively recent addition to the learned professions (Carey, 1969; Cheffers & Pakaluk, 2007; Mintz & Morris, 2011). Chartered Accountants originated in Scotland and England in the mid-1800s and Certified Public Accountants emerged in the late 1880s in United States. The American Association of Public Accountants, which later became the AICPA, was formed in the United States in 1887 (Carey, 1969).

Carey (1969) indicated that, in the United States, accounting became a profession based on it having met the following seven criteria:

(1) a body of specialized knowledge; (2) a formal educational process; (3) standards governing admission; (4) a code of ethics; (5) a recognized status indicated by a license or special designation; (6) a public interest in the work that practitioners perform; and (7) recognition by them of a social obligation. (Carey, 1969, p. 3)

Carey's (1969) criteria for accounting as a profession suggests the important role played by the accounting academy: training accountants to meet the needs of the accounting profession—training that includes not only providing students with the technical expertise needed to pass the CPA exam (securing a license) and become competent practitioners (specialized knowledge), but also training that provides students with a firm foundation in ethics and social responsibility; a foundation in the values of the profession.

According to Behn et al. (2012), “creating effective learning experiences is a vital part of accounting educators’ work, critical to achieving the values of a learned profession . . .” (Behn et al., 2012, p. 595). The role played by academia in meeting the needs of the profession for competent and ethical accountants has been addressed in guidance and pronouncements provided by international organizations of accounting practitioners (e.g., AICPA, IFAC) and accounting professors (e.g., AAA).

### 1.5.2.1 Meeting the Needs of the Profession

The Pathways Commission (2012), which was a joint effort of the AAA and the AICPA, was tasked with providing better coordination and collaboration between academia and practice in order to meet the future demands of the accounting profession. The Commission's report stated the need for academia to produce the demanded quantity of competent accounting graduates:

Having an understanding of the future demand for graduates of accounting programs is important for the design of these programs. The goal is to match accounting graduates with the needs of employers, both in terms of quantity and the competencies desired by employers. (Pathways Commission, 2012, p. 94)

While the task of preparing accounting students for the profession has traditionally been focused on technical training, research has suggested that recruiters of accounting students determine the desirability of candidates (the competences desired) based on both "hard skills" (technical skills) and "soft skills," many of which have a values content. Ahadiat and Smith (1994) found that four of the top 10 rated attributes desired by CPA recruiters in the United States were non-technical skills: congeniality, professional conduct (ethical conduct), communication skills, and reliability (dependability, trustworthiness, and sense of responsibility). Similarly, Jackling and De Lange (2009) found that employers of accounting students in Australia prioritized generic skills, such as communication skills and interpersonal skills, over technical skills. These results suggest that accounting educators need to not only focus on preparing students to be technically proficient but also on giving them the "soft skills" that will improve P-O fit with employing organizations and thus improve students' potential for being hired, and once hired, being better socialized into the cultures of accounting organizations (e.g. Chatman, 1991).

Fogarty (2000) suggested that in trying to socialize accounting students into the accounting profession, ". . . accounting firms can attempt to build upon the values and expectations of accounting students, or . . . impress upon . . . [them] the insufficiency and inadequacy of their preparation" (Fogarty, 2000, p. 21). In the later instance, the role of the accounting firm is to help recruits form new values and identities (Fogarty, 2000). Other researchers (e.g., Willits, 2014; Akers, Eaton, &

Giocomino, 2011) have posited that the P-O fit of accounting students can be positively impacted during their accounting education. That is, that the values fit of students aspiring to enter the profession can be improved with curriculum modifications that work to inculcate students with the values of the profession.

Akers et al. (2011) recommended that accounting educators measure the personal values of their accounting students, compare the students' value priorities to those of the profession, and then modify their curriculum to address value deficiencies. That is, influence value change in the direction of better congruence. The P-O fit part of the present study (2.1) includes a determination of the congruence of the personal values of accounting students with the values of the accounting profession; and the curriculum modification procedures (3.7.6) utilized in the value change part of the present study (2.2) were, in part, informed by the pedagogy suggested by Akers et al. (2011).

#### 1.5.2.2 Improving Ethical Behavior

Given the plethora of turn-of-the-century accounting scandals that resulted in a loss in confidence in the CPA profession (Reinstein & Weirich, 2002; Voynich, personal communication, September 13, 2003; Toffler & Reingold, 2003; Clikeman, 2009), accounting ethics education has received a considerable amount of professional attention. Most state Boards of Accountancy in the United States have adopted ethics education requirements. Some states, such as Texas and Maryland, require that applicants for the CPA exam have completed a college level course in accounting ethics (Huff, Sullivan, & Prachyl, 2014). According to Bates, Waldrup, and Calhoun (2008), "after successfully completing the CPA examination, 24 U.S. states require applicants to complete an ethics course prior to certification" (Bates et al., 2008, p. 10). A perusal of state requirements for continuing professional education (CPE) located on the website of the National Association of State Boards of Accountancy (NASBA CPE, n.d.) found that 50 of 55 states or jurisdictions in the United States require licensed CPAs to obtain CPE in ethics.

Georgia is one of the five states (the others being Alabama, North Dakota, South Dakota, and Wisconsin) that currently do not require CPE in ethics (NASB CPE, n.d.).

The Pathways Commission (2012) recognized that accounting educators need to work to enhance the ethical characteristics and ethical decision-making of entry level accountants. The specific ethical behavior related characteristics noted by the Commission were integrity, which includes the values of *honest* and ethical *courage*, responsibility (*responsible*), and professional commitment, which demands *competence*. The Commission included the following statement regarding the need for accounting educators to include more than technical training in their curriculum:

. . . In a very real sense, accounting educators are trustees or guardians for the future of the accounting profession. The educational responsibility of the accounting academy is a broad one, broader and more formative than that of educators more generally, encompassing the development of cognitive skills and the acquisition of technical knowledge, of course, but going well beyond this to develop in students an entry-level base of necessary professional skills along with an understanding of and resonance with the accounting profession's broad societal purposes. This educational responsibility has both curricular (what we teach) and pedagogical (how we teach) dimensions. (Pathways Commission, 2012, pp. 23-24)

In addressing the need for accounting education to include training in the values of the profession and ethical behavior, the International Accounting Education Standards Board (IAESB), an independent body of the International Federation of Accountants (IFAC; 2008), stated that such training should be perceived by students as an important aspect of their education:

Professional values, ethics and attitudes need to be treated in their own right within the education framework. If future professional accountants are to perceive professional values, ethics, and attitudes as important to their work, it is essential that they do not perceive the treatment of professional values, ethics and attitudes as peripheral to their main education program. (IASB, 2008, p. 45)

The IAESB promulgates International Educational Standards (IES) for IFAC member organizations. Their standards are also meant to provide guidance for other educational organizations, such as universities, that undertake the formal training of accountants. International Education Standards (IES) 1-3 provide member organizations with guidance on professional entry requirements (IES 1), the technical content of accounting education programs (IES 2), and the professional skills that should be included in accounting curricula (IES 3). IES 5-8 provide guidance on requirements for practical experience (IES 5), assessing professional competence (IES 6), continuing professional



development (IES 7), and specific competencies required by audit professionals (IES 8) (IASB, 2008). Of interest to the present study is IES 4, which provides guidance for the training of accounting students in professional values, ethics, and attitudes (IES 4, 2014).

Revised IES 4, which was finalized January 2014, requires that “IFAC member bodies . . . provide, through professional education programs, a framework of professional values, ethics, and attitudes for aspiring accountants to (a) exercise professional judgment, and (b) act in an ethical manner that is in the public’s interest” (IES 4, 2014, p. 5). The suggested framework includes a focus on “. . . five fundamental principles of professional ethics: integrity; objectivity; professional competence and due care; confidentiality; and professional behavior” (IES 4, 2014, p. 4).

The five ethical principles of IES 4, either directly or indirectly, are consistent with professional values posited as included in the Code of Professional Conduct and Bylaws (2012) of the AICPA, which are targeted for change in the present study: *honest*, which is integral to integrity; *responsible*, which is a component of professional behavior; and *capable*, which is considered in the Rokeach Value Survey (Rokeach, 1973) as synonymous with competent. As previously indicated, the principle of due professional care often requires the exercise of ethical courage (Ariail, 2009b; Ariail et al., 2012). The IASB’s International Education Statement 1 (IEPS 1, 2007) also recognized the importance of the value of *courage*: “Professional accountants may need to demonstrate ethical courage when making decisions in accordance with the fundamental principles of the IFAC Code of Ethics” (IEPS 1, 2007, p. 13).

The IASB (2008) includes at least two accounting education recommendations that support the value change methodologies utilized in the present study. IEPS 1 (2007) indicates that accounting ethics education should “. . . highlight examples of ethical courage, and bring this to the attention of students and professional accountants during pre- and post-qualification accounting education programs” (IEPS 1, 2007, p. 13). In the present study, examples of ethical courage are the focus of the Curriculum Modification Intervention aimed at increasing the importance given to the value of *courageous*.

Further, IES 4 (2014) states that “IFAC member bodies shall design learning and development activities on professional values, ethics, and attitudes for aspiring professional accountants to include

reflective activity that is formalized and documented” (IES 4, 2014, p. 6). In the present study, subjects were informed in the course syllabus (Appendix I) that throughout the course they should reflect on their personal values and how those values might conflict with the values of the accounting profession:

For the remainder of the course (as you analyze the 13 assigned ethics cases) you should think about the values that are important to you (in your life) and the values that are important to the accounting profession. You should continually ask yourself if there are instances where your personal values and the values of the profession are in conflict; and how you would resolve any such conflict?

In giving ethical guidance based on her experiences with the WorldCom fraud, Cynthia Cooper suggested a similar exercise:

Know what you believe is right or wrong. Write down the values you will live by and what you will do if your values collide. Is your moral compass pointed in the right direction? Are you priorities in the right order? (Cooper, 2008, p. 365)

Value self-confrontation, which is one of the education interventions used in the value change part of this study, is a reflective exercise (Rokeach, 1973). It involves students ranking their values according to priority, and then reconsidering their rankings based on feedback about the values held in high esteem by the accounting profession and the applicability of those values to the Code of Professional Conduct and Bylaws (2012) of the AICPA. “Things that matter most must never be at the mercy of things that matter least,” wrote Johann Wolfgang von Goethe (Goethe, n.d.). The ranking of the RVS values before and after the two education interventions involves students identifying the values that matter most and least to them personally.

Researchers who have investigated the congruence of the personal values of accounting students and accounting practitioners have also suggested the need for a greater focus in the accounting curricula on ethics training, specifically a greater focus on ethics related values. Lan, Ma, Cao, & Zhang (2009) and Krambia-Kapardis & Zopiatis (2011) explored the personal values of Accounting practitioners and accounting students: Lan et al. (2009) investigated the congruence of the SVQ values (Schwartz, 1992) of accounting graduate students and accounting practitioners in China, while Krambia-Kapardis & Zopiatis (2011) studied the congruence of “head and heart values” (Maccoby, 1976) of CPAs in Cyprus and accounting students who were working towards the Cyprus CPA designation. Both groups of

investigators found significant differences in the values of practitioners and students. Lan et al. (2009) concluded that “educators, business schools, and organizations in China could also include in their curricula, activities or courses that will evoke in accounting students and employees, values that are conducive to a wider social awareness and concern to ethical behavior” (Lan et al., 2009, p. 73). In agreement with Lan et al. (2009), Krambia-Kapardis & Zopiatis (2011) suggested that educators teaching accounting in higher education (pre-service education courses) should focus on instilling in accounting students specific ethics related “heart” type values and that efforts to increase the importance given to these values be included in continuing education courses (post-service education courses). In this regard, they stated the following:

. . . One implication of the findings is that by studying the heart and head value traits of accountants, it is possible (a) to identify which traits need to be enhanced by the profession in the curriculum of accounting education courses so as to improve the ethical sensitivity of qualified accountants . . . and (b) to structure refresher human values seminars for accountants to counter the negative effects on heart values of years of professional experience. (Krambia-Kapardis & Zopiatis, 2011, p. 68)

The need for ethics and values education to be included in the curricula of accounting was also addressed by Cynthia Cooper, the courageous CPA who exposed the WorldCom fraud, in the following excerpt from a personal communication dated February 24, 2017 (the complete personal communication is included in Appendix J):

It is important to prepare students to become not only technically competent but ethically fit. The more we bring values and ethics to the forefront of a student’s thinking in the classroom, the more likely he or she will be to stand up to pressure and make the right choices. By preparing students to make ethical decisions, professors have an opportunity to help shape the next generation and offer an incredibly valuable gift that may one day change the course of a student’s life. While many values are instilled during our youth, each of us can and will change throughout our lives. The years spent at a university are a critical time of growth and development. Professors can make a positive difference by discussing traits of strong ethical leaders, such as honesty, accountability, and courage, and by challenging students to define their own core values. (Personal communication February 24, 2017)

Knowledge about the personal value priorities of accounting students and how those values agree or disagree with the value priorities of the accounting profession can also be potentially used by accounting educators to better prepare students for successful entry (selection) into and longevity (socialization and retention) in their chosen profession. By better inculcating accounting students with core values of the profession—core values like *capable*, *courageous*, *honest*, and *responsible* that are

targeted in the present study—educators can also better provide the values related professional competencies demanded by the profession (e.g., Ahadiat & Smith, 1994; Jackling & De Lange, 2009).

Improving the priority given to values related to demanded competencies will also help educators fulfill goals of accounting education that are included in the report of the Pathways Commission (2012) and in IES 4 (2014) of the IFAC. Moreover, a greater focus on the core values of the profession is mandated by IES 4 (2014) for IFAC member bodies—suggestions which are also recommended for higher education institutions. The question of whether or not a focus in the accounting curriculum can improve the future ethical behavior of accounting students is not settled. Nevertheless, research has found that changing the priorities given to selected values can result in positive changes in attitudes (e.g., Rokeach, 1968a; Rokeach, 1971a; Hollen, 1972; McLellan, 1974; Gray & Ashmore, 1975; Grube, 1979; McClure, Diniz, Milfont, & Fisher, 2012) and behaviors (e.g., Rokeach, 1971a; Penner, 1971; Rokeach & McLellan, 1972; DeSeve, 1975; Grube, 1979; Conroy, 1979; Schwartz & Inbar-Saban, 1988; Arieli, Grant, & Sagiv, 2014). Emphasizing, in the accounting curricula, important professional values, especially ethical values, perhaps can improve the P-O fit of entry level accounting students while also positively impacting their future ethical behaviors. Both of these learning outcomes are considered goals of the accounting academy (e.g., Pathways Commission, 2012; IES 4, 2014)

## **1.6 CONTENT OF THE RESEARCH**

This research is divided into two empirical parts: first, a study of the P-O fit of accounting students with the accounting profession; and, second, tests of two education interventions (a Curriculum Modification Intervention and a VSC Intervention) aimed at improving the P-O fit of accounting students.

The P-O Fit Study was conducted with a convenience sample of upper level accounting students drawn from a number of higher education institutions in Georgia (Appendix B). In this part of the study, the personal value priorities of upper level accounting students were compared to the values of the

accounting profession in Georgia, defined as the personal value priorities of CPA leaders in Georgia. The Value Change Study was conducted with accounting students pursuing a fully online master's degree in accounting at a single Georgia institution of higher education. The present study, therefore, aimed at determining the P-O fit of accounting students in Georgia, and then at changing targeted values of accounting students to improve their fit with values prioritized by the accounting profession; values related to the Code of Professional Conduct and Bylaws (2012) of the AICPA.

#### 1.6.1 Disciplinary Content of the Research

This research is conducted in the context of business research and accounting education research. Within the domain of business research is the field of accounting behavioral research, which is described in the editorial policies of *Behavioral Research in Accounting* (n.d.), a leading journal in the field of behavioral accounting research, as “. . . original research relating to accounting and how it affects and is affected by individuals and organizations. . . .” (*Behavioral Research in Accounting*, n.d., para. 1). A subcategory of this field of research is accounting ethics, which examines moral issues and behaviors within an accounting context. The value congruence part of this study is directly related to organization behavior within the field of accounting; and the value change education interventions tested in this study are aimed at potentially improving the fit of accounting students with the accounting profession, thereby possibly improving their future ethical behavior as accounting professionals.

The editorial policy of *Issues in Accounting Education* (n.d.), a leading journal in the field of accounting education, includes “. . . topics such as the learning process, curriculum development, professional certification, career training, employment, and instruction” (*Issues in Accounting Education*, n.d., para. 2). The curriculum modifications tested in this research have implications for all of these subtopics.

## 1.6.2 Applicable Theories

Several theories are applicable to this research; specifically, theories regarding personal values, organizational and institutional values, person-organization fit, and value change. An overview of each of these theories follows.

### 1.6.2.1 Personal Values

There are a number of theories regarding personal values, including various instruments for measuring them (e.g. Vernon & Allport, 1931; Wollack, Goodale, Wijting, & Smith, 1971; Maccoby, 1976; O'Reilly et al., 1991; Sarros, Gray, Densten, & Cooper, 2005). The present research is focused on the theories of values and value change developed by Milton Rokeach (1968a, 1968b, 1973), and utilizes the Rokeach Value Survey (RVS), his ipsative measure of personal values. Rokeach's values research was extended by Shalom Schwartz (1992). Schwartz's theory of personal values and his parametric measure of values, the Schwartz Values Survey, has been utilized in recent research. Two of these works are included in the 34 value change studies reviewed in Chapter 2. Overviews of the value theories of Rokeach and Schwartz follow.

#### 1.6.2.1.1 Milton Rokeach

Milton Rokeach is a seminal values researcher. His theory of personal values and the instrument he developed to measure values, the Rokeach Value Survey (RVS), has been extensively used in values research since the 1970s. Rokeach's formulation of values is based on the following assumptions:

(1) the total number of values that a person possesses is relatively small; (2) all men everywhere possess the same values to different degrees; (3) values are organized into value systems; (4) the antecedents of human values can be traced to culture, society and its institutions, and personality; [and] (5) the consequences of human values will be manifested in virtually all phenomena that social scientists might consider worth investigating and understanding. (Rokeach, 1973, p. 3)

Rokeach (1973) defined a value and a value system as follows:

*A value* is an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence. *A value system* is an enduring organization of beliefs concerning preferable modes of conduct or end-states of existence along a continuum of relative importance. (Rokeach, 1973, p. 5)

Components of this definition include the enduring nature of values, values as beliefs, values as being means (modes) or goals (end states) related, values as preferences, and values being ordered in importance.

Values are viewed as being enduring but subject to change. Values are usually taught or learned as standalone desirables. For example, a child is taught that being *honest*, *courageous*, and *peaceful* are desirables. These concepts are learned in isolation as absolutes. For example, a child is not taught to be just a little bit *honest*, to be a just a little bit *courageous*, nor to be just a little bit *peaceful*. However, as the child matures, he or she learns that absolute values are often in competition such that decisions and actions require the weighing of their relative importance. So, while values are enduring and generally stable, the relative importance of values (value priorities) can change (Rokeach, 1973).

Rokeach (1973) indicates that beliefs are either descriptive, evaluative, or prescriptive/proscriptive. Values are conceptualized by Rokeach (1973) as being of the third type, prescriptive or proscriptive. That is, conceptions of the desirable or undesirable. According to Rokeach (1973),

(1) to say that a person has a value is to say that cognitively he knows the correct way to behave or the correct end-state to strive for. (2) A value is affective in the sense that he can feel emotional about it, be affectively for or against it, approve of those who exhibit positive instances and disapprove of those who exhibit negative instances of it. [And] (3) a value has a behavioral component in the sense that it is an intervening variable that leads to action when activated. (Rokeach, 1973, p. 7)

Values, as conceptualized by Rokeach (1973), are composed of two main types: end-states of existence (terminal values) and modes of conduct (instrumental values). Terminal values are “goals” related. They represent the life-long goals that a person strives to achieve. This value type includes two subtypes: self-centered, personal type values (intrapersonal), and others-centered, social type values (interpersonal). “Such end-states as salvation and peace of mind, for instance, are intrapersonal while world peace and brotherhood are interpersonal” (Rokeach, 1973, p. 8).

Instrumental values are “means” related. These are the values one chooses to prioritize in striving for personal goals. This value type includes two subtypes: moral values and competence values (Rokeach, 1973). “. . . Moral values refer to [instrumental values] . . . that have an interpersonal focus which, when violated, arouse pangs of conscience or feelings of guilt for wrongdoing” (Rokeach, 1973, p. 8). Competence values are instrumental values that have a self-actualization focus. “Their violation leads to feelings of shame about personal inadequacy rather than to feelings of guilt about wrongdoing” (Rokeach, 1973, p. 8). Conceptions of which values are desirable or undesirable are relative. Some values will be conceived of as being more or less personally or socially desirable. Choosing a value as more important results in other values being given less importance (Rokeach, 1973). This prioritizing of terminal values and instrumental values is theorized by Rokeach (1973) as being along a continuum of importance:

After a value is learned it becomes integrated somehow into an organized system of values wherein each value is ordered in priority with respect to other values. Such relative conception of values enables us to define change as a reordering of priorities and, at the same time, to see the total value system as relatively stable over time. . . . Variations in personal, societal, and cultural experience will not only generate individual differences in value systems but also individual differences in their stability. (Rokeach, 1973, p. 11)

The Rokeach Value Survey (RVS) is the instrument developed by Milton Rokeach (1973) to measure value priorities. It is composed of two lists of 18 values each: 18 terminal values and 18 instrumental values. Subjects rank the values in each list according to the importance they personally place on each value. Rokeach described the RVS as a “. . . simple method for measuring values and value systems” (Rokeach, 1973, p. 26). Rokeach (1973) explains the construction of the Rokeach Value Survey as follows:

The two lists [of values] were designed to be reasonably comprehensive and were at the same time worded in a manner that would, it was hoped, yield phenomenologically valid data. That is, the measuring instrument was designed to elicit information about values that the respondent would be willing or even eager to admit he had, which meant that it could neither be couched in negative terms (e.g., cowardly, irresponsible) nor in terms so positive as to give the impressions of immodesty or boastfulness (e.g., brilliant, clever). (Rokeach, 1973, p. 27)



The present study utilizes Rokeach's conceptualization of personal values and value systems. Both the P-O Fit Study and the Value Change Study are operationalized with the RVS.

#### 1.6.2.1.2 Shalom Schwartz

Shalom Schwartz (1992, 1994), along with a number of different colleagues (e.g., Schwartz & Bilsky, 1987), extended the values research of Rokeach (1973). In his search for universal values, Schwartz (2012) identified the following six common features of personal values:

1. Values are beliefs linked inextricably to affect. When values are activated, they become infused with feeling.
2. Values refer to desirable goals that motivate action.
3. Values transcend specific actions and situation.
4. Values serve as standards or criteria. Values guide the selection or evaluation of actions, policies, people, and events.
5. Values are ordered by importance relative to one another.
6. The relative importance of multiple values guides action. Any attitude or behavior typically has implications for more than one value.

(Schwartz, 2012, pp. 3-4)

Using data collected from a number of different cultures, Schwartz developed a circular model of values composed of the following ten motivationally distinct value types: *self-direction*, *stimulation*, *hedonism*, *achievement*, *power*, *security*, *conformity*, *tradition*, *benevolence*, and *universalism*. Each of these value types is composed of three to six related values. The value type of *achievement*, for example, includes the values of *successful*, *capable*, *ambitious*, *influential*, *intelligent*, and *self-respect* (Schwartz, 1994; Schwartz, 2012). Related value types are theorized to form four value dimensions: *openness to change*, *self-transcendence*, *conservation*, and *self-enhancement*. The openness to change dimension is formed by the value types of *self-direction*, *stimulation*, and *hedonism*; the *self-transcendence* dimension is formed by the value types of *universalism* and *benevolence*; the *conservation* dimension is formed by the value type of *tradition*, *conformity*, and *security*; and the *self-enhancement* dimension is formed by the value types of *hedonism* (an overlap with the openness to change dimension), *achievement*, and *power* (Schwartz, 2012).

Central to Schwartz's circular model of values is the proposition that values form a continuum of conflict and congruence: ". . . Actions in pursuit of any value have consequences that conflict with some values but are congruent with others" (Schwartz, 2012, p. 8). The value dimensions, and their related value types, are thus theorized to represent opposing motivations: *openness to change* versus *conservation*; and *self-transcendence* versus *self-enhancement*. *Achievement* type values, for instance, which are located in the *self-enhancement* dimension, are posited as generally being in conflict with *benevolence* type values, which are located in the in the *self-transcendence* dimension (Schwartz, 2012).

The values contained in Schwartz's theory are measured with the Schwartz Value Survey (SVS; Schwartz, 1992) which contains two lists of a total of 56-57 values: 30 end-state related values and 26-27 means related values. Subjects rate each of these values on a nine-point Likert scale. Alternately, the Portrait Values Questionnaire (PVQ; Schwartz et al., 2001; Schwartz, 2012) can be used ". . . to measure the ten basic values in samples of children age 11-14 and of persons not educated in Western schools. . ." (Schwartz, 2012, p. 11). The PVQ is composed of 40 verbal descriptions called portraits: "Each portrait describes a person's goals, aspirations, or wishes that point implicitly to the importance of . . . [one of the ten value types]" (Schwartz, 2012, p. 11). Subjects compare themselves to the person in each portrait (Schwartz, 2012). "Thus, [the PVQ] . . . capture[s] the person's values without explicitly identifying values as the topic of investigation" (Schwartz, 2012, p. 11).

#### 1.6.2.2 Organizational and Institutional Values

P-O fit theory is concerned with the congruity of the personal values of employees with the values of the organizations at which they are currently employed or aspire to be employed (Chatman, 1991). Since the present study explores the congruity of the personal values of accounting students with the values of the accounting profession (composed of accountants in individual companies and firms and

the collective body of practicing accountants), literature relating to both organizational and institutional values are pertinent.

#### 1.6.2.2.1 Organizational Values

According to Bourne and Jenkins (2013), the literature has identified four types of organizational values: “. . . espoused, attributed, shared, and aspirational” (Bourne & Jenkins, 2013, p. 2). An organization’s values can be conceptualized as the values of its leaders (espoused), the collective values of its members (shared), the values that employees perceive the organization to have (attributed), or the values that employees perceive that the organization should have (aspirational) (Bourne & Jenkins, 2013). The espoused formulation of organizational values has been promoted by a number of researchers (e.g., Hambrick & Mason, 1984; Wally & Baum, 1994; Kabanoff, Waldersee, & Cohen, 1995; Pant & Lachman, 1998; Agle, Mitchell, & Sonnenfeld, 1999). In Hambrick and Mason’s (1984) upper echelon theory, personal values and observable characteristics of top managers are predictive of strategic choices which in turn are predictive of organization performance.

The importance to the organization of the example set by the perceived values of leaders was explained as follows by Wally and Baum (1994): “Leaders, especially chief executive officers . . . , imprint their firms with their own values, many of which are manifested in the organizations’ decision-making processes” (Wally & Baum, 1994, p. 934). Kabanoff et al. (1995) proposed that the values of an organization are those espoused by top management in documents distributed to employees and to the public; such values are likely to have been arrived at by management consensus. Because of management’s social control, Pant and Lachman (1988) argued that the values of top management are the values of the organization: “Social control manifests itself through the behaviors permitted and proscribed by given values [; and] . . . organizations often behave as if their values corresponded to those of a few key decision makers” (Pant & Lachman, 1998, pp. 195 & 198). In addition, Agle et al. (1999) indicated that the values of CEOs are of interest because of the role they are believed to play in

determining the importance given to various stakeholders (e.g., stockholders, customers, communities):  
“ . . . We argue that people perceive as important the things that are somehow connected with their values. . . . Thus, it is likely that CEOs’ values influence the decisions they make that are related to stakeholder salience” (Agle et al., 1999, p. 511).

The identification of organizational values as the values of leaders was also operationalized in studies by Enz (1988) and by Hage and Dewar (1973). Enz (1988) found the perceived power of departments within an organization related to the perceptions of top managers of the congruity between their own personal values and the values of the members in the departments. Departments whose members were perceived to have values similar to those of top management had more influence within the organization.

In a study of department heads and staff in 16 health and welfare organizations in the United States, Hage and Dewar (1973) investigated the relationship between personal values and program innovation. Their results indicated that the values of the director and the values of staff involved in decision making were predictive of program innovation performance.

In the present study, the espoused values of leaders are identified as the values of the organization. Specifically, the values of certified public accounting leaders in Georgia are assumed to be indicative of the values of their organizations.

#### 1.6.2.2.2 Institutional Values

Rokeach (1979) proposed that institutional values and individual values are closely linked:

. . . Institutional values are substantially the same as those manifested at the individual level; that institutional values are major determinants of individual values and, like individual values, are hierarchically arranged. Closely related, social institutions are assumed to leave value traces. (Rokeach, 1979, p. 53)

Therefore, according to this seminal values researcher, the values of the RVS are applicable to measuring institutional values such as the values of accounting firms which can be considered the composite value rankings of the members of that institution. One of the methods suggested by Rokeach

(1979) for recovering institutional values is “. . . by measuring the personal values of institutional gatekeepers . . . on the assumption that gatekeeper values are especially likely to reflect the influence of socialization by a particular social institution” (Rokeach, 1979, p. 53).

Much of prior P-O fit research has measured personal and organizational values using the Organizational Culture Profile (OCP; Chatman, 1989, 1991) which “. . . contains 54 value statements (e.g., quality, respect for individuals) that can generically capture individual and organizational norms and values” (Chatman, 1989, p. 341). However, Chatman (1991) stated that while “. . . the central value system, at the organization level, is considered a relevant and important unit of analysis; however, this is not to deny the existence and importance of subunit values” (Chatman, 1991, p. 460).

Kristof (1996) identified “indirect cross-levels measurement” as one of the techniques for measuring P-O fit. “The cross-levels technique involves assessing the compatibility of individuals with verifiable organizational characteristics; therefore it involves measuring characteristics at two levels of analysis” (Kristof, 1996, pp. 11-12).

In the present study the subunit values of the RVS are utilized to measure the value priorities of both upper level accounting students and CPA leaders. Thus, Kristof’s (1996) cross-levels measurement technique is utilized; and, as suggested by Rokeach (1979), the composite value rankings of CPA leaders (gatekeepers) in Georgia are used as a surrogate measure of the institutional values of the public accounting profession.

#### 1.6.2.3 Person-Organization Fit

In the field of psychology, various individual difference factors such as personality traits, personal values, motives, and abilities have been promoted as predictors of human behavior (Chatman, 1989). Positing that the behavior of organizations cannot be divorced from that of the individuals of which they are composed, Schneider (1987) proposed the Attraction-Selection-Attrition (ASA) Framework, which is rudimentarily summarized in the 16<sup>th</sup> century proverb “birds of a feather flock together” (“Birds of a

feather,” n.d.). According to Schneider (1987) attraction supposes that “. . . similar kinds of people are likely to have similar kinds of personalities, are likely to choose to do similar kinds of things, and are likely to behave in similar kinds of ways” (Schneider, 1987, p. 441). Selection supposes that applicants with similar personality traits are recruited. “. . . Organizations actually end up choosing people who share many common personal attributes although they may not share common competencies” (Schneider, 1987, p. 444). Lastly, attrition supposes that “. . . while people may be attracted [and selected] to a place, they may make errors, and finding that they do not fit, they will leave. [Consequently], . . . if people who do not fit leave, then the people who remain will be similar to each other” (Schneider, 1987, p. 442). Direct and indirect evidence tends to support “. . . the most fundamental proposition of . . . [the] theory, homogeneity of personality in organizations” (Schneider, Goldstein, & Smith, 1995, p. 769).

Since its inception, the ASA perspective has been utilized in a number of studies (e.g., Bretz, Ash, & Dreher, 1989; Giberson, Resick, & Dickson, 2005; Halfhill, Nielsen, & Sundstrom, 2008; Oh, Kim, & Van Iddekinge, 2015; Baron, Franklin, & Hmieleski, 2016). The organizational homogeneity of employees theorized by the ASA framework continues to garner research interest and the production of significant findings. In a recent study with the ASA framework, for example, Oh et al. (2015) found that organizations with higher personality homogeneity have better financial performance: “. . . The indirect effects of personality-based human capital resources on firm financial performance (via labor productivity) are stronger when organization-level variance in personality is lower” (Oh et al., 2015, p. 942).

Chatman (1989) extended Schneider’s research by focusing on values: both personal values and organizational values. In general, her model hypothesizes that for a person to be attracted to an organization, and thereby select to apply for a job, the applicant needs to perceive that their personal values fit those of the organization; and, for an organization to hire an employee, there needs to be a perception that the values of the organization fit those of the individual. Socialization into an organization’s culture involves value congruence. The values of the individual become similar to those

of the organization—a task that is facilitated by a greater degree of value congruence at the time of hire.

A lack of value congruence leads to job dissatisfaction which impacts job tenure (Chatman, 1987).

Chatman (1987) defines “person-organization fit . . . as the congruence between the norms and values of organizations and the values of persons” (Chatman, 1989, p. 339).

Kristof (1996) differentiated between various types of organization fit and developed the following definition of person-organization fit (P-O fit), which includes two conceptions of this construct: supplemental fit and complementary fit (e.g., needs-supplies fit): “. . . P-O fit is . . . the compatibility between people and organizations that occurs when: (a) at least one entity provides what the other needs, or (b) they share similar fundamental characteristics, or (c) both” (Kristof, 1996, pp. 4-5). The complementary fit part (part “b”) of this definition incorporates Chatman’s (1987) definition of P-O fit and is the conceptualization of P-O fit used in the present study.

#### 1.6.2.4 Value Change

Rokeach (1973) conceptualized values as being “relatively enduring” (Rokeach, 1973, p. 7).

Nevertheless, while values are relatively stable, they are subject to change. Self-conceptions and self-presentations are seen as the “drivers” of both stability and change (Ball-Rokeach, Rokeach, & Grube, 1984; Grube, Mayton, & Ball-Rokeach, 1994):

Self-conceptions refer to the beliefs we have about ourselves—what we are and want to become—quite apart from, and sometimes even despite, what others might think of us. In the privacy of our thoughts, we all need to maintain and to enhance whatever may be our images or conceptions of ourselves as worthy of our own and others’ respect. . . . But self-esteem derives not only from what we think of ourselves but also from what others think of us. . . . In self-presentations more than in self-conceptions, we are more likely to exaggerate or inflate our positive attributes and to minimize, deny, repress, evade, reinterpret, or explain away our negative attributes. (Ball-Rokeach et al., 1984, pp. 21-22)

Change in beliefs are activated by perceived threats to self-esteem which arouse self-dissatisfaction:

. . . The need to maintain and, if possible, to enhance self-esteem, culminating in aroused feelings varying in degree of self-satisfaction and self-dissatisfaction, is the basic mechanism

that accounts for both long-term change and long-term stability in cognitions and behaviors. (Ball-Rokeach et al., 1984, p. 30)

The mechanism of self-dissatisfaction is based on relevant and important self-knowledge: “The more the person is provided with important ego-maintaining or ego-enhancing knowledge about himself or herself . . . the more the issue raised by such knowledge should become salient and have effects beyond the situation in which the self-knowledge was induced” (Ball-Rokeach et al., 1984, p. 33). According to Ball-Rokeach et al. (1984) the inducement of change through self-knowledge takes place when the following seven criteria are met:

1. If the information appeals to the curiosity that people have to understand themselves better.
  2. If the information is potentially useful, that is, it holds out a promise of increasing one’s knowledge about something that is truly important to oneself. We assume that the most important information that persons can obtain about themselves is that which directly involves their competence or morality. We further assume that information about one’s values, because they are central and because they serve as standards for evaluating self and others, will be more important than information about one’s attitudes or behaviors.
  3. If the information is unambiguous and does not require too much specialized training or effort to understand.
  4. If the information appears credible and intuitively correct.
  5. If the information arouses a feeling of self-satisfaction because it reinforces or confirms one’s self-conception or self-presentations of competence or morality or, alternatively, if it arouses a feeling of self-dissatisfaction because it raises doubts about one’s present level of competence or morality and thus becomes an impetus for change.
  6. If it is within the repertoire of the person to act upon the information, either to alleviate or eliminate the focused feeling of self-dissatisfaction or to extend and enhance the focused feeling of self-satisfaction.
  7. If the information is presented under conditions that minimize ego defense.
- (Ball-Rokeach et al., 1984, pp. 35-36)

Following his three initial VSC studies, and using the above seven criteria Rokeach (Rokeach, 1968a, 1968b, 1978; Ball-Rokeach et al., 1984) provided a detailed summary of his VSC procedures (cf. Rokeach, 1973, pp. 422-428). His standard VSC intervention, which was targeted at changing the importance given to the two values of *equality* and *freedom*, included 12 procedures. Most of the subsequent VSC studies utilized all or part of these procedures. Following the administration of the RVS or SVS, the most commonly used procedures include the following: (1) subjects are shown the value rankings by a referent group—a group of significant others, (2) the experimenter points out the rankings by the referent group of the targeted values, (3) the experimenter gives an interpretation of



these rankings meant to arouse value dissonance, (4) subjects compare their own value rankings to those of the referent group, (5) subjects are presented with a table that compares the rankings of the targeted values to attitudes or behaviors previously found related to the targeted values, (6) the experimenter provides an interpretation meant to arouse value dissonance, (7) subjects compare their own rankings of the targeted values to the table, and (8) subjects rate their level of satisfaction/dissatisfaction with their prior rankings. At posttests, subjects again complete the RVS or SVS (Rokeach, 1973).

## **1.7 DELINEATION**

The present study includes boundaries of a single language, a single value change theory, a quantitative methodology, a focus on the value component of ethical behavior, and educational inputs as drivers of value change. These boundaries, which were taken into consideration at the beginning of the research, are delineated as follows:

1. Since the present author is unilingual in the English language, literature that may be relevant to this research, which was written in other languages, were not included.

2. Person-organization fit theory of Chatman (1987), the personal value theories of Rokeach (1968a, 1968b, 1973) and Schwartz (1992, 1994), and the value change theory of Rokeach (1973) frame the present study. While there are other theories regarding each of these constructs, these theories were selected for the following reasons: (a) Chatman's (1987) definition of P-O fit is consistent with Rokeach's (1979) suggested measure of institutional values, which is operationalized in the present study; (b) due to having access to data collected by the present researcher in a previous study (Ariail, 2005) on the personal values and moral development of CPAs, the RVS values of CPA leaders in Georgia were readily available; (c) the personal value theories of Rokeach (1973) and Schwartz (1992, 1994), and their corresponding research instruments (the RVS and SVS, respectively) have been, and continue to be, widely used in values research; (d) and, most of the value change studies pertinent to the present study utilized a version of Rokeach's (1973) value change methodology.

3. This study is a quantitative analysis of data collected with surveys. Qualitative data was not collected. A qualitative study of the congruence between the personal values of accounting students and the values of the accounting profession may provide additional input regarding these constructs and their relation.

4. The four values targeted for change were partially selected due to their relation to elements of the Code of Professional Conduct and Bylaws (2012) of the American Institute of Certified Public Accountants (AICPA). While the instrumental values of the RVS include moral type values and the literature relates personal values to various attitudes and behaviors, including unethical behaviors (Shotland & Berger, 1970; Rokeach, 1973; Arrington & Reckers, 1985), personal values are not the only ethics related concepts. Some of the other posited “drivers” of ethical conduct, which are not considered in depth in the present study, include religiosity (e.g., Vitell, Singh, & Paolillo, 2006; Bloodgood, Turnley, & Mudrack, 2007; Keller, Smith, & Smith, 2007), moral development (e.g., Sweeney & Roberts, 1997; Ponemon & Gabhart, 1990; Arnold & Ponemon, 1991; Ponemon, 1992b; Warming-Rasmussen & Windsor, 2003) and the organization’s ethical environment/ethical culture (e.g., Arel et al., 2012; King, 2013; Campbell & Goritz, 2014; Jondle, Ardichvili, & Mitchell, 2014). While the priorities, moreover, given to certain personal values have been found related to various attitudes and behaviors, they do not necessarily constitute the totality of cognitive processes involved in ethical decision making or in ethical behavior. For example, James Rest’s Four-Component Model posits that ethical behavior involves interaction of the four cognitive processes of moral sensitivity, moral judgment, moral motivation, and moral character (Rest, Narvaez, Bebeau, & Thoma, 1999). While at least three of these four cognitive processes (moral judgment, moral motivation, and moral character) are values related, personal value priorities are not hypothesized as the exclusive “drivers” of ethical behavior.

5. In the present study, the focus of value change is a narrow one—it is based on educational inputs which include a Curricula Modification Intervention directed at changing the priority given to one competence type RVS value, and a VSC Intervention targeted at changing the priority given to four

RVS values: two moral type values and two competence type values. This researcher, nevertheless, recognizes that people may change their value priorities based on a plethora of stimuli, none of which are explored in this investigation: e.g., changes that take place as one grows more mature, as one experiences various relationships (such as marriage), as one has children, as one's spiritual growth is directed by religious teachings, as one travels and experiences different cultures, and as one is influenced by mentors.

## **1.8 LIMITATIONS OF THE STUDY**

Data was collected from the population of accounting students in the state of Georgia, U.S.A. This convenience sample, while relatively large, was not randomly obtained. Due to the lack of randomization, the RVS results cannot be generalized to the population of accounting students in the state of Georgia, nor generalized to the population of accounting students in the United States. Due to the unavailability of a database of all accounting students attending institutions of higher education in the state of Georgia, this non-random method of sampling was necessitated

The personal values of the referent group of 193 CPA leaders used as a surrogate measure of the values of the CPA profession in Georgia, were also not randomly obtained. The RVS value rankings of these CPA leaders were extracted from a convenience sample of 313 CPAs obtained by this researcher in a previous study (Ariail, 2005) of the moral development and personal values of Georgia CPAs. Consequently, the value priorities of CPA leaders in Georgia, which was used as a baseline for comparing the values of accounting students to the values of the accounting profession, may not be representative of the value priorities of either the population of CPAs in Georgia or the population of CPAs in the United States.

These limitations are included in Chapter 5. Additional limitations that became evident during the course of this research are also discussed in Chapter 5.

## 1.9 RESEARCH METHOD

The present research consists of a review of relevant literature and empirical investigations. Each of these is discussed per objective, as restated below:

**Objective 1:** To describe the importance of P-O fit in selection, socialization, and retention in the accounting profession, and the specific importance of personal value priorities in this regard.

This objective is addressed in a review of the literature regarding P-O fit presented in Chapter 2, Section 2.1. The results found in prior P-O fit research regarding the importance of value congruity in employee selection (both self-selection and organization selection), socialization, and retention is presented in general for studies that were not accounting specific, and is presented in greater detail for studies that were accounting specific. In addition, a review is made of the findings of three studies that investigated the congruity of the personal values of accounting students with the personal values of accounting practitioners: accounting practitioners in China (Lan et al., 2009), Cyprus CPAs (Krambia-Kapardis & Zopiatis, 2011), and Australian CPAs (See & Kummerow, 2008).

**Objective 2:** To develop an appropriate methodology for testing the P-O fit of accounting students with the accounting profession.

This objective is addressed in the methodology presented in Chapter 3, Section 3.6. A relatively large sample of upper level accounting students attending higher education institutions in Georgia were solicited to complete the RVS. In Chapter 4, the medians of the RVS values of this sample of accounting students are compared to the medians of the RVS values of CPA leaders in Georgia.

**Objective 3:** To report on the extent of P-O fit of accounting students with the accounting profession.

This objective is addressed in Chapter 4, Section 4.1. Using the Mann-Whitney U test and the median test, the median rankings of the RVS values obtained from 516 upper level accounting students attending institutions of higher education in Georgia were compared to the median rankings of the RVS values of 193 Georgia CPAs. The CPAs were identified as leaders in the accounting profession based

on their position in public accounting (owner or partner) or in industry accounting (controller or chief financial officer).

**Objective 4:** To describe value change studies that have utilized the VSC intervention procedures developed by Rokeach (1973).

This objective is addressed in a review of VSC literature presented in Chapter 2, Section 2.2. In this Section, synopses of 34 VSC studies (believed by this researcher to be all of the extant research pertinent to the present study) are reviewed in chronological order. Following these synopses, a summary of selected findings of these works are presented in chronological order in Table 1 (2.2). Next, the findings are synthesized into topical areas related to the methodology utilized in the present study and/or into topical areas related to the discussion presented in Chapter 5. Finally, the 34 studies are synthesized into topics related to three research hypotheses: persuasion, short-term value change, and long-term value change.

**Objective 5:** To develop and apply two education intervention programs for changing the personal values of accounting students to be more congruent with the values of the accounting profession.

This objective is addressed in the methodologies presented in Chapter 3, Section 3.7. Based on a review of the literature, two value change methods were created. First, informed by prior research findings regarding the short-term and long-term value change effectiveness of various forms of educational persuasion, the curriculum in two professional judgment classes were modified. The focus of the modifications was to inform students about the importance that the RVS value of *courageous* (moral courage) plays in the accounting profession. Second, again informed by the methods used in previous studies, a VSC Intervention was created which generally followed the standard VSC intervention developed by Rokeach (1973) and included the self-knowledge value change criteria enumerated by Ball-Rokeach et al. (1984). In addition, the VSC Intervention also included several pages of written persuasion which related the four targeted values to specific sections of the Code of Professional Conduct and Bylaws (2012) of the AICPA, to the textbook, and to other ethics literature.

**Objective 6:** To report on the differential effectiveness of the two value change methodologies.

This objective is addressed in Chapter 4: short-term value change in Section 4.2.2, and long-term value change in Section 4.2.3. Short-term value change for both Group 1 and Group 2 was tested based on value change from Pretest, which took place at the beginning of the course, to Posttest 1, which took place at the end of the course. Long-term value change was tested for Group 2 from Pretest to Posttest 2, which took place five to six weeks after the VSC intervention, and was again tested from Pretest to Posttest 3, which took place 15 to 16 weeks after the VSC intervention.

As indicated, these objectives are addressed in Chapters 2, 3, and 4. Achieving these six objectives will result in the achievement of the research goals. Further, achieving these objectives will contribute to filling gaps in knowledge related to the ongoing problems in the accounting profession of undesired staff turnover and unethical behavior. Gaps in knowledge that include the following: (1) the current status of the P-O fit of upper level accounting students; (2) how a lack of value congruence may be related to both undesired staff turnover and the unethical behavior of some accountants; and, (3) how a value change educational intervention may be used to improve Code specific value congruence and thereby positively impacting both staff retention and ethical behavior.

## **1.10 CHAPTER DIVISIONS**

The remaining four chapters are presented as follows: A review of the literature is presented in Chapter 2; a review of the methodologies used in the P-O Fit Study and the Value Change Study are presented in Chapter 3; and the results of the study are presented in Chapter 4. Chapter 5 includes discussion and conclusions drawn from the results of the study, limitations of the study, and recommendations for future research.

## **CHAPTER 2**

### **LITERATURE REVIEW**

The literature applicable to the four hypotheses developed and tested in the present study includes research on person-organization fit (P-O fit; 2.1) and value self-confrontation (VSC; 2.2). Reviews of P-O fit literature include sections on the topical areas of selection (2.1.1), socialization (2.1.2), retention (2.1.3), and on the limited number of studies where P-O fit was measured by comparing the personal values of accounting students to the personal values of accounting practitioners (2.1.4). This later section is followed by Hypothesis 1 (2.1.5).

The review of VSC literature includes a section that provides synopses (2.2.1), in chronological order, of each of the believed extant VSC studies pertinent to the present study. These synopses are followed by Table 1 (2.2.2) which provides a summary, again in chronological order, of various aspects of each study. Next, topical syntheses are provided (2.2.3) that relate to each of the four hypotheses: a synthesis of research on persuasion based interventions (2.2.3.1) is followed by Hypothesis 2 (2.2.3.2); a synthesis of research on VSC based interventions (2.2.3.3) is followed by Hypothesis 3 (2.2.3.4); and a synthesis of research on VSC based long-term value change (2.2.3.5) is followed by Hypothesis 4. Finally, topical syntheses are provided (2.2.4) that relate to the development of the methodology used in the present study (Chapter 4) and/or to the discussion presented in Chapter 5: research subjects (2.2.4.1), targeted values (2.2.4.2), modes of delivery (2.2.4.3), intervention variations (2.2.4.4), attitude change (2.2.4.5), and behavior change (2.2.4.6).

#### **2.1 PERSON-ORGANIZATION FIT**

Aspects of selection, socialization, and retention as they relate to P-O fit have been directly or indirectly addressed in a number of studies. The following literature review includes separate presentations of

each of these three aspects of P-O fit. Discussions of research findings regarding selection, which is divided into self-selection (2.1.1.1) and organization selection (2.1.1.2), are followed in turn by discussions of research findings regarding socialization (2.1.2) and retention (2.1.3). Each section includes a general review of selected non-accounting specific research results followed by more detailed reviews of research results related to accounting students and accounting practitioners.

### 2.1.1 Selection

Selection into an organization is theorized (Schneider, 1987; Chatman, 1989) to involve both self-selection and organization selection—both the applicant and the organization need to perceive P-O fit. Self-selection is where the applicant decides to apply for a job based on his or her perception of the attractiveness of the organization's values. Organization selection involves the employer's perception of the attractiveness of the values of the applicant. The employer decides to offer a job to an applicant based on the perceived congruence of the applicant's values with those of the organization (Chatman, 1989).

#### 2.1.1.1 Self-Selection

A number of studies have investigated the relationship between P-O fit and self-selection. Examples include the studies by Bachman, Sigelman, & Diamond (1987), Carless (2005), and De Goede, Van Vianen, & Klehe (2013): Self-selection by U.S. high school seniors for military service was found by Bachman et al. (1987) to be related to pro-military values and attitudes; perceptions of P-O fit were determined by Carless (2005) as related to organization attraction; and, the findings by De Goede et al., (2013) suggested that organization attraction is based on the job applicant's perception of the organization's values agreeing with the values the applicant considers important.



Indications of value based self-selection into academic fields was reported by Feather (1975). His research with the RVS found that “. . . incoming freshmen university students [in South Australia] showed a tendency . . . to match their value systems to those attributed to the program of studies they entered” (Feather, 1975, p. 278).

The relationship between career choice and the priority given to personal values, as measured with the RVS, was investigated by Anana and Nique (2010). Undergraduate students in Brazil, who were pursuing a number of different careers, completed the RVS. Using exploratory factor analysis, the authors identified five value dimensions (stability, self-transcendence, virtuosity, self-direction, and conformity) which differentiated career choice. Students seeking a career in accounting gave a higher priority to values included in the stability and conformity dimensions. The stability dimension included the values of *pleasure, happiness, national security, mature love, inner harmony, self-respect, family security, comfortable life, and social recognition*; and the dimension of conformity included the values of *obedient, polite, salvation, and self-control* (Anana & Nique, 2010). The finding of a preference for the value dimensions of stability and conformity, which appears related to Schwartz’s (1994) conservation domain, are consistent with prior findings of accountants having a preference for conservative values and ideologies (e.g., Sweeney et al., 2003; Ariail, 2005; Ariail, Emler, & Abdolmohammadi, 2013).

Relations between the construct of moral development (cf. Kohlberg, 1963, 1976, 1984; Rest, 1994; Rest & Narvaez, 1994, 1998; Rest et al., 1999) and personal value priorities have been found in a number of studies (e.g., McLellan, 1970; Lockley, 1976; Standring, 1976; Simmons, 1982; Wilson, 1983; Pohjanheimo, 1984; Feather, 1988; Ostini & Ellerman, 1997; Helkama et al., 2003; Ariail, 2005; Ariail et al., 2013). The relationship between moral development and value priorities is relevant to self-selection in that occupational differences have also been found related to moral development, as measured by the Defining Issues Test (DIT; Rest, 1994). Rest (1994) reported different DIT mean scores for 15 different occupational groups. Examples included a mean DIT score of 49.2 for physicians, 46.3 for staff nurses, and 41.6 for U.S. Navy enlisted men. These findings suggest that

moral development may be related to job attraction—that individuals may self-select into a profession based on their perceptions of moral development fit. Research conducted with accounting students and accounting practitioners also suggest a linkage between moral development, P-O fit, and attraction.

Ariail (2005) reported the mean DIT scores found in studies conducted with accounting students and with accounting practitioners. The mean DIT score of accounting students found in nine studies from 1990 through 2002 was 37.41; and the mean DIT score found in 17 studies with accounting practitioners from 1987 through 2003 was 38.94. These mean DIT scores were similarly low—below the 40.0 mean DIT score found by Rest (1994) for adults in general. The relatively low moral development of both accounting students and accounting practitioners provides support for a posited relationship between moral development and P-O fit. Accounting students with low moral development (as measured with the DIT) may self-select into the accounting profession. Since the DIT is purported to be biased against conservative values and ideologies (Ariail et al., 2013), the relationship between moral development and self-selection may be driven by a preference for the conservative values of the accounting profession (e.g., Sweeney et al., 2003; Ariail, 2005; Ariail et al., 2013), rather than for a supposed affinity for low moral development.

In a recent longitudinal study performed during the recruitment by accounting firms at a large U.S. university, Swider et al. (2015) studied accounting student perceptions of their P-O fit with Big Four accounting firms. Using a three item scale, P-O fit was measured eight times. During the second semester, accounting student applicants interviewed with each of the four firms and completed the P-O fit survey six times. Prior to firms making their offers of employment, students completed two additional P-O fit surveys. P-O fit differentiation was regressed over the eight periods. Controls included GPA, gender and race (Swider et al., 2015).

Salient findings by Swider et al. (2015) included the following: Initial perceptions of P-O fit by senior level accounting students entering the job market were important predictors of their subsequent job choices; improved perceptions of P-O fit differentiation during the interview process

facilitated job selection; and P-O fit differentiation increased as the interview process progressed. The authors suggested that

. . . to better understand recruiting outcomes, a fundamental necessity is to examine how applicants develop [P-O] . . . fit perceptions across and within organizations during the recruitment process. . . . This study shows that the higher and more differentiated an applicant's [P-O] . . . fit perception is throughout the recruiting process for a specific organization, the stronger the relationship with later job choices. The findings illustrate how critical it is that organizations take steps to ensure that applicant [P-O] . . . fit perceptions continue to increase, and do not drop, throughout the recruiting process. (Swider et al., 2015 pp. 888-889)

#### 2.1.1.2 Organization Selection

Brown (1976) theorized that value congruity between employees and their supervisors would lessen conflict; and that such conflict could possibly be avoided by firms using the RVS to screen prospective employees. The impact of person-organization value congruence on employee selection has been the subject of numerous studies. Examples include the study by Cable and Judge (1997) and the more recent studies by Chen et al. (2013), Chiang and Suen (2015), and Hoek et al. (2016).

Cable and Judge (1997), whose study was conducted with job recruiters and student job seekers at a U.S. university, found that recruiter perceptions of applicant work values and of the fit of those values with the organization's values significantly affected their evaluations and recommendations to hire:

. . . An applicant who was perceived to fit the organization fairly well (being rated as a 4 on the 1-5 scale) [was] . . . 44% more likely to receive a job offer than the average fitting applicant, even after controlling for interviewer liking, applicant attractiveness, work experience, GPA, sex, and race. (Cable & Judge, 1997, p. 556)

The hiring decisions of managers in China were examined by Chen et al. (2013). Their results showed that the hiring of job applicants was related to the interviewer's evaluation of the applicant's person-job fit (P-J fit; the fit of job requirements with the applicant's skills and knowledge) and P-O fit. However, selection was also significantly impacted by the interviewer's *guanxi* (somewhat analogous in English to social relationship) with the applicant.

Chiang and Suen (2015) studied the way applicant self-protrayal on social networking sites influenced the hiring decisions of managers in China. They found that both the quality and credibility of an applicant's self-presentations created perceptions of P-O fit and P-J fit that affected hiring recommendations.

In a related qualitative study of hiring practices and the use of social network sites, Hoek et al. (2015) interviewed hiring personnel at 15 New Zealand organizations. They found that nine of the organizations screened prospective employees by accessing the applicant's social networking site. Three of the organizations also developed perceptions of P-O fit based on the applicant's online content: Applicants “. . . who made an effort to portray a professional image online, and therefore displayed a positive [P-O] . . . fit, were looked upon favourably over those who [did] . . . not” (Hoek et al., 2016, p. 75).

The effect of values on the selection by accounting employers of job applicants was investigated by Chatman (1991), Ahadiat and Smith (1994), and Jackling and De Lange (2009). In a study of 171 junior accounting staff from eight CPA firms, Chatman (1991) used the Organizational Culture Profile (OCP; O'Reilly et al., 1991) to measure organizational values and to determine P-O fit. The results showed that the P-O fit of newly hired accountants was positively related to the amount of time they had spent with members of the firm before being hired—the more time spent by firm members with the applicant before they were hired, the better the P-O fit at hire. In addition, for applicants who had the personality traits of achievement orientation and confidence, P-O fit was positively related to them having “. . . demonstrate[ed] traits of successful members. . .” (Chatman, 1991, p. 471).

Ahadiat and Smith (1994) studied the relative importance given by 507 recruiters of accounting students to 95 employee attributes. The results indicated that five of the top 10 rated attributes were “soft” attributes: professional conduct (rated 1), ethics (rated 3), reliability (rated 2), appearance (rated 7), and congeniality (rated 9). These attributes were rated by recruiters as more important than academic achievement, which was rated 17, and graduate studies and professional certifications, which was

rated<sup>19</sup> (Ahadiat & Smith, 1994). Each of the five “soft” attributes can be related to specific RVS values (Rokeach, 1973; Exhibit 1): professional conduct and ethics to the nine moral values of the RVS (Table 5); reliability to the value of *responsible*; appearance to the values of *clean* and *self-respect*; and congeniality to the values of *cheerful*, *helpful*, *forgiving*, *polite* and *honest*.

In a study of accounting graduates and accounting employers in Australia, Jackling and De Lange (2009) had findings consistent with those of Ahadiat and Smith (1994). Employers were more interested in generic skills than in technical skills. The generic skills of leadership ability and potential, verbal communication, and interpersonal skills were all rated higher than key accounting skills. This finding was further supported by the accounting graduates (who had been working in accounting for several years) who, when asked to list the qualities most conducive to advancement in accounting, listed communication skills and personal skills above key accounting skills (Jackling & De Lange, 2009). With generic skills, such as interpersonal skills, inherently having more values related content than technical skills, this study indirectly speaks to the selection process in accounting being driven by value congruence.

Hence, as theorized by Chatman (1989) selection based on value congruence is supported by research results. Value based self-selection into the accounting profession by accounting students was indirectly suggested by the value preferences found in the study by Anana and Nique (2010) and by the similarities in moral development of accounting students and CPAs reported by Ariail (2005). More specifically, perceptions of P-O fit were found used by job applicants in selecting an organization for employment in both non-accounting (e.g., Carless, 2005; De Goede et al., 2013) and accounting (e.g., Swider et al., 2015) contexts. Perceptions of P-O fit were also found related to organization selection of employees: e.g., in the non-accounting related studies conducted by Cable and Judge (1997), Chen et al. (2013), Chiang and Suen (2015), and Hoek et al. (2016); in the accounting specific study by Chatman (1991); and indirectly in the accounting specific studies by Ahadiat and Smith (1994) and Jackling and De Lange (2009). The findings of the two later studies suggest that perceptions by accounting

employers of the P-O fit of student applicants may be more important in the hiring process than their accounting skills as demonstrated by academic achievement.

### 2.1.2 Socialization

Louis (1980) defined “organizational socialization [as] . . . the process by which an individual comes to appreciate the values, abilities, expected behaviors, and social knowledge essential for assuming an organizational role and for participating as an organizational member” (Louis, 1980, pp. 229-230). Chatman’s (1991) results suggested that a lack of P-O fit at selection may be mitigated by subsequent informal socialization. The socialization of employees within organizations has been the subject of many P-O fit related studies, of which at least eight examined socialization in an accounting context.

A selected review of non-accounting specific P-O fit literature indicates that the socialization construct has been associated with various organizational attitudes and behaviors. For example, studies have found P-O fit related to organization commitment (e.g., Westerman & Cyr, 2004; Silverthorne, 2004; Arthur Jr., Bell, Villado, & Doverspike, 2006), job satisfaction (Silverthorne, 2004; Arthur Jr. et al., 2006; Spanjol, Tam, & Tam., 2015; Abzari, Kabiripour, & Saedi, 2015), and employee happiness (De Sousa & Porto, 2015). P-O fit has also been found to positively impact organization effectiveness (Zhu, Chen, Ynami, & Feng, 2014) and individual job performance (Deng, Wu, Leung, & Guan, 2015). However, the positive effects of P-O fit on work attitudes was found by Arthur Jr. et al. (2006) to mediate the effect of P-O fit on job performance.

P-O fit has also been found positively related to employee creativity (Sarac, Efil, & Eryilmaz, 2014; Spanjol et al., 2015) and organization citizenship behaviors (Ruiz-Palomino & Martinez-Canas, 2014), and negatively related to counterproductive organization activities (Sharma & Thakur, 2016). Finally, P-O fit has been found to have ethical implications (Liedtka, 1989; Andrews, Baker, & Hunt, 2011; Ruiz-Palomino & Martinez-Canas, 2014; Abzari et al., 2015).

The need for accounting students to be better prepared for socializing into the accounting profession has been recognized for many years. In the early 1980s Mayer-Sommer and Loeb (1981) stated that “. . . the professional socialization process, or induction of students into their respective professions, is thought to be inadequate” (Mayer-Sommer & Loeb, 1981, p. 125). The values related socialization that takes place in public accounting has since been investigated in studies that include the works by Chatman (1991), Clikeman and Henning (2000), Fogarty (2000), Sweeney et al. (2003), Abdolmohammadi and Ariail (2009), Sellers and Fogarty (2010), Church (2014), Windsor and Dagwell (2014), and Bobek et al. (2015).

The results of Chatman’s (1991) study with accounting practitioners indicated that “attending firm-sponsored social events and spending time with a mentor [were] . . . positively associated with person-organization fit one year after joining [the firm] . . . and with change in fit” (Chatman, 1991, p. 476). In addition, a year after their date of hire, older staff had socialized better than younger staff (Chatman, 1991).

Clikeman and Henning (2000) examined the socialization of accounting students over a two year period; as the students progressed from their sophomore to their senior year. Their sample of accounting students “. . . became more strongly opposed to omitting required financial disclosures or purposely misstating financial information” (Clikeman & Henning, 2000, p. 12). The authors posited that once students began their accounting careers, continued socialization would take place “. . . as the young accountants . . . internalize[d] the beliefs of their new professional colleagues” (Clikeman & Henning, 2000, p. 13).

Fogarty (2000) studied the socialization of auditors employed at international CPA firms. The subjects, who had worked at their firms for an average of 29 months, completed a survey composed of five different scales—three standard scales and two scales developed by the author. These scales measured socialization choices, job involvement, organization commitment, self-assessed performance, and turnover intentions. Fogarty’s (2000) results found eight specific dimensions related to desired socialization outcomes. Four of these eight dimensions were significantly related to value divestiture;

subjects whose values had differed at hire from the values of the firm had the best socialization. This finding suggested that accountants in large accounting firms who had effectively socialized had changed their values to be congruent with the values of the firm. According to Fogarty (2000), “accounting firms can attempt to build upon the values and expectations of accounting students, or to impress upon recruits the insufficiency and inadequacy of their preparation” (Fogarty, 2000, p. 24). Instead of building on the values they bring to the firm (investiture), successful recruits will be socialized into the values of the firm—they will change their values and identities (divestiture) (Fogarty, 2000).

Sweeney et al.’s (2003) sample of 349 auditors included subjects employed at small, medium, and large CPA firms. They gathered demographic information that included gender, firm size, level in the organization (staff, senior, supervisor, manager, and partner), and political ideology (conservative,  $N = 286$ ; liberal,  $N = 63$ ). The subjects completed two research instruments: a 15 item measure of professional commitment and the DIT. The results indicated that professional commitment was negatively related to firm size (the larger the firm, the lower the professional commitment) and positively related to a conservative political ideology. A conservative ideology was also found related to subject’s perceptions of their ability to be promoted: “Conservative auditors, on average, perceived their opportunities for advancement to partner as significantly greater than liberal auditors . . . (Sweeney et al., 2003, p. 21). In addition, Sweeney et al. (2003) found professional commitment not significantly related to moral development.

The role played by moral development in the socialization of accounting practitioners has been investigated in a number of studies. As previously indicated, accounting practitioners generally score relatively low in moral development (Ariail et al., 2013) as measured by Rest’s (1979) DIT. One explanation offered for the relative inability (at least as measured by the DIT) of CPAs to make good ethical judgments is the Inverted-U Phenomenon Theory which posits that managers with lower levels of moral development are selected for promotion over managers with higher levels of moral development. This explanation was first suggested by Ponemon (1988) and further developed in subsequent research (Ponemon, 1992a; Lampe & Finn, 1992; Ponemon & Gabhart, 1990; Ponemon &



Gabhart, 1993; Jeffrey & Weatherholt, 1996; Lowers, Ponemon, & Radtke, 1997; Bay & Greenberg, 2001; Scofield, Phillips, & Bailey, 2004). This selection-socialization paradigm in accounting was challenged by Adolmohammadi and Ariail (2009). Their analysis of the DIT scores of practicing accountants ( $N = 314$ ) did not support the previously posited relationship between CPA firm rank and moral development.

An alternative explanation for CPAs having low DIT scores was subsequently offered by Ariail et al. (2013) who found that the DIT has a value content which assigns lower moral development to individuals, like CPAs, who prioritize conservative values. That is, CPAs prioritize conservative values which predisposes them to score low on the DIT. Thus, their low scores on the DIT appear related to their conservative value orientation (e.g., Sweeney et al., 2003; Ariail, 2005; Ariail et al., 2013) instead of being related to a deficit in their cognitive moral development (Ariail et al., 2013).

The enduring nature of socialization that takes place in CPA firms was reported by Sellers and Fogarty (2010). Qualitative data was obtained through the conduct of semi-structured interviews with 15 former Arthur Andersen CPAs—all of whom had begun their careers with that firm. Their results indicated that the occupational socialization they had experienced was still a part of their professional “fabric” some eight years after having left the firm:

. . . Values were often expressed by [these] mid-career accountants as that which they observed in action during their first employment. These values were not discarded as firm-specific when these individuals transitioned to different employments. If anything, these values continu[ed] to gain expression as the foundation of expectations. (Sellers & Fogarty, 2010, p. 710)

In another qualitative study Church (2014) studied the assimilation of new hires in public accounting. Using grounded theory and inputs from a focus group, from a group of professional accountants who were part of the author’s personal network, and from a group of current or former Big Four and regional CPA firm managers and partners, Church (2014) developed an assimilation model. This model includes four areas of contrasts between new hire expectations and audit firm realities. The author posited that these contrasts can lead to unmet expectations, emotions, and incomplete assimilation. Incomplete assimilation in turn leads to various negative outcomes: e.g., “temporary escapes, eating time [(the unethical behavior of not recording all of the time worked on an accounting

engagement)], work slowdown and pacing, stifling discontent, negative talk about the firm, lack of loyalty, [and] consideration of leaving” (Church, 2014, p. A30). Of particular interest to the present study is the contrast identified as “qualities of the new hire.” Church (2014) specified these new hire qualities as “self-starters, challenge seekers, achievement oriented, [and] independent workers” (Church, 2014, p. A28). These qualities appear related to the RVS values of *self-controlled*, *achievement*, *ambitious*, and *independent*. According to Church (2014),

the very qualities that public accounting firms target in new recruits (independence, involvement, and high achievement) may make them poor candidates for the routine tasks and close supervision of their early months. These top recruits go from self-directed, diverse schedules to a highly structured work environment. Moreover, during college, students’ hard work leads to rewards in the form of high grades and distinction; however, as one of many gifted new hires, they have little opportunity to distinguish themselves and receive only infrequent formal feedback, much of which is understandably negative in the early months. (Church, 2014, p. A28)

A sample of 130 experienced auditors working in multinational accounting firms in Australia were found by Windsor and Dagwell (2014) to differ by gender in their preference for organizational values. Male auditors compared to female auditors gave a higher priority to the outcome oriented organizational values of *competitive*, *achievement oriented*, and *high expectations of performance*, and to the action oriented organization values of *experimenting*, *no rules*, *opportunities*, *innovation*, and *risk taking*. On the other hand, female auditors compared to male auditors gave a higher priority to the respect for people organizational values of *fairness*, *respect for individual*, *social responsibility*, and *tolerance*, and to the team oriented organizational values of *people oriented*, *team oriented*, and *collaboration*. These gender differences in value preferences have implications for CPA firm socialization. The authors noted that “. . . if employee accountants with feminine biased values are to progress to partner level they may have to change their values to be socialized and accepted into the masculine paradigm that dominates audit firms” (Windsor & Dagwell, 2014, p. 42).

Bobek et al. (2015) investigated the effect that perceived P-O fit has on perceptions of ethical cultures in CPA firms. The study participants were 139 accounting professionals at all firm levels (staff to partner). P-O fit, ethical orientation, ethical environment, and the role the participant perceived they played in shaping the ethical culture of the firm were measured with various scales. Bobek et al.’s

(2015) results included finding a relationship between P-O fit and ethical environment. Perceptions of P-O fit were positively related to stronger perceptions of a firm's ethical environment—a relationship that was mediated by perceptions of having had “. . . a meaningful role in shaping and maintaining the ethical environment” (Bobek et al., 2015, p. 136).

The findings of the above P-O fit related studies, which focused on socialization in accounting organizations, are summarized as follows: Students begin their socialization while in the final years of academic training (Clikeman & Henning, 2000). However, the values related criterion used to select new hires in accounting may make it difficult for them to subsequently socialize (Church, 2014). Therefore, students may need to change their values (Fogarty, 2000); a process of value change that may differ by gender (Bobek et al., 2015) and by age (Chatman, 1991). Accounting firm socialization may be facilitated by new hires being mentored and participating in the firm's social events (Chatman, 1991). The socialization that takes place with new hires in accounting has been found enduring (Sellers & Fogarty, 2010) and has been theorized as related to moral development (e.g., Ponemon, 1988; Lampe & Finn, 1992), a theory that has been challenged based on a purported DIT bias against conservative values (Abdolmohammadi & Ariail, 2009; Ariail et al., 2013).

In agreement with prior research (e.g., Liedtka, 1989; Andrews et al., 2011; Ruiz-Palomino & Martinez-Canas, 2014; Abzari et al., 2015) and theory (Coldwell, Billsberry, van Meurs, & Marsh, 2008) perceptions of P-O fit have been found related to ethics in the accounting profession (Bobek et al., 2015). Importantly, perceptions of ethical culture have been linked to ethical behavior in organizations (e.g., Elliott, Marquis, & Neal, 2013; Murphy & Dacin, 2011; Amernic & Craig, 2013; Campbell & Goritz, 2014; Jondle et al., 2014), which includes ethical behavior in the accounting context (e.g., King, 2013; Soltani, 2014; Ariail & Crumbley, 2016).

### 2.1.3 Retention

Value congruence between the employee and the organization results in P-O fit which contributes to job satisfaction and longer tenure. If over time the fit becomes stronger, tenure will be promoted; on the other hand, if a misfit develops, the length of tenure will decrease—the employee will become dissatisfied and leave or will be terminated (Chatman, 1991).

The relation between perceived P-O fit and employee intentions to leave the organization has received extensive research attention. A selected review of the literature indicates that P-O fit has usually been found negatively related, either directly or indirectly, to employee intentions to leave the organization (e.g., Wheeler, Gallagher, Brouer, & Sablinski, 2007; Liu, Liu, & Hu, 2010; Cooper-Thomas & Poutasi, 2011; Hassan, Akram, & Naz, 2012; Peng, Lee, & Tseng, 2014; Wei, 2015; Abzari et al., 2015). Generally, the better the P-O fit the lower the turnover intentions.

Results of studies conducted with subjects in different cultures have indicated that P-O fit impacts intentions to leave the organization through its effects on job satisfaction: examples include the works by Wheeler et al. (2007) with a sample of full-time employed university students in the U.S.; by Liu et al. (2010) with a sample of full-time employed MBA students in China; and by Abzari et al. (2015) with a sample of teachers in Iran. Additional factors found to impact the relationship between P-O fit and job turnover include human capital (Wei, 2015) and the organization's psychological climate (Hassan et al. (2012). Cooper-Thomas and Poutasi (2011) found P-O fit a stronger predictor than P-J fit of intentions to leave the organization. Peng et al. (2014) also found the P-O fit of nurses in Taiwan positively related to work engagement and negatively related to turnover intentions.

Studies with accounting subjects have also investigated the relationship between P-O fit and retention. These studies include the works by Chatman (1991), O'Reilly et al. (1991), Yamamura and Westerman (2007), Hinkle and Choi (2009), and Inabinett and Ballaro (2014).

Chatman (1991) investigated the effects on job tenure of the P-O fit of CPAs working at international accounting firms. Fit was measured at or near the employee's date of hire. The results showed that

person-organization fit, assessed very early in members' tenure, predicted satisfaction and intent to stay a year later and [actual] departures two and one-half years later. When a recruit prefers the values that are prevalent in his or her organization, he or she is more satisfied and more likely to intend to and actually stay longer with the organization. (Chatman, 1991, p. 477)

Using samples of MBA students and accountants, O'Reilly et al. (1991) validated the OCP. The accounting subjects included new accountants working at U.S. offices of international accounting firms. Subjects completed the OCP in their first year of employment and again one year later. In addition, they completed instruments that measured job satisfaction, organization commitment, and intent to leave. The researchers obtained actual turnover information about two years after these new accountants first completed the OCP. Consistent with Chatman's (1991) findings, the results indicated that the P-O fit of the new accountants during their first year of work was predictive a year later of both job satisfaction and organization commitment. Moreover, P-O fit was predictive of actual turnover two years later (O'Reilly et al., 1991).

The relationship between P-O fit, job satisfaction, and intent to remain with the organization was investigated by Yamamura and Westerman (2007). The subjects were 259 CPAs who were members of a state society of CPAs in the western U.S. P-O fit was operationalized with an instrument that measured three dimensions of work environment fit: system fit, relationship fit, and goal fit. The results indicated that goal congruence was significantly related to job satisfaction, and that both goal congruence and system congruence were both significantly related to intentions to remain with the organization (Yamamura & Westerman, 2007).

Hinkle and Choi (2009) tested the validity of the Perceived Fit Scale (PFS) developed by Cable and Judge (1997). This scale contains measures of P-O fit, P-J fit, and needs-supplies (N-S) fit. A sample of 317 Kentucky CPAs completed the PFS along with an instrument that measured job satisfaction. The results provided support for the psychometric qualities of the instrument. In addition,

the study found the N-S fit and P-O fit components of the PFS predicted job satisfaction (Hinkle & Choi, 2009).

The subjects of the study by Inabinett and Ballaro (2014) were 229 employees of small to medium sized CPA firms. Corporate culture and individual values were the independent variables and employee retention was the dependent variable. The authors posited that employee retention depended on the match between personal values and the corporate culture of the firm. Their research instrument was composed of 15 questions that were twice rank ordered by the employees: first based on their perception of their firm's corporate culture and then based on their preferred culture or personal values. The results found no significant correlations. Nevertheless, the majority (55%) of the respondents believed that their satisfaction with the job and their retention intentions were related to their personal values matching the organization's culture (Inabinett & Ballaro, 2014).

Thus, studies with accounting subjects have found P-O fit related to job satisfaction (Yamamura & Westerman, 2007; Hinkle & Choi, 2009), predictive of intent to leave the organization (Chatman, 1991), and predictive of intent to remain with the organization (Yamamura & Westerman, 2007; Inabinett & Ballaro, 2014). Moreover, P-O fit was also found to predict actual turnover (O'Reilly et al., 1991).

P-O fit as theorized by Chatman (1991) and differentiated by Kristof (1996) as "supplemental fit" has, therefore, been found an important factor in the selection, socialization, and retention of accountants. In the following section, research findings are reviewed regarding the focus of the present work: the P-O fit of accounting students and CPAs.

#### 2.1.4 Accounting Students and CPAs

The RVS has been used to investigate the personal values of accounting students (e.g., Baker, 1976; Eaton & Giacomino, 2001; Swindle & Phelps, 1984; Abdolmohammadi & Baker, 2006) and business students (e.g., Giacomino, Brown, & Akers, 2011). The RVS has also been used to investigate the

personal values of CPAs (e.g., Swindle, Phelps, & Broussard, 1987; Wilson Jr., Ward, & Ward, 1998; Ariail, 2005). No prior research has been found in which the RVS values of upper level accounting students and the RVS values of CPAs were directly or indirectly compared. Nevertheless, the cited RVS research conducted separately with CPAs and with accounting students have presented value rankings that indicate incongruity in the value priorities of these two groups.

A number of studies (e.g., Chatman, 1991; O'Reilly et al., 1991; Clikeman & Henning, 2000; Padgett, Gjerde, Hughes, & Born, 2005; Abdolmohammadi & Ariail, 2009; Hinkle & Choi, 2009) investigated various aspects of the P-O fit of accountants. Nevertheless, only a few studies (See & Kummerow, 2008; Lan et al., 2009; Krambia-Kapardis & Zopiatis, 2011) looked at the congruence of the personal values of accounting practitioners and accounting students. These studies, which used instruments other than the RVS to measure value priorities, were conducted with non-U.S. subjects: subjects in Australia, China and Cyprus.

The work values and work-family values of accounting students and accounting practitioners were compared by See and Kummerow (2008). Work values were measured with seven value dimensions of the instrument developed by Sarros et al. (2005); and work-family values were measured with the 21 items (that factored into the three dimensions of managerial support, career consequences, and organizational time demands) included in the instrument developed by Thompson, Beauvais, and Lyness (1999).

See and Kummerow's (2008) Adelaide, South Australia sample of 102 accountants included 52 accounting students in their last year of studying accounting for a bachelor's degree (who had not previously worked in accounting but intended to do so once they graduated) and 50 Australian CPAs employed in various accounting positions. Each group twice rated the two value scales. In addition, the students and CPAs rated their job satisfaction and organization commitment: the students rated their expected job satisfaction and organization commitment while the CPAs rated their actual job satisfaction and organization commitment.

The findings showed that the students and CPAs significantly differed in their ratings of four of the seven work values and in their ratings of all three dimensions of work-family values. For the four work value dimensions that significantly differed,

. . . the students' expectations were of a work culture that was more supportive of the values associated with the dimension—that is, more performance-oriented, more competitive, more innovative, and with a greater emphasis on rewards—than what they were likely to encounter, at least as indicated by the accountants' depiction of their actual work culture. . . . For all four dimensions, students' preferred work culture was even more supportive of those values than was their expected work culture. (See & Kummerow, 2008, p. 168)

The results for the three factors of work-family values (organization time demand, career consequences, and managerial support) indicated that in each instance student expectations were lower than what they would actually experience. That is, they would experience better work-life balance than expected.

Using samples of Chinese accounting practitioners ( $N = 454$ ) and accounting graduate students ( $N = 126$ ), Lan et al. (2009) investigated the personal values congruence of the two groups. Values data was collected using the Schwartz Value Questionnaire (SVQ; Schwartz, 1992; Schwartz & Sagiv, 1995). Their results revealed that the accounting practitioners and the accounting graduate students significantly differed in the priority given to 32.14% of the values: the accounting practitioners, compared to the accounting graduate students, rated significantly higher the six values of *reciprocation of favors*, *a world at peace*, *detachment*, *accepting my position in life*, *obedient*, and *enjoying life*; and rated significantly lower the 12 values of *inner harmony*, *meaning in life*, *sense of belonging*, *creativity*, *mature love*, *social recognition*, *varied life*, *true friendship*, *moderate*, *choosing own goals*, *curious*, and *successful*. Accounting practitioners and accounting students significantly differed in the importance given to the value type of *self-direction*, which is one of the 10 SVQ value types. Compared to CPAs, student accountants gave a significantly higher priority to *self-direction*. Nevertheless, the authors indicated that “. . . the results show[ed] more similarities than differences in the values and value types of the accounting practitioners and students” (Lan et al., 2009, p. 71).

Of interest to the present study, the moral type value (Table 5; Rokeach, 1973) of *honest*, which has previously been given the highest priority (rank of 1) by both U.S. accounting students (e.g., Baker, 1976; Eaton & Giacomino, 2000) and by U.S. CPAs (e.g., Wilson Jr. et al., 1998; Ariail, 2005) was not



so highly prioritized by accounting practitioners and students in China; it was rated 12<sup>th</sup> by accounting practitioners and 10<sup>th</sup> by accounting students (Lan et al., 2009)

The head and heart instrument developed by Maccoby (1976) measures a total of 19 values related to leadership: nine head traits (values related traits such as *flexibility*, *self-confidence*, and *pride in performance*) and 10 heart traits (values related traits such as *honesty*, *compassion*, and *generosity*). Based on data collected in interviews with 250 managers at major companies in the U.S., Maccoby (1976) indicated that in the workplace head traits were more important than heart traits:

Corporate work in advanced technology stimulates and reinforces attitudes essential for intellectual innovation and teamwork, qualities of the head. And those are the traits required for work. In contrast, compassion, generosity, and idealism, qualities of the heart, remain unneeded and undeveloped. (Maccoby, 1976, pp. 184-185)

Maccoby's (1976) instrument was used by Krambia-Kapardis and Zopiatis (2011) to compare the values of Cyprus CPAs and of accounting students pursuing the CPA certification in Cyprus. Survey instruments were delivered to 1,000 of the 2,317 CPAs in Cyprus and to all 250 CPA pursuing accounting students in Cyprus. Valid responses were received from 250 CPAs and 126 students. The resulting ratings of the 19 values indicated that CPA practitioners and accounting students differed in the priority given to the two types of values. CPAs compared to students gave a significantly higher priority to the nine head values than to the 10 heart values. In addition, significant differences were found between the two groups of accountants for the head values of *flexibility*, *open mindedness*, and *pride in performance*—the CPAs rated these values significantly higher than the student accountants. The CPAs also gave a higher priority to the heart value of *loyalty to fellow workers* while accounting students gave a higher priority than CPAs to *idealism*. The findings also suggested that accounting students in Cyprus do, subsequent to being hired, socialize into the accounting profession:

The finding that after [three] . . . years in the profession head values are strengthened further indicates the importance of being socialized into a particular culture that emphasizes such traits as coolness under stress, pride in one's performance, ability to take initiative, self-confidence, pleasure in learning something new rather than heart traits such as a critical and questioning attitude towards authority, generosity, compassion and idealism. (Krambia-Kapardis & Zopiatis, 2011, p. 67)

### 2.1.5 Hypothesis 1

Studies conducted separately with U.S. CPAs (e.g., Swindle et al., 1987; Wilson Jr. et al., 1998; Ariail, 2005) and accounting students (e.g., Baker, 1976; Eaton & Giacomino, 2001; Swindle & Phelps, 1984; Abdolmohammadi & Baker, 2006) with the RVS have rendered results that point to a lack of value congruence. The three studies (See & Kummerow, 2008; Lan et al., 2009; Krambia-Kapardis & Zopiatis, 2011) that compared the personal values (measured with instruments other than the RVS) of accounting practitioners and accounting students found significant differences. CPAs in Cyprus (Krambia-Kapardis & Zopiatis, 2011) and Australia (See & Kummerow, 2008) differed in their value priorities from the CPA aspiring students in those countries. The non-CPA accounting practitioners and accounting graduate students in China (Lan et al., 2009) also differed in the priority given to almost a third of the SVQ values. None of these studies examined the congruence of the value priorities of the profession's "gate keepers" (the espoused values) in each country with the value priorities of senior level accounting students; nor were any of these studies conducted with subjects in the U.S. Nevertheless, the value incongruences found in these studies provide support for an expectation of value differences existing between the RVS measured value priorities of the current study's samples of CPA leaders and upper level accounting students in Georgia. Therefore, Hypothesis 1 stated in the null is as follows:

**Hypothesis 1:** There are no differences in the value priorities of CPA leaders in Georgia and accounting students in Georgia.

## **2.2 VALUE SELF-CONFRONTATION**

Since 1967, the VSC methodology developed by Rokeach (1968a) has been widely used in studies aimed at changing various personal values and related attitudes and behaviors. Unlike the numerous number of P-O fit research that has been previously conducted (some of which have focused on the P-O fit in accounting), there have been a limited number of VSC studies and none have included accounting

subjects. Moreover, the last literature review of VSC research covered the period from 1968-1979 (Ball-Rokeach et al., 1984). This section includes a synopsis of each of the 34 VSC related studies that are believed to be extant. These selected studies include experiments that have either used or tested variations of Rokeach's VSC interventions or that have used alternative persuasive interventions pertinent to the present study. Studies that have used interventions focused on nonconscious value change, such as with priming (e.g., Macrae & Johnston, 1998; Bargh, Lee-Chai, Barndollar, Gollwitzer, & Trotschel, 2001; Cowan, Resendez, Marshall, & Quist, 2002; MacMillian, 2012), studies that have focused on changing attitudes or behaviors using non-value self-confrontation methods (e.g., Mallett, Melchiori, & Strickroth, 2013; Hutzler, Giuliano, Herselman, & Johnson, 2015), and studies that utilized value measures other than the RVS or SVS (e.g., Lekes, Hope, Gouveia, Koestner, & Philippe, 2012) were not deemed pertinent to the present study and are therefore not included in this review.

This section proceeds as follows: A synopsis of each study is presented in chronological order (2.2.1). The synopses are followed by Table 1 (2.2.2), which presents (also in chronological order) selected details of each study. The synopses are then synthesized into topics (2.2.3) that are pertinent to the methodology presented in Chapter 3 and/or the discussion in Chapter 5: value change success (2.2.3.1), research subjects (2.2.3.2), targeted values (2.2.3.3), modes of delivery (2.2.3.4), intervention variations (2.2.3.5), attitude change (2.2.3.6), and behavior change (2.2.3.7); and then synthesized into topics related to the three hypotheses: persuasion (2.2.4.1) and the related Hypothesis 2 (2.2.4.2); short-term value change (2.2.4.3) and related Hypothesis 3 (2.2.4.4); and long-term value change (2.2.4.5) and related Hypothesis 4 (2.2.4.6).

### 2.2.1 Synopses of VSC Related Studies

The results of Milton Rokeach's seminal VSC research was included in at least three published works: in a 1967 "Presidential address to the Society for Psychological Study of Social Issues, the American Psychological Association" (Rokeach, 1968b, p. 13); in his book titled *Beliefs, Attitudes, and Values*

(1968); and, along with the results of two other experiments, in a 1971 paper (Rokeach, 1971a). For his initial VSC experiment, a list of 12 terminal values was created. Three groups of Michigan State University students rank ordered the 12 values at pretest, again after three weeks (posttest 1;  $N = 360$ ), and again after three to five months (posttest 2;  $N = 245$ ). Group A was the control group and groups B and C were the experimental groups. At pretest and at each posttest, all three groups completed “. . . an attitude questionnaire concerning equal rights for the Negro, equal rights for other groups, and American policy in Vietnam” (Rokeach, 1968a, p. 27).

About a week after completing the attitude questionnaire, the experimental groups received VSC interventions targeted at the values of *freedom* and *equality*. The interventions included the following procedures: (1) subjects were shown the composite rankings of the 12 values made by a referent group of 444 students at Michigan State University, (2) the experimenter pointed out that the referent group had ranked *freedom* higher (rank of 1) than *equality* (rank of 6), (3) the experimenter then stated that “this suggests . . . that Michigan State students in general are more interested in their own freedom than in freedom for other people” (Rokeach, 1968a, p. 27), and (4) the subjects then compared their own rankings of *freedom* and *equality* to those of the referent group. An additional procedure was added to the intervention given to group C. These subjects viewed a table that “. . . showed the relationship between civil rights attitudes and average rankings of *freedom* and *equality*” (Rokeach, 1968a, p. 27). The table indicated that the Michigan State University students who were not sympathetic to civil rights demonstrations gave *freedom* a high priority (a rank of 2) and *equality* a low priority (a rank of 11) while students who were both sympathetic towards and had participated in civil rights demonstrations highly prioritized both values: a rank of 1 for *freedom* and a rank of 3 for *equality* (Rokeach, 1968a).

Rokeach’s (1968) posttest results generally indicated insignificant changes in values for the control group—only the value of *freedom* significantly changed at posttest 2; and it decreased rather than increased in priority. The results for experimental group B indicated significant increases in importance for both values after posttest 1, but only for *equality* at posttest 2; and the results for

experimental group C indicated significant increases in the priority given to both values at both posttests—value changes that persisted for three to five months (Rokeach, 1968a).

For experimental groups B and C, Rokeach (1968a) found stability and changes in attitudes related to the priority given to the targeted values: “. . . enduring changes in attitudes towards two most salient issues in contemporary American life—equal rights and Vietnam” (Rokeach, 1968a, p. 29). Subjects who at pretest gave a high priority to *equality* and were for civil rights remained stable in their attitudes at both posttests. Subjects who at pretest gave a high priority to *equality* and were against civil rights did not significantly change their ranking of *equality*, but did bring their attitude in alignment with their values: “Three weeks after the experiment their attitude toward equal rights for the Negro increased significantly by a mean of 4.57 in the liberal direction; and three to five months later the mean increase had grown to 9.24” (Rokeach, 1968a, p. 30). Subjects who at pretest gave a low priority to *equality* and were for civil rights significantly increased their rankings of *equality* at both posttests, showed no change in their pro attitude towards civil rights for Negroes, but did at posttest 2 (but not at posttest 1) “[become] significantly more favorable in their attitude toward equal rights for others and significantly more dove-like in their attitude toward American presence in Vietnam” (Rokeach, 1968a, p. 30). Rokeach (1968a) referred to the delayed attitudinal change as a “sleeper” effect. In addition, subjects who at pretest gave a low priority to *equality* and were against civil rights significantly increased the priority given to *equality*, but did not change their attitudes towards civil rights or support for American policy in Vietnam (Rokeach, 1968a).

In his second and third VSC experiments, in which the subjects were 366 freshman college students, Rokeach (1971a) investigated the effects of a VSC intervention on not only values, but also on attitudes and behaviors. These experiments, which were follow-up studies to Rokeach’s initial VSC experiment (Rokeach, 1968a), were also reported in *Psychology Today* (Rokeach, 1971b). Based on their indicated preference for either social or natural sciences, subjects were divided into two experimental and two control groups. Each of the two experimental groups had subjects assigned to control groups. The values of *equality* and *freedom* were targeted for change. All four groups completed

the terminal portion of the RVS, which had been expanded into a list of 18 values. Subjects in the experimental groups then received a VSC intervention like that used in the first experiment except that it included two additional procedures: (1) after the VSC intervention, the experimental subjects indicated their degree of satisfaction or dissatisfaction with their value rankings, and (2) at 12-20 weeks, and again at 60-68 weeks after the VSC intervention, subjects in both the control and experimental groups received personal invitations to join the National Association for the Advancement of Colored People (NAACP). At posttest intervals of three weeks (posttest 1), 12-20 weeks (posttest 2), and 60-68 weeks (posttest 3), the experimental subjects again completed the terminal portion of the RVS. Since no significant differences were found at pretest between the value rankings of the two experimental groups and the two control groups, the data was aggregated for analysis into one experimental and one control group (Rokeach, 1971a).

The results at each of the three posttests indicated that subjects in the control group did not significantly change the priority given to the targeted values and did not significantly change their attitude towards civil rights. However, for the experimental group, the results indicated a significant increase in the priority given to both *equality* and *freedom*—value changes that were evident at posttest 1, and that persisted at posttest 2 and at posttest 3. In addition, “. . . reports of specific satisfaction or dissatisfaction [with value rankings] obtained from experimental subjects at the end of the experiment predicted the changes in value rankings. . .” (Rokeach, 1971a, p. 458). Moreover, while attitudes towards civil rights did not significantly change at posttest 1, there were significant changes in attitudes (in the direction of more favorable) at both posttest 2 and posttest 3. Thus, as in the first experiment (Rokeach, 1968a), a “sleeper” effect was found (Rokeach, 1971a). Value and attitude changes were also found related to behavior. Rokeach (1971a) summarized his findings as follows:

A total of 69 persons out of 366—about 20%—had responded to the NAACP solicitations. Fifty-one of these were experimental subjects, and only 18 were control subjects. This represents a response rate of about 1 out of 10 for the control subjects compared with 1 out of 4 for the experimental subjects. These findings are significant beyond the .001 level. When considered along with the findings previously presented, they suggest long-range behavioral effects as well as long-range value and attitude change as a result of the experimental treatment. (Rokeach, 1971a, p. 457)

Following these initial three studies, Rokeach (1973) provided future researchers with a detailed summary of his VSC intervention (cf. Rokeach, 1973, pp. 422-428). This intervention, which was targeted at changing the importance given to the two values of *equality* and *freedom*, included 12 procedures, which are detailed in Chapter 1. Most of the subsequent VSC studies followed the procedures outline by Rokeach (1973). Hereafter, studies that utilized all or part of Rokeach's (1973) procedures are referred to as having used a "standard VSC intervention;" studies that have materially varied the standard intervention will be referred to as having used a "modified VSC intervention" (in such instances the specific variations will be noted); and studies that have sought to change values with a intervention other than that specified by Rokeach (1973) will be referred to as having used a "non-standard VSC intervention" and the alternate procedure or procedures used will be summarized.

Penner (1971) investigated the relationship between the importance given to the value of *equality* and the attitudes of white subjects towards blacks. This researcher questioned whether or not a change in the importance given to *equality* would result in attitudinal and behavioral changes in an interpersonal setting. In the first phase, 215 white college students ranked the terminal values of the RVS, and, after being divided into experimental and control groups, the experimental group was given a standard VSC intervention targeted at the values of *freedom* and *equality*. At the end of eight weeks both groups again ranked the terminal RVS values. In the second phase, 38 members from the experimental group and 38 members from the control group took part in a 10 minute conversation with a black confederate of the experimenter. During the conversation, the behavioral measures of eye contact, posture, foot distance, and head distance were measured. After the conversation, all participants answered three attitudinal questions (Penner, 1971).

Prior to matching (for hypothesis testing) the control and experimental groups by dropping subjects from each group, Penner's (1971) results indicated ". . . significant value changes [in *equality*] for the experimental group but not for the control group. . ." (Penner, 1971, p. 183). In addition, the findings suggested that the VSC intervention induced both attitudinal and behavioral changes. The priority given to *equality* was found positively and significantly correlated with attitudinal perceptions

of value and behavioral congruity and with the behavior of eye contact. “Members of the experimental group (the group for which *equality* increased in importance) spent significantly more time looking at the black confederate than did the control group for whom there was no change in the importance of *equality*” (Penner, 1971, p. 186).

Rokeach and Cochrane (1972) investigated whether or not the anonymity of the investigator played a role in the effectiveness of VSC interventions. The subjects, 102 college students, were divided into two experimental groups and a control group. One experimental group received a standard VSC intervention in a group session (anonymous condition), while the subjects in the other experimental group received a standard VSC interventions in individual face-to-face sessions. The individual VSC interventions were presented by one of the investigators, who was considered a “significant other.” The control group received no intervention. The values of *equality* and *freedom* were targeted in the context of civil rights demonstrations (Rokeach & Cochrane, 1972).

The anonymously delivered VSC intervention resulted in a significant change in the median rankings of *equality*, but not of *freedom*. The face-to-face VSC intervention delivered by an investigator, which the researcher noted as similar to a methodology that would be used in an individual therapy session, resulted in significant changes in the median value rankings of both *freedom* and *equality*. Nevertheless, the amount of change in the priority given to the two values were about the same for both the face-to-face and group delivery. The investigators had posited that the non-private condition of the face-to-face intervention might activate ego defense and thus negate a VSC instigated value change. However, eight to nine weeks after the interventions, it was found that both delivery methods were equally effective in causing a significant change in the targeted values. Both experimental groups increased their rankings of *equality* and *freedom* (Rokeach & Cochrane, 1972). Rokeach and Cochrane (1972) offered the following observation:

Thus, the findings suggest that the subject can confront and successfully resolve contradictions within his value-attitude system not only when he is alone but also when he is in the presence of another—another who is presumably a positive, respected and trusted ‘significant other’. There is thus no evidence to suggest that sharing unpleasant facts about oneself with a ‘significant other’ inhibits the therapy or change process. (Rokeach & Cochrane, 1972, p. 201)



Rokeach and McLellan (1972) questioned whether or not self-dissatisfaction and the corresponding value changes found in prior VSC studies were driven by subjects comparing their personal value rankings to those of a referent group. The college student subjects received either a standard (Standard group;  $N = 69$ ) or a modified (Modified group;  $N = 77$ ) VSC intervention. The values of *equality* and *freedom* were targeted for change. At pretest, the Standard group completed the terminal portion of the RVS, responded to an attitudinal question about civil rights demonstrations, and soon afterwards received a standard VSC intervention, which included feedback regarding the prior value rankings and civil rights attitudes of a referent group. The researchers interpreted the value rankings as they related to the referent group's pro- or anti-civil rights attitudes. The interpretations were aimed at arousing dissatisfaction with the low ranking of *equality* and with related anti-civil rights attitudes. Subjects were then asked to compare their rankings and attitudes to those of the referent group (Rokeach & McLellan, 1972).

The modified VSC intervention given to the Modified group differed from that given to the Standard group in that at pretest, the Modified group did not complete the RVS and thus could not compare their value rankings to those of the referent group. At posttest, which took place four weeks after the interventions, both experimental groups completed the RVS (Rokeach & McLellan, 1972).

Since the demographics of the two experimental groups did not significantly differ, Rokeach and McLellan (1972) considered the Standard group to be the control group. A comparison of the value rankings of both groups at posttest to the value rankings of the Standard group at pretest indicated that the two groups had significantly increased their rankings of *freedom* and *equality*. However, at posttest the two groups did not significantly differ in their rankings of the two values. The findings, therefore, suggested that value change using the VSC methodology is not dependent upon subjects being confronted with discrepancies between their personal value rankings and the value rankings of a referent group. Both interventions were equally effective in increasing the priority given to the targeted values (Rokeach & McLellan, 1972).

In order to determine if the value changes found for the experimental groups resulted in subsequent behavioral changes, a follow-up study was conducted about four months after the interventions. This study utilized an actual occurrence—a recent civil rights demonstration in which a number of students had been arrested. In response to the incident, one of the authors formed an anti-racism organization which included a legal defense fund. Participants in the follow-up study included the subjects in the two experimental groups plus a new control group of 60 subjects who had completed the pre- and post-test RVS but had received neither of the VSC interventions. The follow-up subjects were asked to indicate by return mail their willingness to take one or more of five actions: contribute to the legal defense fund and/or commit to one or more of four acts of support or volunteerism. The strength of respondent commitment was measured by summing the number of actions checked (Rokeach & McLellan, 1972).

A total of 16 subjects responded to the solicitation: 11 subjects from the intervention groups and five subjects from the control group. Analysis of the responses indicated that the intervention groups compared to the control group had significantly higher and stronger levels of commitment—a significant behavioral change evidenced four months after the VSC interventions (Rokeach & McLellan, 1972). Rokeach and McLellan (1972) summarized the results regarding value and behavioral changes with the modified VSC intervention as follows:

The findings suggest that a person may undergo long-term value and behavioral change by merely being exposed to information about the value-attitude relationships and inconsistencies as they have been found to exist in others, even if similar information about oneself is not made available. (Rokeach & McLellan, 1972, p. 250)

Hollen (1972) used a persuasive statement about the environment, instead of the value rankings of a referent group, to induce change in the importance given to *a world of beauty*. At pretest, 320 college student subjects were assigned to control and experimental groups. In order to gage their pretest attitudes, the subjects rated the importance they placed on 16 social actions (eight related to *a world of beauty*, the targeted value, and eight related to *a world at peace*). They then rank ordered the 18 RVS terminal values. After ranking the values, the students again rated the 16 social action statements, but

this time they indicated how each action would help or hinder the attainment of *a world of beauty* (Hollen, 1972).

A week later, the experimental group was given a non-standard VSC intervention composed of a 225 word persuasive message about the need to preserve and protect the environment. The control group read a similar in length message unrelated to the two values. After the interventions, at posttest 1, both groups again rank ordered the RVS terminal values and rated the 16 social action statements. Four weeks later, at posttest 2, a portion of the subjects in the experimental and control group were retested (Hollen, 1972).

After the persuasive intervention at posttest 1, the importance given to *a world of beauty* by the experimental group significantly increased. At posttest 2, the experimental group placed an even higher importance on this value than they had at posttest 1. From pretest through posttests 1 and 2, the control group did not significantly change their rankings of *a world of beauty*. Thus, written persuasion, rather than information about the rankings of a referent group, was effective in causing value change that lasted for four weeks (Hollen, 1972).

In addition to the importance of *a world of beauty* increasing, subjects in the experimental group increased the importance given to all of the social statements related to this value. Of the seven statements related to *a world of beauty*, three (highway beautification, banning of automobiles in cities, and prohibiting nonreturnable bottles) were rated significantly higher than the control group. At posttest 2, the mean change between the experimental and control groups for the prohibition of nonrefundable bottles was still significant. In summary, Hollen (1972) stated the following:

The results of this study indicate that (a) individuals' values are amenable to influence through traditional persuasive methods, (b) changes in values bring about changes in attitudes toward instrumentally related objects, and (c) these changes in attitudes do not decrease over time. (Hollen, 1972, p. 57)

Conroy, Katkin, and Barnett (as cited in Rokeach, 1973) studied the effect of a VSC intervention on cigarette smoking. The subjects were solicited to participate in a clinic on smoking cessation. A total of 14 subjects participated in the study. At pretest, the subjects “. . . were exposed to a number of traditional techniques that were designed to induce them to quit smoking. . .” (Conroy et al., as cited in

Rokcach 1979, p. 308). After receiving these interventions, subjects completed the instrumental portion of the RVS and then were equally divided into control group and experimental groups. A daily self-report of the number of cigarettes smoked was made by each subject (Conroy et al., as cited in Rokeach, 1973).

The standard VSC intervention given to the experimental group was targeted at changing the priority given to the instrumental values of *broadminded* and *self-disciplined* (a non-standard RVS value substituted for *self-controlled*). These two values had previously been found to differentiate between current and past smokers—smokers who had been successful at breaking the habit. “Smokers [had] ranked broadminded third and self-disciplined . . . eighth, whereas . . . [past smokers had] ranked broadminded eighth and self-disciplined first” (Conroy et al., as cited in Rokeach, 1973, p. 308.). Value dissonance was aroused with the following interpretation: “People who have trouble quitting cigarettes are trying to be broadminded about a task that requires rigid self-discipline” (Conroy et al., as cited in Rokeach, 1973, p. 308). Immediately following the intervention, at posttest 1, the experimental group again completed the instrumental portion of the RVS. This RVS completion was effectuated by subjects changing their pretest rankings—the rankings with which they were dissatisfied. At posttest 2, which was 17-19 days after the intervention, subjects in the two groups again completed the instrumental portion of the RVS (Conroy et al., as cited in Rokeach, 1973).

The results indicated that the experimental group significantly increased their mean rankings of *self-disciplined*: by 6.1 units at posttest 1, and by 4.6 units at posttest 2. The experimental group’s increase of 4.6 units and the control group’s increase of 1.7 units were significantly different. In addition, at posttest 2, “. . . increases in rankings of *self-disciplined* correlated .61 with self-dissatisfaction” (Conroy et al., as cited in Rokeach, 1973, p. 309). Moreover, the experimental group significantly decreased their cigarette smoking behaviors. At the end of 16 days, the experimental group, compared to the control group, smoked about 12.2 fewer cigarettes per day: 14.1 by the control group compared to 1.9 by the experimental group—down from 40-50 cigarettes per day at the beginning of the clinic. At day 16, the experimental group smoked fewer cigarettes than they had at

four, eight and twelve days. Therefore, the five minute-long VSC intervention was not only effective in significantly changing the priority given to the targeted instrumental value of *self-disciplined*, but was also effective in significantly decreasing the targeted behavior of cigarette smoking—an effect that significantly increased over time (Conroy et al., as cited in Rokeach, 1973).

Hopkins (1973) studied the effect of a VSC intervention on changing values, attitudes, and behaviors. The subjects were white and minority airmen attending basic training at Lackland Air Force Base in San Antonio, Texas, U.S. The targeted values were *equality* and *freedom*. Two experimental groups completed the terminal portion of the RVS, completed an equal rights aptitude test, and were given either a standard VSC intervention (Rokeach, 1973) or a persuasion intervention. The intervention given to the persuasion group was identical to that given to the VSC intervention group except that the persuasion group was not given the parts of the VSC intervention aimed at causing self-dissatisfaction but instead received “. . . an oral and a printed presentation of the results of a previous study about values, and their relation to sympathies toward the aims of the civil rights demonstrations” (Hopkins, 1973, p. 24). Posttests were conducted two and five weeks after the pretest (Hopkins, 1973).

At both the first and second posttests, the two experimental groups and the control group did not significantly differ in their rankings of either *equality* or *freedom*. However, between group differences were found: At the first posttest white subjects in the persuasion group ranked *equality* significantly higher than white subjects in the control group; and at the second posttest, white and black subjects in the VSC group ranked *freedom* significantly higher than white and black subjects in the persuasion group (Hopkins, 1973).

The VSC intervention, but not the persuasion intervention, produced attitude change. Between the VSC group and the control group attitudes towards *equality* significantly changed from pretest to the second posttest. Hopkins (1973) noted that “although the [VSC] . . . treatment did not produce all of the expected effects, it did influence attitudes sufficiently to justify continued use of this method for changing attitudes” (Hopkins, 1973, p. 128).

Behavioral change was determined with two opportunities: (1) a solicitation to join a pro-race-relations organization, and (2) an opportunity to attend a pro-race-relations film presentation. The results were not significant for the solicitation opportunity but were significant for the film opportunity. There was a significant difference between the behaviors of the VSC, persuasion, and control groups. Attendance at the film was significant for subjects in the persuasion group but was not significant for subjects in the VSC group. Hopkins (1973) qualified this result by noting that the majority of the film attendees were black subjects—with white subjects, the persuasion intervention did not obtain the desired results (Hopkins, 1973).

Hamid and Flay's (1974) study focused on the relation between value change and locus of control. The instruments utilized were the terminal portion of the RVS, an instrument that measured locus of control, and a level of satisfaction scale. The targeted values were *equality* and *freedom*. It was predicted that subjects with internal locus of control (i.e., events are controlled by me) would be resistant to changing their rankings of *equality* and would actually respond to the VSC intervention by decreasing the importance given this value. Conversely, it was predicted that subjects with an external locus of control (i.e., events are controlled by others) would favorably respond to the VSC intervention and thus increase the importance given to *equality*. The VSC intervention given to the experimental subjects appears to have been a modified version of the standard VSC. Subjects were shown the prior student rankings of *equality* and *freedom* found by Rokeach (1971), the referent group, and were told that those rankings appeared inconsistent. It is not clear as to whether or not the standard interpretation of the rankings of these values was given; and specificity was not provided regarding subjects comparing their own rankings of *equality* and *freedom* to those of the referent group. These college student subjects were assigned to control and experimental groups. The terminal portion of the RVS was completed by both groups at pretest and two weeks later at posttest. After pretest, only the experimental group received the VSC intervention and then rated their level of satisfaction with their pre-intervention rankings of the terminal values (Hamid & Flay, 1974).

Their results indicated that the VSC subjects significantly increased the importance given to *equality*, but did not significantly change the importance given to *freedom*; and that the level of satisfaction with pre-intervention value ranking did predict value change. Contrary to the posited relationship between value change and locus of control, no significant differences were found in value change based on locus of control, which was measured prior to the intervention. Value change and locus of control were, nevertheless, found related. The VSC intervention resulted in changes in both the priority given to the value of *equality* and in external and internal locus of control—subjects who increased the priority given to *equality* became more external while subjects that maintained or reduced the priority given to *equality* became more internal (Hamid & Flay, 1974).

McLellan (1974) explored the effectiveness of variations in the stimuli used in the standard VSC intervention (Rokeach 1973); the effect of moral development (Kohlberg, 1958; cf. Rest et al., 1999) on value system stability; and the relationship between value change and racial attitudes. The subjects, 287 college students, were assigned to a control group and four experimental groups. The values of *equality* and *freedom* were targeted for change. At pretest, subjects in all five groups completed the RVS, an instrument that measured racial attitudes, and Kohlberg's Moral Judgment Interview (Kohlberg, 1958). The RVS was again completed by four of the five groups directly before the VSC interventions were administered, which was three weeks after pretest. At posttest, which took place four weeks after the interventions, all five groups completed the RVS and again completed the measure of racial attitudes (McLellan, 1974).

The interventions given to the experimental groups included the standard VSC intervention (Rokeach, 1973) and three interventions based on various combinations of the following standard VSC stimuli: (1) feedback regarding the rankings of the targeted values by the subjects, (2) feedback regarding the rankings of the targeted values by the referent group, and (3) feedback in the form of researcher interpretations of meanings associated with the rankings of the targeted values. Group one received a standard VSC intervention; group two received the standard VSC intervention without value ranking interpretations—the subjects self-interpreted the meaning of their value rankings; group three

received the standard VSC intervention without feedback regarding the value rankings of the referent group; and group four, which did not rank their own values prior to intervention and thus could not receive feedback about their own value rankings, received the standard VSC intervention with feedback regarding the value rankings of the referent group. In addition to completing the RVS, subjects in the control group were given the average rankings of the RVS values obtained from all study participants and completed a moral values questionnaire. After completing the RVS at posttest, subjects in all five groups rated their satisfaction or dissatisfaction with their prior RVS rankings (McLellan, 1974).

McLellan's (1974) comparison of the value rankings of the experimental groups with the value rankings of the control group found significant changes in the targeted values for group one and group four. From intervention to posttest, group one (which received the standard VSC intervention) significantly increased the priority given to *equality*; and from intervention to posttest group four (which received feedback regarding the rankings of the referent group, but did not receive feedback about their own rankings) significantly increased the priority given to both *freedom* and *equality*. Compared to the control group, group two and group three did not show significant value changes. McLellan (1974) concluded that the findings suggest that since group four had a significant increase in the priority given to both of the targeted values, but did not receive feedback regarding their own values, "... feedback about self must not be crucial for the induction of change. . ." (McLellan, 1974, p. 92). Critical value change stimuli are related to feedback regarding the value rankings of the referent group and "... the experimenters' interpretations" (McLellan, 1974, p. 92).

Based on the indication at posttest of the subjects' level of satisfaction or dissatisfaction with their prior value rankings, significant differences were also found for the rankings of *equality*. In accord with Rokeach's (1973) theory of value change, the results indicated the following:

In every instance, subjects dissatisfied with their value ranking changed more than subjects who were satisfied. [And in the standard VSC intervention group] . . . subjects who were dissatisfied with their *equality* rankings changed their ranking considerably more than did dissatisfied subjects. . . [in groups 2 and 3]. (McLellan, 1974, p. 89)

Additional results found by McLellan (1974) were related to moral development and racial attitudes. Kohlberg's (1958) theory of moral development includes three increasing levels of moral



reasoning: pre-conventional, level 1; conventional, level 2; and post-conventional, level 3. The findings indicated that the value systems of subjects at the post-conventional level were significantly more stable than the value systems of subjects at the pre-conventional and conventional levels. The findings also indicated that “. . . value system similarity increase[d] at each successively higher level of moral reasoning” (McLellan, 1974, p. 110). Moreover, the value of *equality*, which was targeted for change, became more important at each higher level of moral reasoning. According to McLellan (1974), “. . . moral development theory predicts that *equality* would be ranked highest at level [3] since equality is a core principle of the post-conventional morality” (McLellan, 1974, p. 113).

McLellan’s (1974) analysis of the relation between value change and attitude change yielded anomalous results. Analysis of covariance indicated that the “. . . largest attitude difference [was] . . . found between the two experimental interventions which were both ineffective in increasing *equality* rankings” (McLellan, 1974, p. 90). Nevertheless,

. . . the fact that none of the experimental groups evidence[d] racial attitudes significantly higher than the control group suggest[ed] that these differences [were] . . . attributable to some factor other than the value change treatments, most probably chance. (McLellan, 1974, p. 90)

Rokeach (1975) investigated the effectiveness of a VSC intervention that lacked targeted values and that was not administered by a human experimenter. The subjects (217 college students) were divided into control and experimental groups. Both groups completed the terminal portion of the RVS at pretest and two months later at posttest. Only the experimental group received a standard VSC intervention, which was delivered by computer directly after the pretest (Rokeach, 1975).

A copy of the RVS rankings was personally retained by 50% of the subjects in both groups. The experimental subjects entered their pretest value rankings into a computer program which compared their individual rankings to previously obtained RVS rankings of a national sample of U.S. adults. The electronic comparison included value rankings for the variables of gender, age, education, and attitudes towards civil rights. The computer presented the subject’s and comparison group’s value rankings for each variable and computed the numeric differences between the rankings. The subjects then received a printout of the results and were instructed to circle the five largest differences that interested them. A

copy of the computer printout was also retained by 50% of the subjects. No interpretations of the value differences were provided (Rokeach, 1975).

Rokeach's (1975) results indicated that the computer administered VSC intervention was effective in changing values even though no target values were specified for change; and even though the VSC intervention was delivered by computer instead of directly by a researcher. From pretest to posttest, the experimental group compared to the control group significantly increased the importance given to the values of *a sense of accomplishment*, *a world at peace*, and *equality*. Subjects in the experimental group became more like subjects in the educated, pro-civil rights, and same sex comparison groups. Subjects whose pretest values rankings had been incongruent with their reference groups experienced the most value change. No significant value ranking differences were found between subjects who personally kept or did not keep a copy of the RVS rankings or the computer printout. Rokeach (1975) explained the value changes as being driven by dissatisfaction caused by contradictions with self-conceptions. The value changes persisted for the two month period from intervention to posttest (Rokeach, 1975).

Gray and Ashmore (1975) utilized three educational interventions aimed at changing stereotypical racial attitudes towards blacks. The subjects, 222 white college students attending a two-year college in New Jersey, U.S., were divided into three experimental groups and a control group. The three, 50-minute-long educational interventions included a standard VSC intervention and two non-standard VSC interventions, which used two persuasive techniques: (1) role playing, where the subjects read summarizations of three newspaper articles about black suffering, read an argument that related black poverty to a lack of job opportunities, and then wrote a pro-black essay about the need for job opportunities for all, and (2) informational, where the subjects were presented with factual evidence that showed the plight of poor blacks being related to a lack of opportunities rather than stereotypically related to a lack of personal motivation or other innate characteristics. Racial attitudes were measured with a composite racial attitude inventory which included questions taken from three other instruments.

Pretests were not conducted. Posttests were conducted immediately after, and eight weeks after, the interventions (Gray & Ashmore, 1975).

The results indicated that all three of these educational interventions resulted in significant positive changes in racial attitudes that persisted for eight weeks. The subjects in all three experimental groups had significantly higher egalitarian mean scores compared to the subjects in the control group. However, the mean scores for each of the intervention groups did not significantly differ—all three interventions were about equally effective. The VSC intervention results did not provide support for Rokeach's (1971) posited relationship between dissatisfaction and value change. Since a pretest was not performed, data was not available regarding any value changes that may have taken place as a result of the VSC intervention (Gray & Ashmore, 1975).

An experiment by DeSeve (1975) extended the clinical research on VSC and smoking behavior conducted by Conroy et al. (as cited Rokeach, 1973). The 33 subjects in DeSeve's experiment participated in three week-long clinics sponsored by the Washington Lung Association. These subjects had a mean age of 40.2 and a mean smoking rate of 31 cigarettes per day. The subjects were divided into two control groups and two experimental groups. All of the subjects participated in seven smoking clinic sessions that included round table discussions on various smoking addiction topics. In addition, subjects in both experimental groups and in one of the control groups continuously self-monitored their smoking frequency throughout the experiment. Subjects in the second control group only self-monitored their smoking behavior during the last week of the experiment. The experimental groups completed the RVS three times: the week before the clinics started (pretest), at the end of the clinics (posttest 1), and five weeks after the clinics ended (posttest 2). The control groups only completed the RVS at posttest 2. At the end of the clinics, only one of the two experimental groups received a standard VSC intervention (Rokeach, 1973) which targeted the instrumental values of *broadminded* and *self-controlled*. The intervention was delivered directly before the second completion of the RVS at posttest 1 (DeSeve, 1975).

Analysis of the data found that the frequency of smoking of the subjects in all three of the continuously self-monitoring groups significantly decreased from pretest to posttest 2. From pretest to posttest 1, the two experimental groups did not significantly differ in either their rates of smoking nor in the priority given to the value of *self-controlled*. Both groups had significantly decreased their rates of smoking and significantly increased the priority given to *self-controlled*. Nevertheless, at posttest 2 compared to at pretest, the VSC experimental group compared to the non-VSC experimental group gave a significantly higher priority to *self-controlled*. The rankings of *broadminded* were not reported (DeSeve, 1975).

While at posttest 2 both experimental groups had regressed from their end of clinic rates of smoking, the VSC experimental group had regressed less than the non-VSC experimental group: from 1.84 to 13.92 cigarettes per day (a 12.08 change) for the VSC experimental group compared to from 2.39 to 17.19 cigarettes per day (a 14.80 change) for the non-VSC experimental group. DeSeve observed that “the lower overall smoking rate and the higher importance of *self-controll[ed]* [for the VSC experimental group], although not significantly different from the [non-VSC experimental group], [was] in the direction predicted by Conroy et al. (as cited in Rokeach, 1973)” (DeSeve, 1975, p. 54). DeSeve (1975) suggested that, contrary to value change theory (Rokeach, 1973), perhaps changes in behavior may cause changes in value priorities rather than the other way around; and that the self-monitoring of smoking frequency may have masked the effects of the VSC intervention (DeSeve, 1975).

Greenstein’s (1976) study focused on using a VSC intervention to enhance teacher performance. The subjects, who were 182 student teachers, were divided into control and experimental groups. The targeted values were *mature love* and *a sense of accomplishment*. In a prior study with 308 student teachers, these two values were found to differentiate good and mediocre teachers: *mature love* had been ranked high by good teachers while *a sense of accomplishment* had been ranked high by mediocre teachers. At pretest, both groups completed the RVS. Ten days later, the experimental group was

administered a standard VSC intervention. In part, the value dissonance inducing intervention included the following interpretation:

These data raise the question as to whether being concerned with the problems of others, and placing less emphasis on personal achievement, is essential to success as a public school teacher. These data could be interpreted to mean that good teachers value the problems of others above their own personal gain or advantage. (Greenstein, 1976, p. 257)

At posttest, which was conducted 13 weeks after the VSC intervention, both groups again completed the RVS. Greenstein's (1976) results indicated that while the control group did not significantly change their rankings of the two targeted values, the experimental group significantly increased the priority given to *mature love*. The priority given to *a sense of accomplishment* did not significantly change. In addition, the teacher performance evaluations of the subjects in the two groups, which were made about 12-13 weeks after the intervention date, indicated that the control group and experimental group significantly differed in their performance behaviors: "The experimental subjects show[ed] a mean evaluation score nearly two points higher than the control subjects. . . ." (Greenstein, 1976, p. 260).

Sherrid and Beech (1976) examined value change with a sample of 384 police officer subjects who were divided into control and experimental groups. The targeted values were *freedom* and *equality*. At pretest, the subjects completed the RVS and an instrument that measured tolerance towards nonconformists. Immediately after the pretest, the experimental group received a modified VSC intervention that included the standard intervention for *freedom* and *equality* and the following additional police officer specific interventions: Subjects were shown a chart indicating that police officers (who had been previously tested at their police academy) compared to the general public had shown a relatively high tolerance for nonconformists (a point that was verbally reinforced by the researcher); and subjects were read short statements relating to the legal concept of equality, which included examples from the U.S. Constitution, the U.S. Declaration of Independence, and as related to the blindfolded image of Justice (Sherrid & Beech, 1976).

At posttest, which took place one month after pretest, both groups completed the terminal portion of the RVS. About two weeks later, subjects in the experimental group were solicited to ". . .

attend a seminar on police human relations” (Sherrid & Beech, 1976, p. 276)—a test of whether a change in value priorities would result in a behavioral change (Sherrid & Beech, 1976).

The results showed that, from pretest to posttest, the control group remained stable in their ranking of *equality* while the experimental group had a significant increase in their rankings of this value: from median rankings of 13.0 before the intervention to 10.25 after the intervention. Additional findings included support for a pretest relationship between the priority given to *equality* and the degree of tolerance for nonconformists; and support for a posttest relationship between value change and value dissatisfaction. Due to a low response rate to the seminar solicitation, the hypothesized behavioral change could not be determined (Sherrid & Beech, 1976).

Campbell and Hannah (1976) posited evaluation apprehension instead of self-dissatisfaction as a cause of value change. These researchers utilized a two-by-two experimental model in which 50 college student subjects were assigned to control and experimental groups. The experimental groups were put in either a state of high or low apprehension and were given either upward or downward cueing. The terminal portion of the RVS was administered after the intervention, with no pretest. The targeted value was *a world of beauty*. At pretest, the nonstandard VSC intervention consisted solely of states of apprehension which were manipulated with two statements regarding the purpose of the study: Subjects were either told that the experiment was aimed at gauging psychological maturity (high apprehension) or that the experiment was a part of a mathematical study where the results would be aggregated (low apprehension). The directional cues were based on two statements which linked a high ranking of *a world of beauty* with moral maturity (high cue) and a low ranking of *a world of beauty* with moral immaturity (low cue). Evaluation apprehension was measured with two questions: “. . . [1] Did this experiment make you feel anxious? and . . . [2] did this experiment make you feel that you were being evaluated?” (Campbell & Hannah, 1976, p. 92).

The results pointed to a positive effect for evaluation apprehension. High apprehension subjects given upward cueing ranked *a world of beauty* significantly higher than did low apprehension subjects given the same cueing. Thus, Campbell and Hannah (1976) suggested that evaluation apprehension

rather than self-dissatisfaction may be the cause of value change. That is, subjects in VSC interventions may change their rankings of the targeted values due to feeling that they are personally being evaluated—a demand effect—rather than due to self-dissatisfaction caused by becoming aware of inconsistencies between their value systems and their self-conceptions. These researchers proposed that “. . . while evaluation apprehension can produce short-term change only dissatisfaction can result in long-term change” (Campbell & Hannah, 1976, p. 95).

Grube, Greenstein, Rankin, and Kearney (1977) used a path analysis technique to reanalyze the data from experiments reported by Rokeach in 1973 (cf. Rokeach, 1968a; Rokeach, 1971a). As a result of these experiments Rokeach (1973) had reported that the VSC intervention, which targeted the values of *equality* and *freedom*, significantly increased the priority assigned to *equality* and that this change in priority resulted in long-term changes in behaviors towards the civil rights movement (Grube et al., 1977).

Grube et al. (1977) posited and found support for the behavioral changes found by Rokeach (1973) being more strongly related to the informational content of the intervention than to value change:

. . . The non-value-mediated effect of the . . . [intervention was] considerably larger than the value-mediated effect. . . [Therefore] . . . It is likely that the primary source of behavioral change after self-confrontation was awareness of inconsistencies between behaviors and self-conceptions. (Grube et al., 1977, p. 215)

Thus, Grube et al. (1977) suggested that the awareness of inconsistencies revealed by the informational content of the standard VSC intervention resulted in challenges to self-esteem, which in turn resulted in changed behavior.

Sanders and Atwood (1979) considered the effect of value dissatisfaction on value change, the effectiveness of different modes of VSC delivery, and the effect of VSC induced value change on behavior. Their study was conducted with 181 college student subjects assigned to a control group and three experimental groups. The experimental groups received a standard VSC intervention targeted at the values of *freedom* and *equality*. Three modes of VSC delivery were employed: print only, face-to-face, and video tape. The researchers hypothesized that no significant differences would be found in value change based on mode of delivery. Further, they posited that subjects dissatisfied rather than

satisfied with their rankings of the targeted values would have the most change in their rankings and would be more apt to join the NAACP. After the interventions, posttests were conducted at two, four, and six week intervals. A week after the last posttest, subjects were solicited by mail to join the NAACP (Sanders & Atwood, 1979).

The results supported the hypothesized relation between value change and self-dissatisfaction. From pretest to posttest 1, subjects dissatisfied with their rankings of *freedom* and *equality* significantly increased their rankings, and both values continued to be ranked significantly higher than at pretest at each subsequent posttest. On the other hand, from pretest to each posttest, satisfied subjects showed no significant changes in their rankings of either *freedom* or *equality*. Moreover, the results indicated no significant differences in the rankings of the targeted values based on the mode used to deliver the VSC intervention: “Analysis of variance results indicated that the channel main effect . . . for *freedom* was not significant . . . nor did the channel . . . main effect for *equality* yield a significant outcome . . .” (Sanders & Atwood, 1979, p. 238). Due to the low response rate to the NAACP solicitation (only one subject responded), the posited behavioral change could not be determined (Sanders & Atwood, 1979).

Grube (1979) used a sample of 223 college students to investigate the effects on values, attitudes, and behaviors of two self-confrontation interventions: an intervention focused on targeted values and behaviors (a standard VSC intervention) and an intervention focused on attitudes and behaviors (a non-standard VSC intervention). In a preliminary study, the values of *a world of beauty* and *a comfortable life* had been found to differentiate between students who supported (*a world of beauty*) and those who did not support (*a comfortable life*) the environmental movement. The standard VSC intervention was aimed at increasing the importance given to *a world of beauty* while decreasing the importance given to *a comfortable life*. The non-standard VSC intervention generally followed Rokeach’s (1973) procedures. However, instead of using feedback regarding the value rankings of a referent group, subjects were provided with feedback regarding referent group attitudes and behaviors towards the environment, and were provided with investigator interpretations aimed at making the subjects aware of possible inconsistencies between their own environmental attitudes and behaviors,



which were obtained at pretest. All three groups completed the RVS at pretest and at posttest, which took place three to four weeks after the interventions. Three days after the posttest, all of the subjects received a mailed solicitation requesting volunteers to solicit signatures petitioning the university to ban nonrefundable bottles; and a week and a half after the posttest, subjects were solicited to sign a petition advocating legislative action banning nonreturnable beverage bottles (Grube, 1979).

The findings indicated that the two intervention groups differed in both value change and attitude change. From pretest to posttest, the standard VSC intervention group, but not the non-standard VSC intervention group, significantly increased the priority given to *a world of beauty* and significantly changed three of seven attitudes towards the environment. Grube (1979) stated that “it is clear that the value-behavior self-confrontation treatment was effective in producing value and attitude change while the attitude-behavior self-confrontation treatment was not” (Grube, 1979, pp. 80-81). However, the changes in attitudes did not produce behavioral changes: Students in the intervention groups did not significantly differ from the control group in volunteering to solicit signatures nor in signing the petition banning nonreturnable beverage bottles. Rokeach’s (1973) posited relationship between self-dissatisfaction and changes in values, attitudes, and behaviors was, therefore, not supported (Grube, 1979).

Young (1979) studied the effects of a VSC intervention on the career planning behaviors of subjects identified by their locus of control. The subjects were 90 male high school juniors attending secondary schools in rural Canada. Locus of control (internally or externally controlled) was delineated in this study as the subject’s perception of the significance played by luck in determining one’s life events. The 90 subjects were selected from an initial sample of 521 subjects who had completed the instrumental value portion of the RVS, a measure of the career planning orientation, and a measure of locus of control. All of the selected subjects had “report[ed] a negative view of themselves and their own career planning” (Young, 1979, p. 5). Subjects were divided into a control group and two experimental groups. Each of the three groups were further divided into subgroups based on locus of control. The subjects in the experimental groups were given one of two interventions: a standard VSC

intervention that targeted the RVS values of *logical* and *responsible*, which had been identified with the initial sample as values that “. . . significantly differentiated . . . [subjects] of high and low career planning orientations” (Young, 1979, p. 5); or a counseling intervention that included verbal reinforcement of mature career related statements and encouraged subjects to discuss their career plans (Young, 1979).

At posttest, which was conducted seven weeks after the interventions, the subjects in all three groups were again assessed regarding their career planning orientations and were assessed regarding their “. . . vocational information-seeking behavior. . .” (Young, 1979, p. 7). It appears that the RVS was not administered at posttest, and thus change in the priority given to the targeted values was not tested (Young, 1979).

For subjects with an internal locus of control, but not for subjects with an external locus of control, the analysis indicated that the VSC intervention was significantly more effective than the counseling intervention at increasing the subset information-seeking behavior of “. . . talking with others about career planning” (Young, 1979, p. 8). At posttest, neither of the three groups had significantly changed their career planning orientations (Young, 1979).

Conroy (1979) reported the effect of a VSC intervention on smoking behavior. The 14 adult smokers in his study were randomly assigned to control and experimental groups. At pre-clinic and at post-clinic, the two groups completed a modified version of the instrumental portion of the RVS (*self-discipline* was substituted for the standard RVS value of *self-controlled*). Both the control and experimental groups received a clinical intervention that included the viewing of a fear-inducing film about the health risks associated with smoking and received instructions for their tracking of the number of cigarettes smoked and related smoking cues. The experimental group also received a standard VSC intervention (Rokeach, 1973) aimed at causing dissatisfaction with their pre-clinic rankings of the values of *broadminded* and *self-discipline*, which had previously been identified as referent group values that differentiated “quitters” (individuals who were able to quit smoking) and “smokers” (individuals who were unsuccessful at breaking the habit). The experimenter provided the following

value dissonance inducing interpretation of the targeted values: “It would appear from our scientific research that people who have trouble quitting cigarette smoking are trying to be *broadminded* about a task that requires rigid *self-discipline*” (Conroy, 1979, pp. 203-204). The experimenter separately administered the VSC intervention to each subject in the experimental group (Conroy, 1979).

The results indicated that from pre-clinic to post-clinic (14 days after the VSC intervention) the experimental group, compared to the control group, significantly increased the priority given to *self-discipline* but not to *broadminded*; and “immediately after the intervention, change in the subjects’ rankings of *self-discipline* was perfectly correlated . . . with the amount of dissatisfaction expressed with pre-clinic value rankings” (Conroy, 1979, p. 205). Moreover, at the end of the clinical period, the experimental and control groups significantly differed in their smoking behaviors: “. . . The experimental group had reduced its smoking rate to five percent of its pre-clinic rate, whereas the control group had reduced to 28 percent of its pre-clinic rate” (Conroy, 1979, p. 205). The significant between-group difference in smoking rates persisted for two months (Conroy, 1979).

Spillman (1979) posited that VSC induced changes in the priority given to *equality* and *freedom* were caused by challenges to self-esteem rather than by value dissatisfaction. This potential alternative “driver” of value change was tested in an experiment with college student subjects who were assigned to control and experimental groups. Three research instruments were used: the RVS, a measure of social attitudes, and a measure of self-esteem. The potential impact of value change on behavior was measured with a letter mailed soon after the last posttest. The letter invited subjects to join an organization whose purpose was improving race relations (Spillman, 1979).

At pretest, 281 subjects completed all three instruments. From this group, 64 subjects were selected based on “. . . a discrepancy in their ranks for . . .” (Spillman, 1979, p. 69) *freedom* and *equality*. The experimental groups were designated Inconsistent Value, Negative Self-esteem, and Both. About one to two weeks after the pretest, a relevant five minute persuasive message was delivered by lecture to the intervention groups. The Inconsistent Value group was given a non-standard VSC intervention which included a comparison of referent group rankings of *freedom* and *equality* (which were obtained

from a prior pilot study) to fictitious average rankings of these values by Americans (Spillman, 1979): the referent group “. . . had ranked . . . [*equality*] low while the bogus national sample had ranked it high and nearly equal to the value. . . [of] *freedom*. No implications of this inconsistency were drawn” (Spillman, 1979, p. 70). The message delivered to the Negative Self-esteem group

. . . consisted of conclusionary [(sic)] statements that students in this study exhibited a lack of concern for members of minority groups. . . . Without reference to any specific values, the speaker asserted that the students appeared bigoted and negative towards others less fortunate than they. (Spillman, 1979, p. 70)

The Both group received a persuasive message that combined the other two interventions (Spillman, 1979).

At posttest 1, which was conducted immediately after the interventions, subjects completed the terminal portion of the RVS and the attitude measure. At posttest 2, which was conducted six weeks later, the remaining 55 subjects again completed the two measures. The control group, which did not receive a intervention, also completed the posttest measures (Spillman, 1979).

Spillman’s (1979) results for each of the three intervention groups indicated that, compared to the pretest rankings of *equality* and *freedom*, *equality*, but not *freedom*, was ranked significantly higher at both posttest 1 and posttest 2. Thus, all three interventions were effective in significantly increasing the long-term priority given to *equality*. Nevertheless, at posttest 2, the Negative Self-esteem group compared to the Inconsistent Value and Both groups, had significantly smaller differences between the rankings of *freedom* and *equality*—the value rankings were significantly less discrepant. In addition, at posttest 2, the Negative Self-esteem group ranked *equality* significantly higher than the other two groups (Spillman, 1979). Thus, Spillman (1979) suggested that the findings

. . . negate[d] Rokeach’s assumption that the cause of . . . [value change] is an awareness of the inconsistency between *freedom* and *equality*. Threatened self-esteem produced a much stronger motivation than the *freedom-equality* discrepancy alone and threatened self-esteem was even stronger when completely separated from reference to the specific value inconsistency. (Spillman, 1979, p. 72)

A low response rate to the letter solicitation prevented statistical analysis of behavioral changes (Spillman, 1979).

Rokeach and Grube (1979) tested the unidirectional theory of value change, which posits that values cannot be arbitrarily manipulated (Rokeach, 1973). That is, the directional hypothesis that VSC intervention will only result in value change if there is dissonance between self-conceptions and value rankings: value change is “. . . possible only in the direction that reduces self-dissatisfaction and increases consistency with self-conceptions” (Rokeach & Grube, 1979, p. 255).

The college student subjects assigned to the two experimental groups were drawn from a sample of 850 subjects who had previously completed the RVS and had then performed the following tasks:

. . . The participants were asked to imagine that they had discovered the secret of changing other people’s values. Their task was to indicate whether or not they would increase or decrease the importance of each of the 36 values . . . if they had the power to do so. The participants were next asked to imagine that certain other individuals or organizations were attempting to change people’s values, and to indicate for each value if they would (1) resist efforts to increase the importance of that value or (2) resist efforts to decrease the importance of that value. (Rokeach & Grube, 1979, p. 250)

From the original sample of students, 64 experimental subjects were selected based on the low priority they had given to *equality*: low tercile rankings of 13-18. Group 1 ( $N = 30$ ) was composed of subjects whose low rankings of *equality* were consistent—they wanted to decrease others’ rankings of *equality*. Group 2 ( $N = 34$ ) was composed of subjects whose low rankings of *equality* were inconsistent—they wanted to increase others’ rankings of *equality*. The control group ( $N = 32$ ) was made up of subjects selected from another sample of students who had also ranked *equality* in the lower tercile (Rokeach & Grube, 1979).

The two experimental groups completed the terminal portion of the RVS and then received a standard VSC intervention which included subjects indicating their attitudes towards the civil rights movement and subjects being given a *freedom* and civil rights focused interpretation regarding the low rankings of *equality* by the referent group. The control group also completed the terminal portion of the RVS. Their intervention was limited to being shown the value rankings of the referent group without having the experimenter point out, or interpret, the rankings of *freedom* and *equality* (Rokeach & Grube, 1979).

Five weeks after the intervention, the three groups again completed the terminal portion of the RVS. Analysis of the results supported the unidirectional theory of value change. Rankings of *equality* significantly increased for group 2 (the inconsistent value group), but not for group 1 (the consistent value group). In addition, at posttest, the rankings of *equality* were significantly higher for group 2 (the inconsistent value group) than the rankings of *equality* by either group 1 (the consistent value group or the control group). Therefore, subjects who had ranked *equality* low had deemed *equality* a value that should, in general, be decreased in importance, and who had indicated that they would resist attempts to increase the importance of *equality*, were not significantly impacted by the VSC intervention. In other words, after the VSC intervention, subjects who lacked value dissonance did not significantly change their rankings of *equality* (Rokeach & Grube, 1979).

Grube (1982) replicated the VSC experiment conducted by Rokeach and Grube (1979). At pretest, 573 student subjects ranked the RVS values and then indicated their opposition to efforts to increase or decrease the importance they gave to each value. Subjects were divided into control and experimental groups. The experimental group received a standard VSC intervention similar to that used by Rokeach and Grube (1979). At posttest, which was three to five weeks after the VSC intervention, the control and experimental groups again completed the RVS. For analysis purposes, 294 subjects in the experimental group, those who had at pretest ranked *equality* below a rank of 9 (compared to below a rank of 12 in the Rokeach and Grube (1979) study), were divided into two experimental groups: a value-self consistent group (subjects opposed to *equality* being increased) and a value-self inconsistent group (subjects opposed to *equality* being decreased) (Grube, 1982).

The results revealed that, from pretest to posttest, both experimental groups significantly increased their rankings of *equality*. However, consistent with the findings of Rokeach and Grube (1979), the pretest to posttest increase in the rankings of *equality* was significantly greater for the value-self inconsistent group (subjects with value dissonance) compared to the value-self consistent group (subjects without value dissonance) and was significantly greater compared to the value-self inconsistent subjects in the control group. Grube (1982) concluded that “. . . it is unlikely that self-

confrontation can be used to manipulate human values in whatever direction desired. In the final analysis, the value changes that occur are under the control of the subject and not the experimenter” (Grube, 1982, p. 533).

Greenstein (1982) reanalyzed his 1976 data (Greenstein, 1976) using the path analysis technique employed by Grube et al. (1977). The results indicated that the behavioral changes he had found in teacher performance were not mainly mediated by value change—non-value mediation had a larger effect. Subjects who received the standard VSC intervention changed their behaviors due to their new knowledge of inconsistencies between their self-conceptions and their previous behaviors. Thus, the revised results supported the non-value mediation findings of Grube et al. (1977).

Pleban, Dyer, Fenigstein, and Hilligoss (1983) examined value change with a sample of 178 junior level U.S. Army officers attending the Infantry Officer Basic Course (IOBC) at Fort Benning, Georgia, U.S.A. At pretest, which was given at the beginning of the IOBC course, a modified version of the RVS (the RVS values were rated instead of ranked, and the terminal value of *physical fitness* and the instrumental value of *active* were added) was completed by 750 student officers. The terminal value ratings of these students were compared to those of senior officers—lieutenant colonels (LTC) and colonels (COL)—who had recently attended the U.S. War College. Student officer subjects, whose ratings of the leadership values (cf. Dyer & Hilligoss, 1985) of *a sense of accomplishment*, *national security*, and *physical fitness* were significantly lower than those of senior officers, were randomly assigned to control and experimental groups. Ten days after the pretest, the experimental group received a non-standard VSC intervention. The intervention consisted of a one-page letter mailed to each subject. The letter included the following feedback:

Compared to most other members of your IOBC class, you rated the value of [(one of the three targeted values was inserted here)] relatively low. This value was consistently rated very high by the Infantry Branch LTCs and COLs who were students at the War College this year. (Pleban et al., 1983, p. B-1)

At the end of the 14-week course, the control and experimental subjects again completed the modified RVS (Pleban et al., 1983).

Pleban et al.'s (1983) posttest analysis found no significant differences between the control group and the experimental group in their ratings of *a sense of accomplishment*, *national security*, and *physical fitness*. Nevertheless, their analysis did find two behavioral effects. The subjects who received feedback regarding their relatively low rating of *a sense of accomplishment* had significantly higher scores on two of the five end-of-course measures of performance: “. . . Feedback students were perceived [by their instructors] as more effective tactical leaders . . . and had faster two-mile run times than no-feedback students” (Pleban et al., 1983, p. 6).

Pleban et al. (1983) suggested that the lack of an experimental effect of the VSC intervention on the ratings of the targeted values may have been due to several methodological flaws which included, (1) the lack of an interpretation of the meaning attached to the relatively low ratings of the specified value (unclear feedback); (2) the lack of feedback regarding the ratings of their IOBC classmates and the referent group of senior officers; and (3) the three month lapse between the intervention and the posttest (Pleban et al., 1983).

Ball-Rokeach et al. (1984) developed and produced *The Great American Value Test*, a 30 minute TV program that included two modified VSC interventions (Rokeach, 1973). The program was broadcast simultaneously by the three national news networks in the U.S.: CBS, NBC, and ABC. The broadcasts were limited to three cities in the state of Washington, U.S.A.: the Tri-Cities of Richland, Pasco, and Kennewick (the Experimental City). The city of Yikima, that did not receive the broadcast, was the Control City. Except for per capita income, in which the Experimental City was higher, the Control and Experimental Cities were demographically similar in regards to other variables, including the proportion of black citizens (Ball-Rokeach et al., 1984).

Pretest and posttest subjects, who were randomly selected from the Experimental City and the Control City, received either or both pretest and posttest surveys. The pretest surveys were mailed six to seven weeks before the program aired and the posttest surveys were mailed four to six weeks after the program aired. The surveys included the terminal portion of the RVS and an instrument that measured attitudes towards racism, sexism, and conservation of the environment. Following the broadcast, all of



the subjects from the Experimental City were contacted by telephone. The inquiries included whether or not the subject had viewed the program, and, if so, whether or not their viewing had been interrupted. The TV program was co-hosted by two nationally known personalities. The 30 minute program was divided about equally between a general discussion of the values of Americans and two VSC interventions: one targeted at *equality* and *freedom*, and one targeted at *a world of beauty* (Ball-Rokeach et al., 1984).

The values of *equality* of *freedom* were targeted for change using modifications to the standard VSC intervention: Subjects were not asked to compare their personal value rankings to those of their referent group (various demographic specific groups of American value rankings); subjects were not asked to compare their personal rankings of *equality* and *freedom* to those of their referent group; and subjects were not asked to rate their level of satisfaction with their prior value rankings. The differences in the referent group rankings of *equality* and *freedom* were interpreted in a way “intended to gently prod viewers to examine their own values and attitudes for internal consistency with idealized conceptions” (Ball-Rokeach et al., 1984, p. 73). Potential viewer value dissonance was aroused with the following feedback regarding the average rankings of *equality* found after Dr. Martin Luther King’s assassination:

Those who felt sad or angry . . . ranked *equality* sixth on the average. Those who felt ashamed ranked *equality* seventh . . . . Those who felt fear ranked it twelfth, and those who reacted with ‘he brought it on himself’ ranked *equality* thirteenth. (Rokeach et al., 1984, p. 75)

It was also pointed out that Americans generally ranked *freedom* low and that high rankings of *equality* were associated with pro-civil rights attitudes (Ball-Rokeach et al., 1984).

The modified VSC intervention used to target the value of *a world of beauty* was, in part, composed of the following procedures: (1) viewers were told that the rankings of *a world of beauty* significantly decreased with maturity—the average adult gave a low ranking to *a world of beauty*; (2) a host concluded an interpretation of the low ranking of *a world of beauty* with the following statement: “Maybe that explains why so many Americans are willing to live with pollution and ugliness” (Ball-Rokeach et al., 1984, p. 76); (3) viewers were told that those concerned with the environment ranked *a*

*world of beauty* high and *a comfortable life* low, while those unconcerned with the environment ranked *a comfortable life* higher than *a world of beauty*; and, (4) a host then commented that “. . . people who prefer products that can be recycled place a higher value on *a world of beauty*. So do people who favor laws to ban throw-away containers” (Ball-Rokeach et al., 1984, p. 77).

In order to determine if the content of the broadcast had changed behaviors, the control and experimental subjects were solicited, at intervals of 8, 10, and 13 weeks, by three non-fictitious organizations: an organization that supported cultural programs for black children, an organization that advocated equal intervention of women athletes, and an organization involved in a political initiative regarding pollution. These solicitations, which were not overtly connected to the TV program, asked for various levels of commitment, including financial support (Ball-Rokeach et al., 1984).

The value ranking results indicated that “. . . the uninterrupted viewers uniformly increased their mean rankings of the three target values from pretest to posttest. . . . These pretest-posttest changes were significant for *freedom* and *equality* but not for *a world of beauty*” (Ball-Rokeach et al., 1984, p. 114). In addition, the results indicated that subjects who had viewed the entire program without interruption had significantly more positive attitudes towards blacks and environmental conservation, but not towards sexism (Ball-Rokeach et al., 1984).

Behavioral effects of the VSC intervention were assessed based on solicitation responses. The findings indicated that subjects in the Experimental City had a significantly higher response rate and significantly fewer unfavorable responses than subjects in the Control City. Also, compared to the Control City subjects, the Experimental City subjects who had uninterrupted viewing of the program exhibited significantly more positive responses to the pro-environment and anti-sexist solicitations, but not to the antiracist solicitation. Moreover, subjects from the Experimental City who had uninterrupted viewing, contributed significantly more money compared to subjects from the Control City, and also when compared to subjects from the Experimental City who had been interrupted in their viewing (Ball-Rokeach et al., 1984).

Schwartz and Inbar-Saban (1988) conducted a clinical VSC study with 84 overweight outpatients. Their study was primarily undertaken to determine if a value self-confrontation intervention could increase weight loss over that obtained through group discussions. In a preliminary study, the terminal RVS values that discriminated between successful and unsuccessful weight losers had been identified. The successful group had prioritized the values of *wisdom*, *a world of beauty*, *self-controlled*, and *ambitious*, and the unsuccessful group had prioritized the values of *happiness*, *pleasure*, and *a comfortable life*. The values of *wisdom* and *happiness*, which were ranked relatively high (*wisdom*) and low (*happiness*) by successful weight losers, were targeted in the subsequent VSC intervention (Schwartz & Inbar-Saban, 1988).

At the beginning of the study, subjects (who were randomly assigned to control, discussion, and VSC groups) completed the terminal portion of the RVS. The VSC intervention group received the first four parts of the standard VSC procedures. The discussion group completed the RVS but was not given the VSC intervention. They met periodically for group discussions about weight loss and personal values. The control group did not receive the VSC intervention and did not participate in group discussions. Subjects in all three groups were asked to follow a standard diet regimen. After two months, the discussion and control groups were also given the VSC intervention—a delayed intervention (Schwartz & Inbar-Saban, 1988).

The results provided support for the VSC being a robust technique for changing behavior. Compared to the subjects in the discussion and control groups, the subjects in the VSC group lost significantly more weight during the first two months—a weight loss that persisted for 14 months. The control group that received the VSC intervention at the end of two months (the delayed intervention) also lost a significant amount of weight over the following 12 months. An important finding was that of the mediating effect played by the relative importance given to the targeted values. Not only did those who had originally rated *happiness* higher than *wisdom* lose weight, weight loss was also obtained by those who had originally rated *wisdom* high in their hierarchy of values. This finding supports the idea that the VSC intervention caused change in behavior by both self-dissatisfaction and by self-satisfaction

(Schwartz & Inbar-Saban, 1988). In conclusion, Schwartz and Inbar-Saban (1988) suggested that VSC has practical applicability for weight loss programs:

VSC builds upon participants' motivation to lose weight. It anchors this motivation in a new set of value priorities that can guide specific behavioral decisions in the desired direction. Thus, VSC may strengthen the motivation base on which other aspects of a more comprehensive program can build. (Schwartz & Inbar-Saban, 1988, p. 404)

Sawa and Sawa (1988) tested the relationship between value confrontation, value stability, behavior inconsistency (actual versus ideal), and behavior satisfaction. Their subjects, 133 college students, were assigned to control ( $N = 71$ ) and experimental ( $N = 62$ ) groups. The value targeted was *health* (a non-standard addition to the 18 RVS terminal values) and the targeted behavior was number of exercise hours. The RVS was completed at pretest and at posttest 1. The two rankings of the 36 RVS values were used to determine the importance given to *health* (the salience of *health*) and the stability of *health* within the subjects' value systems. Both actual and ideal exercise hours were self-reported. The difference between actual and ideal exercise hours was used as a measure of behavioral consistency (Sawa & Sawa, 1988). Using a five-point Likert scale, "level of satisfaction was measured by asking, which value best reflects how satisfied you are with the actual number of hours you exercised last week" (Sawa & Sawa, 1988, p. 211)? Posttest 1 and posttest 2 occurred 10 and 20 days respectively after the intervention.

Five days after the pretest, subjects in the experimental group received a non-standard VSC intervention. The intervention was composed of a 15 minute classroom lecture, presented by a guest speaker, that was designed to make subjects aware of potential inconsistencies between their value priorities and their value related behaviors and the role that value/behavior consistency may play in happiness. "The message suggested that dissatisfaction results if a person values something yet engages in hypocritical activities and that happiness is a matter of choosing to behave consistently with one's values" (Sawa & Sawa, 1988, p. 212). The lecturer's examples included the relationship between valuing education and the time spent studying and the relationship between valuing health and the time spent exercising. This intervention was, therefore, non-standard (Rokeach, 1973) in that it did not involve self-confrontation with the values and behaviors of a referent group. The value of *health* was

indirectly targeted for change. The intervention was directed towards changing behaviors to be consistent with value priorities (Sawa & Sawa, 1988).

The results at posttest 1 indicated no significant change in the priority given to *health* and no significant change in exercise behavior. However, at posttest 2, intervention subjects, but not control subjects, who gave a high priority to *health* had a significant increase in the number of hours exercised.

In addition, Sawa and Sawa (1988) indicated the following:

[For] the subjects who valued their health highly and who had a large behavior-inconsistency, the mean increase in reported exercise hours was greater for those with a low level of satisfaction . . . , as compared to those with high satisfaction. . . . [Further,] the four way interaction between value-confrontation, value-salience, behavior-consistency, and satisfaction-level was highly significant. [Thus, Sawa and Sawa (1988) concluded that] . . . enduring behavior changes in the direction of underlying values were induced by confronting subjects with their hypocrisies to the extent that their current behavior was inconsistent with their underlying, salient values and to the extent that they were dissatisfied with this inconsistency. (Sawa & Sawa, 1988, pp. 213-214)

Waller (1994) conducted two experiments to test a hypothesized relation between “need for cognition” and the effectiveness of the standard VSC intervention. In the first experiment, 27 student subjects, randomly assigned to control and experimental groups, completed at pretest the terminal value portion of the RVS. Both groups also completed the Need for Cognition Scale, a scale that measures “. . . an individual’s tendency to enjoy effortful cognitive endeavors” (Petty, Cacioppo, & Kao, 1984, p. 306). The intervention group received a standard VSC intervention targeted at the values of *freedom* and *equality*. About four weeks after the intervention, the RVS was again administered to both groups (Waller, 1994).

In Waller’s (1994) second experiment, 59 student subjects, divided into control and experimental groups, were administered a replication of the procedures used in the first experiment with two modifications: (1) all subjects provided rated input about the relative importance of the adjacently ranked values; and (2) subjects in the experimental group provided rated input regarding the importance they gave at posttest to the feedback provided about the targeted values (Waller, 1994).

The results from both experiments indicated that the experimental groups, compared to the control groups, significantly increased the importance they placed on the targeted value of *equality* and

that the VSC intervention results were not impacted by levels of “need for cognition.” According to Waller (1994), “this main effect of condition . . . again establishes the potency of [the VSC] procedure in producing long-term change” (Waller, 1994, p. 185). Moreover, the results from the second study “. . . suggests the value changes observed in VSC are not solely dependent upon the conventional use of the rank order procedure in the RVS” (Waller, 1994, p. 186). That is, the results suggested that VSC induced changes do not depend on the ipsative (forced ranking) nature of the RVS.

Grube et al., (1994) reported the results of a VSC study conducted with 143 college student subjects who were about equally divided into control and experimental groups. At pretest, both groups completed the RVS and an attitudinal questionnaire regarding the environmental movement. The experimental group was then given a standard VSC intervention targeted at the terminal values of *a world of beauty* and *a comfortable life*. The intervention emphasized that those who support the environmental movement place a higher priority on *a world of beauty* and a lower priority on *a comfortable life*. The control group received a general presentation on values and attitudes. Both groups were asked to rate their level of satisfaction with the value rankings they had previously made. At posttest, which took place three to four weeks after the intervention, subjects again completed the RVS, the attitudinal questionnaire, and rated their satisfaction with their value rankings (Grube et al., 1994).

Grube et al.’s results found a significant increase in the importance given by the intervention group, but not by the control group, to *a world of beauty*. Neither the intervention group nor the control group significantly changed the importance given to *a comfortable life*. Against expectations, there was no significant change in levels of satisfaction associated with the VSC intervention. Therefore, the study did not support the belief system theory sequence where value self-confrontation leads to self-dissatisfaction, which leads to value change, which in turn leads to self-satisfaction (Grube et al., 1994).

Maio, Pakizeh, Cheung, and Rees (2009), in one of five related experiments, used a standard VSC intervention to test the motivational interconnections of 16 values from the SVS: four values from each of Schwartz’s four value dimensions: *self-enhancement*, *self-transcendence*, *conservation*, and *openness to change*. The subjects, 175 students attending Cardiff University in the UK, were randomly

assigned to four experimental groups and one control group. At pretest, the subjects rank ordered the 16 values. The subjects in the experimental groups were then each given standard VSC interventions that targeted the values in one of the four value dimensions (Maio et al., 2009). For example,

the self-transcendence values were *loyal, equality, helpful, and a world at peace*; the openness to change values were *an exciting life, a varied life, curious, and independent*; the self-enhancement values were *ambitious, social power, social recognition, and successful*; and [the] conservation values were *detachment, moderate, politeness, and respect for tradition*. (Maio et al., 2009, p. 703)

Maio et al.'s (2009) interventions consisted of the subjects reviewing fictitious prior rankings of the 16 values by a referent group of Cardiff University students in which the different targeted values were ranked as the four most important values. Next, the subjects compared their top four values to the top four values of the referent group. The subjects then read an explanation purporting to explain why the referent group had so highly ranked the four values. Finally, the subjects gave their individual interpretation of why the referent group might have prioritized the targeted values. At posttest, which occurred immediately after the VSC interventions, the subjects in each of the five groups rank ordered a different list of 16 SVS values: four different values drawn from each of the four SVS value dimensions (Maio et al., 2009). For example, at posttest, "the four values that served self-transcendence motives were [changed to] *forgiving, honest, social justice, and broad-minded. . .*" (Maio et al., 2009, p. 704).

The findings supported Schwartz's (1992) circular model theory. Increased importance given to values in one dimension resulted in decreased importance given to values in a competing value dimension: e.g., *self-enhancement* vs. *self-transcendence* and *conservation* vs. *openness to change* (Maio et al., 2009). Thus, "values serving similar motives changed in the same direction as the promoted value, whereas values serving opposing motives changed in the opposite direction. As expected, values serving unrelated motives did not change" (Maio et al., 2009, p. 705). In addition, each experimental group significantly increased the priority given to the targeted value dimension when compared to the three other experimental value dimensions.

McClure et al. (2012) conducted two modified VSC experiments in which the focus was the effect of value change on behavioral intentions towards the environment. Both experiments took place

in New Zealand. A convenience sample of adults drawn from the general public were the subjects in the first experiment, while a convenience sample of university students drawn from a single university were the subjects in the second experiment. The study design included a pretest, a VSC intervention, and a posttest. The two experiments differed in the way subjects were assigned to the two conditions and in the timing of the posttests. In the first experiment, the posttest was given immediately after the intervention, and in the second experiment there was a one-week lag between the intervention and the posttest. At pretest the subjects in both experiments completed an environmental behavior scale and rank ordered 16 values from the Schwartz Value Survey (four values from each of the four SVS dimensions). The values targeted for change in both experiments were from two competing value dimensions: four values from the *self-transcendence* dimension (e.g., *equality* and *a world at peace*) and four values from the *self-enhancement* dimension (e.g., *ambition* and *successfulness*). The author's indicated that prior research had found these two SVS value dimensions related to environmental intentions. The subjects in each experiment were divided into a control group and two experimental group conditions: *self-transcendence* and *self-enhancement*. In the second experiment, the subjects were randomly assigned to the two conditions based on the priority given at pretest to values in the two dimensions (McClure et al., 2012).

The VSC intervention included the following feedback: (1) subjects were shown fictitious rankings of a referent group that had prioritized the values in one of the two conditions; (2) subjects compared their value rankings to those of the referent group; and, (3) subjects were presented with a standard explanation of referent group characteristics. At posttest, subjects rank ordered a different list of 16 SVS values—different values from the same pretest value dimensions (e.g., *self-enhancement* or *self-transcendence*)—and completed another version of the environmental behavior scale (McClure et al., 2012).

A significant two-way interaction was found in both experiments. From pretest to posttest, the priority given to *self-transcendence* values increased while the priority given to *self-enhancement* values decreased (McClure et al., 2012). In the second experiment, value change “. . . predicted



environmental behavioral intentions” (McClure et al., 2012, para. 31). A significant three-way interaction was also found from pretest to posttest between intervention condition and value dimension. The VSC intervention was most effective in increasing the priority given to *self-transcendence* values (McClure et al., 2012).

In three non-standard VSC experiments, Arieli et al. (2014) investigated the part that persuasive knowledge, instead of self-confrontation, plays in value change. The values targeted for change were SVS benevolence type values, such as *helpful*, *loyal*, *true friendship*, and *mature love*, that Schwartz (2012) described as values used for “preserving and enhancing the welfare of those with whom one is in frequent personal contact (the ‘in-group’)” (Schwartz, 2012, p. 7). Instead of inducing change through value self-dissatisfaction, the intervention included four exercises related to self-persuasion, consistency maintenance, and priming: First, subjects gained knowledge about the societal benefits of benevolence by reading a summary of research literature on the subject; second, subjects were primed for benevolence by indicating which of a list of benevolent behaviors they had engaged in over the last month; third, consistency was triggered and *benevolence* was again primed by the subjects spending five minutes writing about how they had positively affected someone’s life; and, fourth, self-persuasion was activated by the subjects spending 10 minutes “. . . writing a persuasive essay attempting to convince a panel of reviewers that it is important to be *benevolent*, *generous*, *cooperative*, and *helpful*” (Arieli et al., 2014, p. 19).

The subjects in the three experiments were equally divided into control and experimental groups. In the first and third experiments, the subjects were college students in the U.S.: 36 and 58 subjects respectively. In the second experiment, the subjects were 48 college students in Israel. In the first and second experiments, subjects alternated at pretest and posttest between completing the Portrait Values Questionnaire (PVQ; Schwartz et al., 2001) and the SVS. These instruments similarly measured the importance of benevolence values. In the third experiment both the PVQ and SVS were completed at pretest and posttest. The interventions given to the experimental group were the same in all three experiments. The differences between the first and second experiments were twofold: first, the subjects

in each experiment differed by culture; and second, after the experimental intervention in the second experiment, the Israeli subjects were given the opportunity to volunteer for community service. The third experiment differed from the first experiment only in the four-week lapse between the intervention and the posttest (Arieli et al., 2014).

The results indicated that the non-self-confrontation techniques employed by Arieli et al. (2014) were effective in inducing both short-term and long-term value change: significant short-term value change in the first and second experiments and significant long-term value change in the third experiment. From pretest to posttest, subjects in the experimental groups, but not those in the control groups, significantly increased the priority given to benevolence values—an effect that lasted four weeks in the third experiment. In addition, the results of the third experiment found significant changes in the priority given to benevolence values as measured by both the PVQ and SVS. Also, in the second experiment, “. . . the indirect effect of the experimental manipulation on volunteering through the change in benevolence values was statistically different. . .” (Arieli et al., 2014, p. 20-21)—more subjects in the intervention group than in the control group volunteered for community service (Arieli et al., 2014).

### 2.2.2 Table of Selected Findings

Selected information from each of the above 34 studies is presented in Table 1, which is adapted from Ball-Rokeach et al. (1984). This table includes the following columns: (1) the study reference; (2) the subjects and focus of the study; (3) the targeted values or value types and whether or not the value or values were successfully changed; (4) the number of weeks from intervention to value change; (5) attitudes targeted for change and whether or not the attitude was successfully changed; (6) behaviors targeted for change and whether or not the behavior was successfully changed; and (7) the number of weeks from intervention to attitude or behavior change.

Table 1  
Value Self-Confrontation Studies  
Selected Findings

Study Reference	Subjects/ Focus	Value Changes		Other Changes		
		Values	No. Wks.	Attitudes	Behaviors	No. Wks.
Rokeach (1968a)	College students/ Seminal VSC study	Equality (yes); freedom (yes)	3-20	Civil rights (yes); American presence in Vietnam (yes)		12-20
Rokeach (1971a)	College students/ Satisfaction with value rankings	Equality (yes); freedom (yes)	3-68	Civil rights (yes)	Joined the NAACP (yes)	12-68
Penner (1971)	White college students/ Interpersonal delivery	Equality (yes); freedom (NT)	8		Eye contact with blacks (yes)	12-13
Rokeach & Cochrane (1972)	College students/ Individual vs. group interventions (anonymity)	Equality (yes); freedom (yes)	8-9			
Rokeach & McLellan (1972)	College students/ With & without own values feedback	Equality (yes); freedom (yes)	4		Responded to committee on racism solicitation (yes)	16
Hollen (1972)	College students/ Persuasion	A world of beauty (yes)	0-4	Environment (yes); prohibit nonreturnable bottles (yes)		0-4
Conroy, Katkin, & Barnette (as cited in Rokeach, 1973)	Smokers/ Smoking cessation	Self-disciplined (NS; yes)	2+		Reduction in number of cigarettes smoked (yes)	2+
Hopkins (1973)	USAF airmen attending basic training/ Persuasion	Equality (yes); freedom (yes)	2-5	Minorities (yes)	Attend antiracism movie (yes); join pro-race relations organization (no)	5
Hamid & Flay (1974)	College students/ Locus of control	Equality (yes); freedom (no)	2			
McLellan (1974)	College students/ VSC feedback variations, MD, dissatisfaction with value rankings	Equality (yes); freedom (yes)	4	Racial (yes—but anomalous)		4

(Continued)

Table 1 (Continued)  
Value Self-Confrontation Studies  
Selected Findings

Study Reference	Subjects/ Focus	Value Changes		Other Changes		
		Values	No. Wks.	Attitudes	Behaviors	No. Wks.
Rokeach (1975)	College students/ Computer feedback	Equality (yes); a world at peace (yes); a sense of accomplishment (yes)	8			
Gray & Ashmore (1975)	College students/ Persuasion	Equality (NT); freedom (NT)		Racial (yes)		8
DeSeve (1975)	Smokers/ Clinical vs. VSC interventions	Self-controlled (yes); broadminded (NR)	0-5		Cigarette smoking (no)	5
Greenstein (1976)	Student teachers/ Teacher performance	Mature love (yes); a sense of accomplishment (no)	13		Improved teacher performance (yes)	12-13
Sherrid & Beech (1976)	Police officers/ Tolerance; value-dissatisfaction	Equality (yes); freedom (NR)	4		Attend human relations seminar on day off (ND)	6
Campbell & Hannah (1976)	College students/ Evaluation apprehension feedback	A world of beauty (yes)	0			
Grube, Greenstein, Rankin, & Kearney (1977)	College students/ Non-value mediation— information content (reanalysis)					
Sanders & Atwood (1979)	College students/ Modes delivery	Equality (yes); freedom (yes)	2-6		NAACP solicitation (ND)	7
Grube (1979)	College students/ VSC feedback variations— value-dissatisfaction	A comfortable life (no); a world of beauty (yes)	3-4	Pro-environment (yes)	Pro-environment (no)	1-2
Young (1979)	Junior level high school students/ Locus of control; persuasion	Logical (NT); responsible (NT)		Career planning (no)	Information-seeking (yes)	7
Conroy (1979)	Smokers/ Smoking cessation	Self-discipline (NS, yes); broadminded (no)	2		Decreased smoking (yes)	8

(Continued)

Table 1 (Continued)  
Value Self-Confrontation Studies  
Selected Findings

Study Reference	Subjects/ Focus	Value Changes		Other Changes		
		Values	No. Wks.	Attitudes	Behaviors	No. Wks.
Spillman (1979)	College students/ Self-esteem	Equality (yes); freedom (no)	1-6		Join organization promoting improved race relations (ND)	6-7
Rokeach & Grube (1979)	College students/ Arbitrary manipulation of values	Equality (yes); freedom (NR)	5			
Grube (1982)	College students/ Arbitrary manipulation	Equality (yes); freedom (NR)	3-5			
Greenstein (1982)	College students/ Non-value mediation (reanalysis)					
Pleban, Dyer, Fenigstein, & Hillgross (1983)	Jr. level U.S. Army officers/ Improved performance	Physical fitness (NS, no); national security (no); a sense of accomp. (no)	12-13		Performance measures (yes)	12-13
Ball-Rokeach, Rokeach, & Grube (1984)	Adults in state of Washington/ Mass television delivery	Equality (yes); freedom (yes); a world of beauty (no)	4-6	Racial (yes); environmental (yes); sexism (no)	Environment (yes); sexism (yes); racial (no); monetary contributions (yes)	8-13
Schwartz & Inbar-Saban (1988)	Overweight Patients/ Relative importance of targeted values	Wisdom (NT); happiness (NT)			Weight loss (yes)	48-56
Sawa & Sawa (1988)	College students/ Persuasion; changing behaviors to be consistent with value priorities	Health (NS, no)	1-2		Exercise hours (yes)	2-3
Waller (1994)	College students/ Need for cognition	Equality (yes); freedom (NR)	4			
Grube, Mayton, & Ball-Rokeach (1994)	College students/ Self-dissatisfaction	A world of beauty (yes); a comfortable life (no)	3-4			

(Continued)

Table 1 (Continued)  
Value Self-Confrontation Studies  
Selected Findings

Study Reference	Subjects/ Focus	Value Changes		Other Changes		
		Values	No. Wks.	Attitudes	Behaviors	No. Wks.
Maio, Pakizeh, Cheung, & Rees (2009)	College students/ SVS Circular Model	SVS: Competing value dimensions (yes)	0			
McClure, Diniz, Milfont, & Fisher (2012)	General public & college students/ SVS Circular Model	SVS: self-transcendence values (yes); self-enhancement values (yes)	0-1	Environmental intensions (yes)		0-1
Arieli, Grant, & Sagiv (2014)	College students in the U.S. and Israel/ Non-value self-confrontation —persuasion	SVS: benevolence values (yes)	4		Volunteered for community service (yes)	1

NT = not tested; ND = not determined; NR = not reported; NS = non-standard  
(Table adapted from Ball-Rokeach et al., 1984)

### 2.2.3 Topical Syntheses and Related Hypotheses

Each of the following three topical syntheses of the VSC literature are related to prior study themes that are pertinent to the present study: persuasion as a driver of value change, and the short-term and long-term effectiveness of VSC methodologies. Each synthesis is followed by one or more related hypotheses. A synthesis of VSC literature related to persuasion based interventions (2.2.3.1) is followed by Hypothesis 2 (2.2.3.2); a synthesis of literature related to VSC based interventions (2.2.3.3) is followed by Hypothesis 3 (2.2.3.4); and a synthesis of the VSC literature related to VSC based long-term value change (2.2.3.5) is followed by Hypothesis 4 (2.2.3.6).

### 2.2.3.1 Synthesis of Persuasion Based Interventions

Grube et al.'s (1979) reanalysis of Rokeach's (1968a, 1971a) data found the informational content of the standard VSC intervention to be stronger than value dissonance in causing behavioral change.

Value change following content and activity related persuasive interventions were found in the studies by Hollen (1972), Hopkins (1973), and Arieli et al. (2014): Hollen's intervention resulted in *a world of beauty* being given a higher priority; Hopkins' (1973) intervention was effective in increasing the priority given by white subjects to the value of *equality*; and Arieli et al.'s (2014) intervention resulted in long-term change in the priority given to values in the SVS domain of benevolence.

Persuasive VSC interventions resulted in changed attitudes in the studies by Hollen (1972) and Gray and Ashmore (1975): Hollen (1972) found more positive attitudes towards the environment; and Gray and Ashmore (1975) found increases in egalitarian attitudes. Two studies with persuasive interventions tested for behavioral changes: Young (1979) found persuasion in the form of verbal reinforcement and encouragement less effective than the standard value dissonance intervention at changing career planning behaviors. Sawa and Sawa's (1988) intervention, which was not effective in changing the priority given to the value of *health*, resulted in changed behavior in the form of increased exercise hours.

The persuasive interventions utilized in these studies included the following: subjects read a 225 word persuasive message about protecting the environment (Hollen, 1972); subjects received an oral and written presentation about the relation between value priorities and sympathies towards civil rights demonstrations (Hopkins, 1973); subjects read summarizations of newspaper articles about black suffering, read an argument that related black poverty to job discrimination, wrote an essay supporting equal job opportunities for blacks, and were presented with factual evidence that related black poverty to job discrimination (Gray & Ashmore, 1975); subjects received counseling that encouraged career planning (Young, 1979); and subjects received a 15 minute classroom lecture aimed at pointing out inconsistencies between the importance given to values such as *health* and related behaviors like time

spent exercising (Sawa & Sawa, 1988). Arieli et al.'s (2014) persuasive interventions included subjects reading summaries of research literature regarding the benefits of being benevolent, listing benevolent behaviors in which they had participated, writing about how they had positively affected someone's life, and writing a persuasive essay about altruistic values.

#### 2.2.3.2 Hypothesis 2

As indicated in the above VSC studies, traditional persuasion has been effectively used to change the priority given to targeted values (Hollen, 1972; Hopkins, 1973; Arieli et al., 2014), attitudes (Hollen, 1972; Gray & Ashmore, 1975), and behaviors (Young, 1979; Sawa & Sawa, 1988). Of particular importance to the present study are the results found by Arieli et al. (2014). Instead of focusing on creating value dissonance, these researchers used a four-part persuasive intervention which included knowledge acquisition along with written activities. This persuasive intervention was effective in inducing both short-term and long-term value change and in causing changed behavior.

The three studies that looked at the P-O fit of accounting students with accounting practitioners found significant differences between the two groups in the priorities given to work values and work-family values (See & Kummerow, 2008), values included in the Schwartz Value Questionnaire (Lan et al., 2009), and head and heart type values (Krambia-Kapardis & Zopiatis, 2011). Both Lan et al. (2009) and Krambia-Kapardis & Zopiatis, (2011) indicated that their findings had implications for accounting pedagogy: Lan et al. (2009) stated the following: "Educators, business schools, and organizations in China could also include in their curricula, activities or courses that will evoke in accounting students and employees, values that are conducive to a wider social awareness and concern for ethical behavior" (Lan et al., 2009, p. 73); and Krambia-Kapardis & Zopiatis (2011) indicated that their findings had implications for both accounting pedagogy and for continuing professional education for CPAs.

Akers et al. (2011) also proposed modifying accounting curricula in order to promote ethical values with the intention of reducing the incidence of unethical behavior by accountants. They



suggested that the RVS values and value types (Rokeach, 1973; Musser & Orke, 1992) of accounting students should be assessed. Once assessed, the curricula should be changed to target desirable values, such as those consistent with the values of professional accounting organizations. The methodology suggested by Akers et al. (2011) for inducing desirable value change included programmatic activities (e.g., participation in civic activities), curriculum activities including the inclusion in the curricula of an accounting specific ethics course, and classroom activities that “show [the] relevance of personal values to ethical standards” (Akers et al., 2011, p. 69). One of their illustrations of a suggested classroom activity is the inclusion in an auditing course of a “. . . discussion of the values embodied in the AICPA [(American Institute of Certified Public Accountants)] ethical standards . . .” (Akers et al., 2011, p. 69).

The curriculum modification utilized in the present study (3.7.5) implements the recommendations by Lan et al. (2009) and Krambia-Kapardis and Zopiatis (2011) and utilizes some of the methods suggested by Akers et al. (2011). The tasks added to the curriculum of both professional judgment (accounting ethics) classes (designated Group 1 and Group 2) in the present study were aimed at changing the priority given to the accounting ethics related value of *courageous*—defined in the RVS as “standing up for your beliefs” (Rokeach, 1968a, 1973). The persuasive intervention includes students gaining knowledge about the importance of being *courageous* in an accounting context, the relationship of the value of *courageous* to the Code of Professional Conduct and Bylaws (2012) of the AICPA, online discussions, and various online activities including the viewing and discussion of videos and quotations regarding this targeted value.

As indicated, prior research has found persuasive interventions effective in causing enduring value change. The intervention in the current study is of longer duration and more extensive than those described in the prior VSC studies that included an element of persuasion. Therefore, it is expected that the persuasive intervention employed in the present study will result in short-term value change, in the desired direction of greater importance, for subjects in Group 1—the group that only received the Curriculum Modification Intervention. Thus Hypothesis 2, stated in the null, is as follows:

**Hypothesis 2:** The Curriculum Modification Intervention will have no effect on value change amongst accounting students. (Operationalized Hypothesis: For Group 1, there will be no difference in the priority given to the value of *courageous* from to Pretest to Posttest 1).

### 2.2.3.3 Synthesis of VSC Based Interventions

Ball-Rokeach et al. (1984) listed 24 VSC studies that had been completed through 1979. Of these studies, two (Gray & Ashmore, 1975; Young, 1979) did not test value change. All of the remaining 22 studies reported VSC induced changes in the priority given to at least one targeted value.

The 34 studies that comprise Table 1 include 20 extant studies listed by Ball-Rokeach et al. (1984)—four of the studies included in Ball-Rokeach et al.’s (1984) list were not published. Table 1 also includes three pre-1980 VSC studies (Campbell & Hannah, 1976; Conroy, 1979; Spillman, 1979) that were not included in Ball-Rokeach et al.’s (1984) list, and 11 VSC studies published subsequent to 1979.

The reviewed studies include two studies (Grube et al., 1977; Greenstein, 1982) that were re-analyses of the data generated in the studies by Rokeach (1968a; 1971a) and by Greenstein (1976). The new findings did not impact the value change results previously reported. Three of the studies, that focused only on changes in attitudes (Gray & Ashmore, 1975), behaviors (Schwartz & Inbar-Saban, 1988), or attitudes and behaviors (Young, 1979), did not test for value change. Of the remaining 29 studies, 27 reported significant changes in at least one of the targeted values or value dimensions—an extant study success rate of 93.1%. Of note, non-standard VSC interventions were used in both of the unsuccessful studies (Pleban et al., 1983; Sawa & Sawa, 1988).

The number of weeks from the VSC intervention to each posttest has previously been used to determine the short- or long-term nature of value change. For example, prior research (e.g., Rokeach & McLellan, 1972; Rokeach, 1973; Waller, 1994; Arieli et al., 2014) deemed value change that persisted at a posttest that was given four weeks after the VSC intervention as indicative of long-term value change. Therefore, for the purposes of the present study, successful or unsuccessful value change reported in prior studies for posttests that took place from zero weeks (where the first posttest was

administered immediately after the intervention) to three weeks after the VSC intervention are considered to represent short-term value change.

A total of 14 studies reported value change results for a posttest that took place from zero weeks to three weeks after the VSC intervention: six studies with posttests at zero weeks to one week (Hollen, 1972; DeSeve, 1975; Campbell & Hannah, 1976; Spillman, 1979; Maio et al., 2009; McClure et al., 2012); and eight studies with posttests at two to three weeks (Rokeach, 1968a; Rokeach, 1971a; Conroy et al., as cited in Rokeach, 1973; Hopkins, 1973; Hamid & Flay, 1974; Conroy, 1979; Sanders & Atwood, 1979; Sawa & Sawa, 1988). Of these 14 studies, 13 (92.9%) reported significant short-term changes in the expected direction for at least one of the targeted values or value dimensions. The lone exception was the study by Sawa & Sawa (1988). Using a non-standard VSC intervention, these researchers did not find a significant change in the terminal value of *health* at their single posttest which took place one to two weeks after the intervention.

In addition, six prior studies reported significant short-term value change for more than one value or value domain: Rokeach (1968; 1971a), Hopkins (1973), and Sanders and Atwood (1979) found increases in the priority given to both *freedom* and *equality*; Maio et al. (2009) reported changes in the priority given to values in the SVS dimensions of *self-enhancement*, *self-transcendence*, *conservation*, and *openness to change*; and McClure et al. (2012) reported changes in the priority given to values in the SVS value dimensions of *self-transcendence* and *self-enhancement*.

#### 2.2.3.4 Hypothesis 3

In the present study, Posttest 1 takes place immediately after the VSC intervention. It follows that the analysis of change in value priorities at Posttest 1 is a test of short-term value change. Based on the evidence from prior research, it is expected that the VSC Intervention employed in the present study, which was only given to Group 2, will result in short-term change in the priorities given to the targeted values. Thus, Hypothesis 3, stated in the null, is as follows:

**Hypothesis 3:** The VSC Intervention will have no effect on value change amongst accounting students. (Operationalized Hypothesis: For Group 2, there will be no difference in the priorities given to the values of *capable*, *courageous*, *honest*, and *responsible* from Pretest to Posttest 1.

#### 2.2.3.5 Synthesis of VSC Intervention Based Studies Regarding Long-Term Value Change

A number of studies have tested the long-term effectiveness of VSC interventions. As indicated in Table 1, 22 of the reviewed studies included RVS or SVS posttests that followed the intervention by four to nine weeks: four week posttests in the studies by Rokeach and McLellan (1972), Hollen (1972), McLellan (1974), Sherrid and Beech (1976), Grube (1979), Waller (1994), Grube et al. (1994), and Arieli et al. (2014); five week posttests in the studies by Hopkins (1973), DeSeve (1975), Rokeach and Grube (1979), and Grube (1982); six week posttests in the studies by Sanders and Atwood (1979), Spillman (1979), and Ball-Rokeach et al. (1984); and eight to nine week posttests in the studies by Penner (1971), Rokeach and Cochrane (1972), and Rokeach (1975). Posttests that followed the intervention by more than nine weeks were used in four studies: posttests at 13 weeks in the studies by Greenstein (1976) and Pleban et al. (1983); a posttest at 20 weeks in the study by Rokeach (1968a); and a posttest at 68 weeks in the study by Rokeach (1971a).

Of these 22 long-term value change studies, 21 reported change in at least one targeted RVS value or one SVS value dimension—a success rate of 95.5%. Only the study by Pleban et al. (1983), which used a non-standard VSC intervention to target three RVS values, did not find a change in the priority given to a targeted value. The successful studies found changes in the priority given to one to three RVS values (one value in 11 studies; two values in eight studies; three values in the study by Rokeach, 1975); and values in one SVS value dimension in the study by Arieli et al. (2014)

#### 2.2.3.6 Hypothesis 4

In the present study, two posttests are used to test the long-term effectiveness of the employed VSC Intervention: at 5-6 weeks (Posttest 2) and at 15-16 weeks (Posttest 3) after the intervention. Since the

literature indicates that VSC methodologies have been effective in inducing long-term value change (changes that persisted for up to 68 weeks), it is expected that the VSC Intervention employed with Group 2 in the present study will also produce long-term change in the priorities given to the targeted values. Therefore, Hypotheses 4, stated in the null, is as follows:

**Hypothesis 4:** The VSC Intervention will have no long-term effect on value change amongst accounting students. (Operationalized Hypothesis: For Group 2, there will be no difference in the priorities given to the values of *capable*, *courageous*, *honest*, and *responsible* from Pretest to Posttest 2 or from Pretest to Posttest 3).

#### 2.2.4 Topical Syntheses Related to Methodology and Discussion

The following syntheses of VSC studies includes six topical areas that relate to key themes found in prior research, four of which are included the selected findings presented in Table 1. Each of these syntheses (research subjects, 2.2.4.1; targeted values, 2.2.4.2; modes of delivery, 2.2.4.3; intervention variations, 2.2.4.4; attitude change, 2.2.4.5; and behavior change, 2.2.4.6) informs the methodology employed in the present study and/or the discussion in Chapter 5:

##### 2.2.4.1 Research Subjects

Excluding two studies (Grube et al., 1977; Greenstein, 1982) that were reanalysis of data used in prior VSC studies, Table 1 includes 22 VSC studies that utilized U.S. college students as subjects. Most experimental subjects have been a convenience sample taken from one or more college classes (usually psychology classes). The subjects in Arieli et al.'s (2014) study were cross-cultural—from the U.S. in two experiments and from Israel in the third; and the subjects in Penner's (1971) study were specified as white college students. Ten VSC studies (31.2%) employed experimental subjects that were variously identified as smokers (Conroy et al., 1973; DeSeve, 1975; Conroy, 1979), U.S. Air Force airmen (Hopkins, 1973), police officers (Sherrid & Beech, 1976), high school juniors (Young, 1979), junior level U.S. Army Officers (Pleban et al., 1983), adults in the Tri-Cities area of the state of Washington,

U.S. (Ball-Rokeach et al., 1984), overweight patients (Schwartz & Inbar-Saban, 1988), and the general public (McClure et al., 2012).

#### 2.2.4.2 Targeted Values

In the VSC studies that have targeted specific RVS values, terminal values have been used more frequently than instrumental values: 12 different terminal values and five different instrumental values. The terminal values of *freedom* and *equality* were targeted in 17 studies (e.g., Rokeach, 1968a; Hopkins, 1973; Grube, 1982; Waller, 1994). Other targeted terminal values included *a world of beauty* (Hollen, 1972; Campbell & Hannah, 1976; Grube, 1985; Ball-Rokeach et al., 1984; Grube et al., 1994), *national security* (Pleban et al., 1983), *mature love* (Greenstein, 1976), *a comfortable life* (Grube, 1979; Grube et al., 1994), *responsible* (Young, 1979), *wisdom, happiness* (Schwartz & Inbar-Saban, 1988), *a world at peace* (Rokeach, 1975), *a sense of accomplishment* (Rokeach, 1975; Greenstein, 1976; Pleban et al., 1983), and the non-standard RVS values of *self-disciplined* (Conroy et al., as cited in Rokeach, 1973; Conroy, 1979) and *health* (Sawa & Sawa, 1988). The instrumental values targeted were *self-controlled* (DeSeve, 1975), *broadminded* (DeSeve, 1975; Conroy, 1979), *logical* (Young, 1979), and the non-standard RVS value of *physical fitness* (Pleban et al., 1983).

The number of RVS values utilized in VSC interventions have varied from a single value to three values. A single RVS value was used in four studies: *a world of beauty* (Hollen, 1972; Campbell & Hannah, 1976), *self-disciplined* (Conroy et al., as cited in Rokeach, 1973), and *health* (Sawa & Sawa, 1988). In the majority of studies (22 of 29; 75.9%), two values were used together: *freedom* and *equality* (e.g., Hopkins, 1973; McLellan, 1974; Spillman, 1979); *self-controlled* and *broadminded* (DeSeve, 1975); *self-disciplined* and *broadminded* (Conroy, 1979); *a comfortable life* and *a world of beauty* (Grube, 1979; Grube et al., 1994); *logical* and *responsible* (Young, 1979); *wisdom* and *happiness* (Schwartz & Inbar-Saban, 1988). Three values were used together in three studies: *equality, a world at peace, and a sense of accomplishment* (Rokeach, 1975); *physical fitness, national security, and*

*a sense of accomplishment* (Pleban et al., 1983); and, *equality, freedom, and a world of beauty* (Ball-Rokeach et al., 1984).

Using the SVS, more recent studies have targeted value dimensions rather than individual values. Maio et al. (2009) tested the SVS Circular Model by targeting values in two sets of opposing value dimensions: *self-enhancement* versus *self-transcendence*, and *conservation* versus *openness to change*. McClure et al. (2012) targeted values in the two opposing dimensions of *self-transcendence* and *self-enhancement*. And Arieli et al. (2014) targeted values in the *benevolence* dimension.

#### 2.2.4.3 Modes of Delivery

Most VSC experiments (e.g., Rokeach, 1968a; Rokeach, 1971a; Campbell & Hannah, 1976; Maio et al., 2009; Arieli et al., 2014) have taken place in classroom settings where VSC interventions were delivered by a researcher to a group of subjects taking a college course. However, other experimenters have tested the effectiveness of VSC interventions when various modes of delivery were employed. Rokeach and Cochrane (1972) found face-to-face deliveries by “a significant other” and group delivery both effective at changing value priorities. Rokeach (1975) provided subjects with VSC feedback by computer rather than by an investigator. Even though target values were not specified, the results of the computer mode of delivery were found effective in changing the priorities given to three RVS values. The effectiveness of three modes of delivery were compared by Sanders and Atwood (1979): print only, face-to-face, and video tape. The findings indicated that all three modes of delivery were equally effective in inducing value change. Ball-Rokeach et al. (1984) delivered two VSC interventions in a 30 minute television program broadcast. For subjects who were uninterrupted in their broadcast viewing, this mode of delivery was found effective in changing the priorities given to two of the three targeted values.

Clinical deliveries of VSC interventions were used in experiments by Conroy et al. (as cited in Rokeach, 1973), DeSeve (1975), Conroy (1979), and Schwartz and Inbar-Saban (1988). While the

clinical intervention given by Schwartz and Inbar-Saban (1988) was effective in changing the targeted behavior, value change was not tested. The other three clinical deliveries of VSC interventions were effective at inducing value change.

Two additional delivery modes were unsuccessfully employed. Pleban et al.'s (1983) feedback, which was delivered by postal letter, and Sawa and Sawa's (1988) feedback, which was delivered by a guest speaker in the form of a classroom lecture, did not produce the expected value changes. Nevertheless, the interventions delivered by both Pleban et al. (1983) and Sawa and Sawa (1988) were effective at changing targeted behaviors.

The literature, therefore, indicates that the effectiveness of VSC interventions is not dependent on its mode of delivery. Significant changes in value priorities have been found when interventions were delivered by a researcher to single individuals (one-on-one), by a researcher to a group of subjects, by computer, by print media, by video tape, by a mass television broadcast, and by researchers in clinical settings.

#### 2.2.4.4 Intervention Variations

The standard VSC intervention endeavors to change values by inducing value dissonance. Rokeach (1973) posits that value dissonance occurs when a person becomes aware that their self-conceptions of being competent and moral are not in accord with their value priorities. The standard VSC intervention includes a procedure that seeks to make subjects aware of potential value dissonance by having them compare their personal value rankings to those of a referent group—a group of individuals to whom they relate or aspire to be like. Thus, value dissonance is driven by the informational content of the intervention.

Most of the prior VSC studies have utilized Rokeach's (1973) standard intervention (e.g., Penner, 1971; Conroy et al., as cited in Rokeach, 1973; DeSeve, 1975; Sherrid & Beech, 1976; Schwartz & Inbar-Saban, 1988; Maio et al., 2009; McClure et al., 2012). Interventions provided in non-



standard VSC studies have included feedback that did not allow subjects to compare their personal values to those of the referent group, feedback that did not include the referent group's value priorities, feedback composed of fictitious referent group data, feedback that aroused apprehension and threats to self-esteem, and feedback that used a form of persuasion.

Rokeach and McLellan (1972) found as unnecessary the standard VSC procedure of having subjects compare their own values to the values of the referent group. McLellan's (1974) findings also found this procedure not critical to the value change intervention. On the other hand, the importance of subjects receiving feedback about the values of the referent group was suggested by the findings of Pleban et al. (1983). Their intervention, which did not include feedback regarding the values of the referent group, was not effective in changing the targeted values.

Rokeach and Grube (1979) and Grube (1982) indicated that values cannot be arbitrarily manipulated. Their findings were based on studies that used factual data in their interventions: that is, the actual value rankings of a referent group or factual information about the relationship between values, attitudes, and behaviors. However, value manipulation was used in several studies. Fictitious referent group value rankings were successfully employed in the studies by Spillman (1979), Maio et al. (2009), and McClure et al. (2012). These interventions were effective in changing the priorities given to a targeted value or targeted SVS value dimensions: the value of *equality* (Spillman, 1979), values in competing dimensions (Maio et al., 2009), and values in the value dimensions of *self-transcendence* and *self-enhancement* (McClure et al., 2012).

Instead of value change being driven by value dissonance, Campbell and Hannah (1976) and Spillman (1979) found support for value change following VSC interventions being caused by a demand effect. Value change was found related to a state of high apprehension and moral maturity cueing in the study by Campbell and Hannah (1976) and was found related to threatened self-esteem in the study by Spillman (1979).

#### 2.2.4.5 Attitude Change

Rokeach posited that value change resulting from value dissonance would cause changes in related attitudes and behaviors (Rokeach, 1973). In the 1960s and 1970s, Rokeach (1968a) referred to attitudes towards race relations and America's involvement in Vietnam as the “. . . two most salient issues in contemporary American life. . .” (Rokeach, 1968a, p. 29). Other salient attitudes of the time were those towards sexism (gender bias) and the environment. Today, attitudes towards race relations, war, gender bias, and the environment continue to be salient issues. The effect of value change on all four of these attitudes, and additionally on attitudes towards career planning, have been investigated with various VSC interventions.

Attitudes towards racial issues (e.g., civil rights, race relations, and minorities) were investigated in the studies by Rokeach (1968a), Rokeach (1971), McLellan (1974), Gray and Ashmore (1975), and Ball-Rokeach et al. (1984). The results of all five studies indicated significant changes in racial attitudes following a VSC intervention. All of the studies, except for the one by McLellan (1974), found the expected relationship between value change and attitude change: increases in the priority given to the targeted values of *freedom* and *equality* were associated with more positive racial attitudes. In these studies, attitude changes were found at 3 (Rokeach, 1968a) to 68 weeks (Rokeach, 1971a) following the VSC intervention.

The VSC interventions utilized in four studies focused on changing attitudes towards the environment. Hollen's (1972) intervention, which targeted *a world of beauty*, was aimed at changing attitudes towards various environment-related social actions. The results indicated significant changes in both values and attitudes. Subjects in the experimental group gave a higher priority to *a world of beauty* and had more favorable attitudes towards pro-environmental actions. Grube's (1979) VSC interventions also targeted *a world of beauty*. The study's standard VSC intervention resulted in *a world of beauty* being given a higher priority and in “. . . more positive attitudes towards the environment . . .” (Grube, 1979, p. 52). Ball-Rokeach et al.'s (1984) television broadcast used an intervention that focused

on *a world of beauty* without the value being specified. The results indicated that subjects who had viewed the television broadcast without interruption had more positive attitudes towards conservation of the environment. This attitude change took place without a corresponding change in the priority given to *a world of beauty*. Lastly, McClure et al.'s (2012) VSC intervention was effective at changing the importance given to two opposing SVS value dimensions (increased importance given to *self-transcendence* values and decreased importance given to *self-enhancement* values). Based on the pre- and post-intervention ratings of an environmental behavior scale, McClure et al. (2012) found changes in the priority given to values in these two dimensions predicative of environmental intentions.

Rokeach's (1968a) study, which targeted the values of *freedom* and *equality*, also tested the result of value change on attitudes towards America's involvement in the Vietnam War. Three weeks after the VSC intervention, both values were ranked significantly higher than at pretest. At 12 to 20 weeks after the intervention, the value of *equality* was still ranked significantly higher than at pretest and subjects had experienced a delayed (a "sleeper" effect) change in their attitudes. Subjects who had initially ranked *equality* low, but at three weeks had not changed their attitudes towards America's involvement in the war, had become more "doveline" in their attitudes.

Ball-Rokeach et al.'s (1984) television broadcast delivered VSC intervention included a test of the effect of value change on attitudes towards sexism. While the results indicated a significant increase in the priority given to *equality*, attitudes towards sexism were not changed.

Young's (1979) study focused on changing the career planning attitudes of high school students who had scored low in their career planning orientation. The standard VSC intervention utilized, which targeted the values of *logical* and *responsible*, was unsuccessful at changing student attitudes towards career planning.

Of the above ten studies, only the ones by Young (1979) and McLellan (1974) were not successful at changing at least one value related attitude—a success rate of 80%. In addition, while Ball-Rokeach et al.'s (1984) television broadcast delivered VSC intervention resulted in changes in attitudes towards race relations and the environment, attitudes toward sexism were not changed.

#### 2.2.4.6 Behavior Change

Behavior change following VSC interventions were reported in eighteen studies. The behaviors targeted were race relations, conservation of the environment, smoking, weight loss, job performance, career planning, and volunteering for community service.

Behaviors related to race relations were investigated in eight studies (Rokeach, 1971a; Penner, 1971; Rokeach & McLellan, 1972; Hopkins, 1973; Sherrid & Beech, 1976; Sanders & Atwood, 1979; Spillman, 1979; Ball-Rokeach et al., 1984). The low response rates in three of these studies (Sherrid & Beech, 1976; Spillman, 1979; Sanders & Atwood, 1979) prevented statistical analysis. The results from four of the five remaining studies indicated the following race related behavioral changes: higher response rates to a solicitation to join the NAACP (Rokeach, 1971a); increased eye contact between white subjects and a black interviewer (Penner, 1971); increased responses to a solicitation by a committee on racism (Rokeach & McLellan, 1972); and higher attendance at a pro-race relations film (Hopkins, 1973). Only Ball-Rokeach et al.'s (1984) VSC intervention, which was delivered by television broadcast, was not successful at inducing a race related change in behavior—following the intervention, subjects in the control and experimental groups did not respond differently to a solicitation to support cultural programs for black children.

Behavioral changes related to environmental issues were investigated by Grube (1979) and Ball-Rokeach et al. (1984). The VSC interventions used in both of these studies were successful at positively impacting attitudes towards the environment. Nevertheless, behavior change in conjunction with attitude change was found in the study by Ball-Rokeach et al. (1984), but was not found in the study by Grube (1979). Experimental subjects in the Ball-Rokeach et al. (1984) study, compared to the control group, had more positive responses to a solicitation by an organization supporting an anti-pollution initiative; while in Grube's (1979) study, subjects in the experimental and control groups did not differ in their responses to two separate opportunities to participate in the banning of non-refundable bottles.

Four studies reported the results of clinical applications of VSC interventions: smoking reduction in three studies (Conroy et al., as cited in Rokeach, 1973; DeSeve, 1975; Conroy, 1979) and weight loss in one study (Schwartz & Inbar-Saban, 1988). The smoking reduction studies targeted the values of *self-disciplined* or *self-controlled*. The VSC interventions employed by Conroy et al. (as cited in Rokeach, 1973) and Conroy (1979) were successful (reduction in smoking rates that persisted for two and eight weeks respectively), while the clinical VSC intervention employed by DeSeve (1975) was not successful. Schwartz and Inbar-Saban's (1988) VSC intervention, which targeted the values of *wisdom* and *happiness*, was successful at inducing weight loss that persisted for 48 to 56 weeks.

Following VSC interventions, Greenstein (1976) and Pleban et al. (1983) reported behavioral changes related to job performance. In Greenstein's (1976) study, student teachers in the VSC intervention group, compared to those in the control group, scored higher on their performance evaluations; and Pleban et al.'s (1983) VSC intervention positively impacted two of the five measures used to evaluate the end-of-training performance of junior level U.S. Army officers: two-mile run times and evaluation of tactical leadership.

Additional behavioral changes following VSC interventions were found by Young (1979) and Arieli et al. (2014). Seven weeks following the VSC intervention administered by Young (1979) junior high school students, who at pretest had shown low career planning orientations, had increased the career planning behavior of information seeking; and a week following the VSC intervention administered by Arieli et al. (2014) subjects in the experimental group, compared to those in the control group, were more responsive to a community service opportunity.

In summary, a total of 15 studies had large enough response rates to test for behavioral changes following VSC interventions. Of these studies, 12 reported changes in one or more behavior—a success rate of 86.7%. Two studies failed to find at least one behavior change following a VSC intervention: DeSeve's (1975) clinical delivery of a standard VSC intervention did not result in reduced smoking; and neither the standard nor the non-standard VSC interventions employed by Grube (1979) resulted in changed behavior towards the environment.

### 2.2.5 Summary

In Chapter 2 reviews of P-O fit and VSC literature deemed pertinent to the present study were presented. Reviews of literature related to P-O fit provided the basis for Hypothesis 1; and reviews of literature related to VSC provided the bases for Hypothesis 2, Hypothesis 3, and Hypothesis 4. The methodologies used to operationalize the two main components of the present study (the P-O Fit Study and the Value Change Study) are presented in Chapter 3.

## **CHAPTER 3**

### **METHODOLOGY**

The research methodology presented in this Chapter was designed to test both the hypothesis derived from P-O fit literature and the hypotheses derived from value change literature. What follows is a description of the methods used to determine the existence of the perceived problem (Pilot Study), and once determined, to describe the methods used to define the extent of the problem (P-O Fit Study), and, lastly, to describe the methods used to determine the effectiveness of the interventions proposed to rectify the problem.

The P-O fit of accounting students in Georgia with the accounting profession in Georgia is assessed with a survey; and the effectiveness of using a value change intervention, to improve (both short-term and long-term) the P-O fit of accounting students, is evaluated with an experiment.

This Chapter proceeds as follows: the chronology of the research process (3.1), in which the sequencing in conducting the Pilot Study, P-O Fit Study, and Value Change Study is explained; descriptions of the students who responded to surveys in the Pilot and P-O Fit Studies and of the students who participated in the Value Change Study (3.2); details regarding the measuring instrument used in all three studies (the Rokeach Value Survey; RVS), as well as details pertaining to the demographic questionnaire (3.3); and the statistical methods used to present and analyze the data (3.4).

Also presented in this Chapter is the Pilot Study method and results (3.5), as this study was seen as separate from the major empirical study. It is included in this Chapter as it informs the methodological choices made later in this Chapter. The methodology of the P-O Fit Study is described in detail (3.6) (including background, method, and procedures) as well as the nature of the Value Change Study (3.7) (including an explanation of the values targeted for change, short-term and long-term value change testing procedures, and the Curriculum Modification and Value Self-Confrontation (VSC) procedures).

### **3.1 CHRONOLOGY OF THE RESEARCH PROCESS**

This research was conducted in three phases. First, the Pilot Study was conducted during the first semester of 2013; second, the Value Change Study was conducted during the second semester of 2013; and third, the P-O Fit Study was conducted during the first semester of 2014. The order of these three phases was dictated by the availability of subjects for the value change experiment and time limitations. A professional judgment class taught by this researcher, which was ideal for conducting the Value Change Study, was only available to students during the summer semester of each year. The professional judgement class was the only accounting class in Southern Polytechnic State University's (SPSU; now Kennesaw State University) Master of Science in Accounting (MSA) program in which a focus on personal and professional values readily fit the curriculum. The time constraints in setting up and running the Value Change Study necessitated waiting until the following semester to conduct the P-O Fit Study.

### **3.2 RESPONDENTS AND PARTICIPANTS**

The RVS respondents in the three reported studies (Pilot Study, P-O Fit Study and Value Change Study) were upper level accounting students attending higher education institutions in Georgia.

#### **3.2.1 Pilot Study Respondents**

The subjects for the Pilot Study were selected from junior and senior level accounting students ( $N = 30$ ) taking an upper level accounting course and graduate level students taking three MSA classes ( $N = 97$ ). All of these students attended SPSU located in Marietta, Georgia (a suburb of Atlanta, Georgia). This convenience sample of accounting students, which did not include all of the accounting students at this



university, was used to determine whether or not the P-O fit of accounting students merited further investigation.

### 3.2.2 P-O Fit Study Respondents

The accounting students in the P-O Fit Study attended universities of higher education in Georgia. These students responded to the RVS study solicitations, which were made state-wide, either by the Georgia Society of CPAs (GSCPA), this researcher, or by a member of the accounting faculty at the university the students attended. No attempt was made to randomly select the participants.

### 3.2.3 Value Change Study Participants

Of the 34 prior VSC studies reviewed in Chapter 2 (2.2.3), 22 of them were conducted with student subjects (2.2.3.2). The subjects in the present study are also college students who were enrolled in one of two sections of an MSA course in professional judgment taught by this researcher during the summer semester of 2013 (the last semester of the school year). These students were randomly assigned to the sections by the administrative assistant in charge of registering students for business administration classes. She equalized the sections for both number and gender. The effect of the Value Change Study was measured with the RVS.

## **3.3 MEASURING INSTRUMENTS**

This research is operationalized with the RVS (3.3.1.2, Exhibit 1) and the accompanying demographic questionnaire (Exhibit 2).

### 3.3.1 Rokeach Value Survey

The RVS was developed by Milton Rokeach (1968, 1973) as a method for measuring values and value systems as conceptualized in belief system theory, which includes a theory of value change.

#### 3.3.1.1 Previous Use

Since its creation by Milton Rokeach (1968, 1973), the RVS has for four decades been utilized in numerous values studies with both non-accounting subjects (e.g., Bocsi, 2012; Uy, 2011), business students (e.g., Gervazio, Giraldi, & Costa, 2012; Giacomino, Li, & Akers, 2013) and various groups of accounting subjects: for example, accounting students (e.g., Baker, 1976; Swindle & Phelps, 1984; Eaton & Giacomino, 2000; Abdolmohammadi & Baker, 2006; Liu, 2011; Wen, 2012), accounting professors (e.g., Pinac-Ward, Ward, & Wilson, 1995), accounting alumni (Giacomino & Eaton, 2003), and CPAs (Swindle et al., 1987; Wilson et al., 1998; Ariail et al., 2012; Ariail et al., 2013).

#### 3.3.1.2 Composition of the Rokeach Value Survey Instrument

The RVS (Exhibit 1) is composed of 18 terminal values (goals in life/desirable ends) and 18 instrumental values (desirable means for reaching one's goals) which subjects rank order from 1-18 (1 = most important; 18 = least important) based on, as indicated in the RVS instructions, “. . . their importance to [the subject] as guiding principles in [their] life” (Rokeach, 1973, p. 358).

Exhibit 1  
**THE ROKEACH VALUES SURVEY**  
**(ROKEACH, 1968A, 1973)**

Listed below are 18 values in alphabetical order. Your task is to arrange them in order of importance to **You** as guiding principles in **YOUR** life. Study the list very carefully and then rank all 18 in terms of their importance to you. Place a “1” next to the value that is the most important as a guiding principle in your life, a “2” next to the second most important value as a guiding principle in your life, a “3” next to the third most important value as a guiding principle in your life, **and so on**. Again, it is important that you rank **all values from 1 to 18**.

Work slowly and think carefully. If you change your mind, feel free to change your answers. The end result should truly show how you really feel.

<i>Rank</i>	<i>Value</i>
_____	1. A comfortable life (i.e., a prosperous life)
_____	2. An exciting life (i.e., a stimulating, active life)
_____	3. A sense of accomplishment (i.e., a lasting contribution)
_____	4. A world at peace (i.e., free of war and conflict)
_____	5. A world of beauty (i.e., beauty of nature and the arts)
_____	6. Equality (i.e., brotherhood, equal opportunity for all)
_____	7. Family security (i.e., taking care of loved ones)
_____	8. Freedom (i.e., independence, free choice)
_____	9. Happiness (i.e., contentedness)
_____	10. Inner Harmony (i.e., freedom from inner conflict)
_____	11. Mature love (i.e., sexual and spiritual intimacy)
_____	12. National security (i.e., protection from attack)
_____	13. Pleasure (i.e., an enjoyable, leisurely life)
_____	14. Salvation (i.e., saved, eternal life)
_____	15. Self-respect (i.e., self-esteem)
_____	16. Social recognition (i.e., respect, admiration)
_____	17. True friendship (i.e., close companionship)
_____	18. Wisdom (i.e., a mature understanding of life)

**When you have finished, go to the next page.**

### Exhibit 1 (Continued)

Please rank these 18 values in order of importance, the same as before ( 1 = most important; 18 = least important)

<i>Rank</i>	<i>Value</i>
_____	1. Ambitious (i.e., hard-working, aspiring)
_____	2. Broad-minded (i.e., open minded)
_____	3. Capable (i.e., competent, effective)
_____	4. Cheerful (i.e., lighthearted, joyful)
_____	5. Clean (i.e., neat, tidy)
_____	6. Courageous (i.e., standing up for your beliefs)
_____	7. Forgiving (i.e., willing to pardon others)
_____	8. Helpful (i.e., working for the welfare of others)
_____	9. Honest (i.e., sincere, truthful)
_____	10. Imaginative (i.e., daring, creative)
_____	11. Independent (i.e., self-reliant, self-sufficient)
_____	12. Intellectual (i.e., intelligent, reflective)
_____	13. Logical (i.e., consistent, rational)
_____	14. Loving (i.e., affectionate, tender)
_____	15. Obedient (i.e., dutiful, respectful)
_____	16. Polite (i.e., courteous, well-mannered)
_____	17. Responsible (i.e., dependable, reliable)
_____	18. Self-controlled (i.e., restrained, self-disciplined)

**Thank you for participating in this survey!**

### 3.3.1.3 Validity and Reliability

Investigators have found the RVS to be both valid and reliable. According to Bearden and Netemeyer (1999), “the scale has undergone numerous reliability and validity checks across various samples” (Netemeyer, 1999, p. 121). Reliability coefficients based on test-retest data have been reported in a number of studies: for example, after three weeks, Rokeach (1973) reported coefficients of .74 for the terminal values and .65 for the instrumental values; after five weeks, Feather (1971, 1975) reported coefficients of .74 for the terminal values and .70 for the instrumental values; after two weeks, Munson and McIntyre (1979) reported coefficients of .82 for the terminal values and .76 for the instrumental values; and Reynolds and Jolly (1980) reported a reliability coefficient for the terminal values of .78. Mueller (1984) suggested that the reliability coefficients reported for the RVS indicated that it should not “. . . be utilized in the interpretation or comparison of individual respondents. . . [but that] descriptive and comparison of group values . . . is an acceptable use” (Mueller, 1984, p. 552).

Prior research has addressed the predictive, concurrent and construct validity of the RVS. Subsets of RVS values have been found to predict religiosity (Rokeach, 1973), to predict cheating behavior (Shotland & Berger, 1970; Homant & Rokeach, 1970), to predict social activism (Thomas, 1986), and to be significantly related to over 20 behaviors (Rokeach, 1973). Concurrent validity has been reported between the RVS and various other values research instruments including the England Personal Value Questionnaire (Munson & Posner, 1980) and the List of Values (Beatty, Kahle, Homer, & Misra, 1985). In addition, the construct validity of the RVS has been addressed by a number of researchers: Braitwaite and Law (1985) reported that the RVS is “. . . successful in covering the many and varied facets of the value domain” (Braitwaite & Law, 1985, p. 260); Thompson, Levitov, and Miederhoff (1982) found the RVS to have situation-specific construct validity; Homant (1969) indicated that the RVS values correlated “. . . with the evaluative dimensions of [their] connotative meanings. . .” (Homant (1969, p. 886); and Rokeach (1973) reported that the RVS values “. . . are not readily reducible to some smaller number” (Rokeach, 1973, p. 48).

### 3.3.2 Demographic Questionnaire

The demographic questionnaire (Exhibit 2) was developed by this researcher to solicit information regarding various dependent variables: gender, years of work experience, student status, college major, ethics education, place of birth, residence at the age of 16, and political orientation. In prior studies (e.g., Rokeach, 1973; Feather, 1975; Wilson et al., 1998; Giacomino & Eaton, 2003; Ariail, 2005; Ariail et al., 2012) most of these variables have been directly or indirectly investigated.

Since this study is focused on the P-O fit of upper level accounting students, question four, regarding student status (freshman, sophomore, junior, senior, and graduate), and question five, regarding college/university major (accounting, management, etc.) are variables used in this study. Question 10 asks students to respond yes or no to whether or not they have previously taken the survey. The answer to this question allowed for the purging of multiple survey responses. While the results for the additional variables of age, gender, years of work experience, ethics training, country of birth, and country of residency at the age of 16 are reported in describing the demographics of the three samples of accounting students (Pilot Study, P-O Fit Study, and Value Change Study), the analysis of the results for several of these variables is reserved for future iterations of this research. Student respondents were instructed to answer the 10 questions included in the demographic questionnaire prior to completing the RVS.

Exhibit 2  
Demographic Questionnaire  
Please check or "x" the appropriate boxes:

Number \_\_\_\_\_

1. Age:  Under 20;  20-24;  25-29;  30-34;  35-39;  40-44;  
 45-49;  50-54;  55-59;  Over 59

2. Gender:  Male;  Female

3. Years of Work Experience:  Under 3;  3-5;  6-8;  9-11;  12-14;  
 15-17;  18-20;  21-23;  Over 23

4. What is your student status?

Freshman;  Sophomore;  Junior;  Senior;  MBA;  MSA

5. What is your major?

Accounting;  General Business;  Advertising;  Marketing;

Management;  Economics;  Insurance;  Real Estate;

Information Systems;  Other (please describe) \_\_\_\_\_

6. Have you taken a college ethics course?  Yes;  No

If Yes, was the ethics course taken at SPSU?  Yes;  No

7. Where were you born?

U.S.A.;  Other Country (please specify) \_\_\_\_\_

8. Where did you live at the age of 16?

Southeastern U.S.A.;  Other Region of the U.S.A. (please specify) \_\_\_\_\_

Other country (please specify) \_\_\_\_\_

9. What best describes your attitudes towards social, political and economic issues?

Liberal;  Moderate;  Conservative

10. Have you previously taken this survey?  Yes;  No

### 3.4 STATISTICAL METHODS

In the P-O Fit Study and the Value Change Study, either the chi-square test or the t-test were used to compare the demographic variables. Since the RVS generates ranked data, non-parametric statistical methods were primarily used in the analysis. Medians and composite rank orders were computed for

each of the 36 RVS values. The Mann-Whitney U test, the primary statistic, and the median test, the secondary (supplemental) statistic, were used to compare the medians of the two independent groups (CPA leaders and accounting students). The Wilcoxon signed-rank test (where applicable) and the paired-samples sign test (the alternate statistic) were used to measure the significance of the differences in the medians from Pretest to Posttest 1 for both Group 1 and Group 2. Freidman's ANOVA test with post hoc paired-samples sign tests were used with Group 2 to compare the medians of the targeted values at Pretest to the medians at three Posttests. Below each of these tests are discussed.

#### 3.4.1 Chi-Square Test

Field (2009) explains that the term chi-square

. . . can apply to any test statistic having a chi-square distribution, it generally refers to Pearson's chi-square test of the independence of two categorical variables. Essentially it tests whether two categorical variables forming a contingency table are associated. . . .What we mean by an association is the pattern of responses . . . in the two . . . conditions is significantly different. (Field, 2009, p. 697 & 783)

Accordingly, in this study the Chi-square test of independence is used to compare the demographic variables of CPAs and students in the P-O Fit Study and selected demographic variables of Group 1 and Group 2 in the Value Change Study. The purpose of these comparisons is to determine the congruence on these variables of the two independent groups. In the Value Change Study, the Chi-square test was utilized to determine whether or not subjects in Group 1 and Group 2 matched on these variables at the beginning of the experiment.

#### 3.4.2 T-Test

According to Field (2009), the “. . . t-statistic . . . in the context of experimental work . . . is used to test whether the differences between two means are significantly different from zero” (Field, 2009, p. 795).

In the Value Change Study the t-test was used to compare the mean grade point averages of the students



in Group 1 and Group 2. The purpose of this test was to determine whether or not these two groups of students differed in this variable at the beginning of the experiment.

### 3.4.3 Medians

Rokeach (1973) indicated that since the frequency distributions of each of the values in the RVS may not produce a normal distribution, the median is the appropriate measure of central tendency. He stated the following:

Each value seems to have its own distinctive nonparametric distribution, and many of them show frequency distributions that are highly skewed in one direction or the other. The frequency distribution for *a world at peace* and *family security*, for instance, are heavily skewed toward the higher ranks. *Pleasure* and *an exciting life*, on the other hand, show distributions that are heavily skewed in the other direction, with most of the rankings piling up at the low end. Because these frequency distributions deviate so markedly from normality and from one another, a circumstance to be expected with ranked data, the measure of central tendency that was considered to be most appropriate is the median rather than the mean, and the nonparametric median test. (Rokeach, 1973, p. 56)

Accordingly, in the present study the median is used as the measure of central tendency. The median, which is the “. . . the middle score when scores are ranked in order of magnitude” (Field, 2009, p. 21), is computed in the present study using SPSS. However, it also can be manually computed using the formula  $(n + 1)/2$  where  $n$  is the number of scores (Field, 2009).

### 3.4.4 Grouped Medians Composite Rank Order

In order to determine higher degrees of discrimination between the medians (and thus facilitate production of the RVS value rankings for each group of subjects), grouped medians (Black, 2011; TutorVista.com, 2014, no page) were calculated for the aggregated data for each of the RVS value scores obtained from the Pilot Study, the P-O Fit Study, and the Value Change Study. Grouped median results have been reported in several prior studies using the RVS (e.g., Rokeach, 1973; Feather, 1975; Rokeach, 1979), and is calculated here. Grouped medians, which are computed in the present study

using SPSS, can also be manually computed using cumulative frequency tables and the following formula (adapted from TutorVista.com, 2014, no page):

$$1 + (n/2 - cf/f) \times h$$

Where:

- 1 = lower limit of the median class
- n = number of observations
- cf = cumulative frequency of the class preceding the median class
- f = frequency of the median class
- h = class size

Whenever the grouped medians are presented in tabular form, the rank order of the grouped medians is included within a parenthesis placed in front of the grouped median value, which is taken to two to four decimal places. This rank order of grouped medians is referred to by Rokeach (1973) as the composite rank order. As indicated by Rokeach (1973), “the composite rank order . . . [is] useful not only as a general index of the relative position of a particular value in the total hierarchy of values but also when comparing the position of a particular value across groups” (Rokeach, 1973, p. 56).

#### 3.4.5 Mann-Whitney U Test

The Mann-Whitney U test is, according to Field (2009),

a non-parametric [chi-square] test that looks for differences between two independent samples. That is, it tests whether the populations from which the two samples are drawn have the same location. It is functionally the same as the Wilcoxon’s rank-sum test, and both tests are non-parametric equivalents of the independent t-test. (Field, 2009, p. 789)

This test is the primary statistic used in the Pilot Study and the P-O Fit Study to compare the RVS values of these independent group of accountants (students and CPAs) and to test Hypothesis 1.

#### 3.4.6 Median Test

The median test has been the test of statistical significance used in a number of prior RVS studies (e.g., Rokeach, 1973; Feather, 1975; Swindle & Phelps, 1984; Wilson et al., 1998) where the medians of

groups were compared. “The median test is a chi-squared test of the significance of difference between the number of persons in two or more subgroups who score above and below the group median”

(Rokeach, 1973, p. 56). More specifically, the median test

. . . compares the medians of two independent samples. The null hypothesis is that no difference exists between the medians of the population from which the samples are drawn. . . . The median test is based on the idea that in two samples drawn from the same population the expectation is that as many observations in each sample will fall above as below the median. (Ferguson & Takane, 1989, p. 433)

While the median test has historically been the primary statistic used to analyze the ranked data generated by the RVS, Friedlin and Gastwirth (2000) suggested that it be retired in favor of the Mann-Whitney U test. The Mann-Whitney U test is considered a better test by modern statisticians because it considers the ranks of all observations in the sample together, instead of separately comparing each observation to the median value (Gibbons & Chakraborti, 2010).

Accordingly, the Mann-Whitney U test is the primary statistic used to compare the medians of the RVS values of different groups of accountants. In order to allow for comparability of the present results with that obtained in prior research, median test results are presented as supplemental information.

#### 3.4.7 Friedman’s ANOVA Test

In the Value Change Study, Friedman’s ANOVA test is used to compare the medians of the rank ordered (nonparametric data) RVS values of Group 2 from Pretest to Posttest 1 to Posttest 2 (three time periods) and from Pretest to Protest 1 to Protest 2 to Posttest 3 (four time periods). According to Field (2009), Friedman’s ANOVA

. . . is used for testing differences between conditions when there are more than two conditions and the same participants have been used in all conditions (each case contributes several scores to the data). If you have violated some assumption of parametric tests then this test can be a useful way around the problem. (Field, 2009, p. 573)

The instrumental portion of the RVS was administered to Group 2 at four time periods (Pretest at the beginning of the course, Posttest 1 after intervention at the end of the course, Posttest 2 at five-six weeks after intervention, and Posttest 3 at 15-16 weeks after intervention).

#### 3.4.8 Wilcoxon Signed-Rank Test

Field (2009) indicates that

the Wilcoxon signed-rank test works in a fairly similar way to the dependent t-test . . . in that it is based on the difference between scores in the two conditions you're comparing. Once these differences have been calculated they are ranked . . . but the sign of the difference (positive or negative) is assigned to the rank. (Field, 2009, p. 552)

According to the University of Dayton (2014), the Wilcoxon signed-rank test is a “. . . nonparametric statistic that can be used with ordinal . . . scaled dependent variable[s] when the independent variable has two levels and the participants have been matched or the samples correlated” (University of Dayton, 2014, no page).

In the Value Change Study the dependent variables are the four targeted values and the independent variable consists of two categorical matched pairs: Group 1 from Pretest to Posttest 1, and Group 2 over four time periods: Pretest, Posttest 1, Posttest 2, and Posttest 3. Therefore, where applicable, the Wilcoxon signed-rank test was used to compare the medians of Group 1 and Group 2.

#### 3.4.9 Paired-Samples Sign Test

The Wilcoxon signed-rank test requires that “the distribution between the two related groups (i.e., the distribution of the differences between the scores of both groups. . .) needs to be symmetrical in shape” (Laerd Statistics (2014), Wilcoxon signed-rank test, para. 4). Problems were experienced when neither a log natural, a log 10, nor a square root transformation worked to correct the skew from Pretest to Posttest 1 of the median differences of the targeted values of *courageous* and *responsible* for Group 1 and of *capable*, *courageous*, and *honest* for Group 2. Therefore, the paired-samples sign test (an

alternate statistic) was used to compare the medians from Pretest to Posttest 1 of these targeted values.

According to Laerd Statistics (2014),

the paired-samples sign test . . . is used to determine whether there is a median difference between paired or matched observations. This test can be considered as an alternative to the . . . Wilcoxon signed-rank test when the distribution of differences between paired observations is neither normal nor symmetrical, respectively. Most commonly, participants are tested at two time points or under two different conditions on the same continuous dependent variable. (Laerd Statistics, 2014, Sign Test in SPSS, para. 1)

Since the paired-sample sign test can be conducted whether or not the distribution of the differences in rankings are skewed, the paired-sample sign test was also used to augment the Wilcoxon signed-rank test results from Pretest to Posttest 1 for the Group 1 values of *capable* and *honest* and for the Group 2 value of *responsible*: Therefore, the paired-sample sign test was used to analyze the median differences from Pretest to Posttest 1 of all four of the targeted values for both Group 1 and Group 2.

#### 3.4.10 Post Hoc Tests

In order to adequately address Hypothesis 4, regarding long-term value change, it was desirable to augment Friedman's ANOVA test results with post hoc tests. The Friedman's ANOVA test “. . . is an omnibus test . . . [that] . . . tells you whether there are overall differences, but does not pinpoint which groups in particular differ from each other. To do this you need to run post hoc tests. . .” (Laerd Statistics, 2014, Friedman Test in SPSS, no page). Therefore, in order to further delineate how the targeted values changed over the four time periods in the Value Change Study, post hoc tests with the paired-samples sign test were run on the six possible combinations of the Group 2 results: Pretest to Posttest 1, Pretest to Posttest 2, Pretest to Posttest 3, Posttest 2 to Posttest 3, Posttest 1 to Posttest 2, and Posttest 1 to Posttest 3.

### 3.4.11 Tests of Significance

A value of  $p \leq .05$  was adopted to determine statistical significance in all of the statistical tests: the Chi-square test, t-test, Mann-Whitney U test, median test, Friedman's ANOVA test, Wilcoxon signed-rank test, and the paired-samples sign test.

Conventions regarding adopting a level of significance are explained as follows by Ferguson and Takane (1989):

The probability of a Type 1 error is called the level of significance of a test. Ordinarily, the investigator adopts . . . a level of significance. It is a common convention to adopt levels of significance of either .05 or .01. If the probability is equal to or less than .05 of asserting that there is a difference between two means, for example, when no such difference exists, then the difference is said to be significant at the .05 or 5 percent level or less. Here the chances are 5 in 100, or less, that the difference could result when there is no difference in the population values. (Ferguson & Takane, 1989, p. 182)

### 3.4.12 Effect Size

Field (2009) defines "effect size [as] an objective and (usually) standardized measure of the magnitude of an observed effect" (Field, 2009, p. 785). According to Sullivan and Feinn (2012)

. . . effect size can refer to the raw difference between group means, or absolute effect size, as well as standardized measures of effect, which are calculated to transform the effect to an easily understood scale. . . . Calculated indices of effect size are useful when the measurements have no intrinsic meaning, such as numbers on a Likert scale. . . . (Sullivan & Feinn, 2012, pp. 1-2)

In the present study, the RVS is used to measure the medians of two sets of 18 personal values. The magnitude of the difference in the medians of the rankings of each value across groups does not have an intrinsic meaning. Therefore, the size of the effects are explained using standard indices. Unfortunately, as noted by Carson (2012) "there is not one generally accepted definition of effect size" (Carson, 2012, para. 9). Cohen (1969, as cited in Sullivan & Feinn, 2012), a seminal investigator of effect sizes, specified the following standard effect sizes: small ( $r = .20$ ), medium ( $r = .30$ ), and large ( $r = .50$ ). Rosnow and Rosenthal (1989) agreed with Cohen on the levels of medium and large effect sizes but

identified a small effect size as one where  $r = .10$ . Field (2009) also stated a convention of  $r = .30$  for a medium effect, and  $r = .50$  for a large effect. In the present study, the determination of effect sizes generally follows the standard indices identified by Rosnow and Rosenthal (1989): small, when  $r \leq .10$ ; small to medium, when  $r > .10$  and  $< .30$ ; medium to large, when  $r \geq .30$  and  $< .50$ ; and large, when  $r \geq .50$ . Effect sizes are reported for the Mann-Whitney U test, the Wilcoxon signed-rank test, and the paired-samples sign test.

### **3.5 PILOT STUDY**

Based on a review of the literature presented in Chapter 2 (2.1.4) and on anecdotal evidence, it was expected that the value priorities of students and accounting leaders would differ. In order to test this expectation and thus justify the P-O Fit Study with a larger group of students, a pilot study was conducted. The Pilot Study served a second purpose which was to choose values to be targeted for change in the Value Change Study.

#### 3.5.1 Gathering Baseline Data: Part 1 of the Pilot Study

The espoused organizational values (Bourne & Jenkins, 2013) of the accounting profession have not previously been delineated. Therefore, it was necessary to develop a proxy measure of the values of this profession. In this study a proxy of the organizational values of the CPA profession was determined using the RVS. The basis for using this instrument to measure organizational values is explained below.

##### **3.5.1.1 Basis for Using the Rokeach Value Survey to Measure Organizational and Institutional Values**

Bourne and Jenkins (2013) posited that the values of an organization can be considered the espoused values of its leaders. In a number of studies (e.g., Hambrick & Mason, 1984; Wally & Baum, 1994; Pant

& Lachman, 1998) the personal values of leaders of organizations have been suggested to capture organizational values. As previously indicated (3.3.1), the RVS has been an instrument used for decades to measure personal values. Rokeach (1979) suggested that the RVS could be also be used to measure institutional values, which could be operationalized “. . . by measuring the personal values of institutional gatekeepers. . .” (Rokeach, 1979, p. 53). Accordingly, in the present study, the personal values of CPA leaders (gatekeepers) in Georgia were measured with the RVS. The median rankings of the values of these leaders are considered to provide a measure of the institutional values of the accounting profession in Georgia. Discussions of organizational values (1.6.2.2.1) and institutional values (1.6.2.2.2) are included in Chapter 1.

### 3.5.1.2 Findings of the Baseline Data Pilot Study

The RVS value rankings of CPA leaders in Georgia were extracted from a convenience sample of 313 CPA practitioners previously collected by this researcher (Ariail, 2005). Of the 582 survey instruments distributed in the prior study, 269 (46.2%) were not returned. Of the remaining 313 (53.8%) returned survey instruments, 120 were completed by CPAs who were not at the senior level—they were not at the level of owner or partner in public accounting or controller or chief financial officer in industry. CPAs at the senior level are for the present study defined as CPA leaders. The RVS data of these senior level CPAs constitutes the baseline used to determine the P-O fit of accounting students in Georgia.

Table 2  
Responses of Certified Public Accountants by Level

Rokeach Value Survey Responses	Number	%
Total Survey Packets Distributed	582	100
Survey Packets Not Returned	(269)	(46.2)
Survey Packets Returned	313	53.8
Non-Senior Level CPAs	120	20.6
Senior Level CPAs	193	33.2

As indicated in Table 3, the 193 senior level CPAs include owners or partners in public accounting firms ( $N = 119$ ; 61.7%) or controllers or chief financial officers in industry ( $N = 74$ ; 38.3%).



Of those CPAs practicing in public accounting, the majority practiced in firms with 20 or fewer CPAs ( $N = 108$ ; 90.8%). The majority of this referent group of 193 CPA leaders were male ( $N = 134$ ; 69.4%) and 40 years of age or older ( $N = 171$ ; 88.6%). This demographic data provides information relevant to the discussion presented in Chapter 5.

Table 3  
Demographics of Senior Level Certified Public Accountants

Gender:	No.	%
Female	58	30.1
Male	134	69.4
No Response	1	.5
Age:		
Under 40	22	11.4
40 and Over	171	88.6
Level in Organization:		
Public Accounting:		
Owner	70	36.3
Partner	49	25.4
Industry:		
Controller	34	17.6
Chief Financial Officer	40	20.7
Size of Public Accounting Firms (No. of CPAs)		
1-5	94	79.0
6-20	14	11.8
21-40	4	3.3
Over 40	7	5.9

Per Table 4, the two groups of CPA leaders (public and industry) substantially agreed in their rankings of the two lists of RVS values. Using both the Mann-Whitney U test and the supplemental median test, only one significant value difference (*a world at peace* was more important to the CPAs in industry practice) was found for the terminal values; and no significant differences were found for the instrumental values. When several tests of significance are run together, as is done in this analysis with the two groups of 18 RVS values using the Mann-Whitney U test and the supplemental median test, some significant differences can result from chance. With an alpha of .05, one significant difference in a group of 18 simultaneous tests might be merely due to chance (Rokeach & McLellan, 1972; Rice, 1989). Therefore the one significant difference found between the terminal values of the CPAs in industry and practice may be attributable to chance. This outcome allowed for the baseline use of the RVS values of the entire sample of 193 CPA leaders rather than separately comparing the P-O fit of

students to two sets of institutional values: institutional values for CPAs in public accounting and institutional values for CPAs in industry practice.

Table 4  
Values of CPA Leaders: Public and Industry  
Median Test and Mann-Whitney U Test

Terminal Values	Public CPAs Medians (N = 119)	Industry CPAs Medians (N = 74)	Median Test p	Mann- Whitney U Test p
A comfortable life	9.5550	10.5714	.194	.320
An exciting life	14.1154	13.1500	.075	.950
A sense of accomplishment	8.5789	7.1667	.207	.056
A world at peace	14.2174	12.5333	.030*	.044*
A world of beauty	15.4074	15.4667	.917	.731
Equality	14.0417	13.3571	.379	.382
Family security	2.8333	2.3600	.735	.211
Freedom	5.6957	6.5000	.480	.304
Happiness	6.4118	7.0714	.424	.418
Inner harmony	7.8182	7.1667	.867	.726
Mature love	9.2500	9.8333	.892	.340
National security	12.4706	12.5556	.665	.397
Pleasure	11.9565	13.5455	.072	.107
Salvation	4.3333	2.0000	.349	.282
Self-respect	5.3462	5.4286	.963	.866
Social recognition	14.4118	15.0000	.751	.577
True friendship	7.3889	7.3000	.963	.636
Wisdom	6.5909	7.0769	.786	.412
Instrumental Values				
Ambitious	9.5000	8.7143	.818	.719
Broad-minded	11.3750	11.4000	.803	.742
Capable	6.7647	6.8333	.745	.871
Cheerful	11.7500	13.0526	.439	.987
Clean	14.5500	14.8462	.751	.708
Courageous	7.7647	8.0000	.911	.892
Forgiving	9.4667	7.8889	.234	.428
Helpful	9.5000	10.4706	.683	.223
Honest	1.7722	1.7708	.895	.775
Imaginative	14.9565	15.5833	.285	.490
Independent	8.6667	8.2000	.698	.902
Intellectual	11.0000	10.0000	.494	.572
Logical	8.8571	9.6000	.439	.871
Loving	8.9091	7.7500	.494	.870
Obedient	14.0455	15.4286	.165	.057
Polite	10.7619	10.8750	.734	.724
Responsible	3.6571	3.5238	.698	.660
Self-controlled	8.9444	9.2000	.911	.719

\* = Difference significant at  $p \leq .05$

Note: lower median ranks and composite rank orders indicate higher priorities

Therefore, as indicated in Table 5, the combined value rankings of the 193 senior level CPAs in both public and industry practice in Georgia are used as a proxy for the values of the accounting profession in Georgia.

The second objective of the Pilot Study was to determine the values that would be targeted for change in the Value Change Study. For this sample of CPA leaders, the six most important instrumental values (top tercile) were *honest* (1), *responsible* (2), *capable* (3), *courageous* (4), *loving* (5), and *independent* (6); and the six least important instrumental values (bottom tercile) were *polite* (13), *broad-minded* (14), *cheerful* (15), *obedient* (16), *clean* (17), and *imaginative* (18). The typology (Table 5) of the six instrumental values given the highest priority are three moral type values (*honest, loving, and responsible*) and three competence type values (*capable, courageous, and independent*) (Rokeach, 1973). As subsequently explained, the results of the Pilot Study provided a basis, in the Value Change Study, for targeting the instrumental values given the highest priority by this sample of CPA leaders.

Instrumental values (moral and competence type values), which are means related, instead of terminal values (personal and social values), which are “goals in life” related (Table 5) were targeted in the Value Change Study. The means related instrumental values were more closely aligned with the content of the professional judgment course in which the Value Change Study was conducted—all of these values relate to ethics sections (ET Sections) of the Code of Professional Conduct and Bylaws (2012) of the AICPA: e.g., *honest* (ET Section 54, Article 3), *responsible* (ET Section 52, Article 1; ET Section 56, Article 5), *capable* (ET Section 56, Article 5), and *courageous* (ET Section 55, Article 5). In addition, accounting students in the Pilot Study significantly differed in the priority given by CPAs to these top four instrumental values, but did not significantly differ in the priority given by CPAs to the instrumental values given ranks of 5 and 6 (Table 7). Therefore, the four values ranked most important by the CPA referent group are targeted for change in the Value Change Study. As indicated in Chapter 2 (2.2.3.3), prior VSC studies targeted for change one to three values. In the three VSC studies (Rokeach, 1975; Pleban et al., 1983; Ball-Rokeach, et al., 1984) that targeted three values, all of the values were from the terminal portion of the RVS. In the present study, four instrumental values (two moral and two competence type values) are targeted—the most RVS values so far targeted using a VSC intervention.

Table 5  
 Values of CPA Referent Group (*N* = 193)  
 Values, Value Types, Composite Rank Order, and Medians

Terminal Values	Value Types	Composite Rank Order	Medians
A comfortable Life	personal	11	10.0000
An exciting life	personal	15	13.6389
A sense of accomplishment	personal	9	8.0263
A world at peace	social	14	13.5000
A world of beauty	social	18	15.4048
Equality	social	16	13.7500
Family security	social	1	2.6757
Freedom	social	4	5.9714
Happiness	personal	5	6.7241
Inner harmony	personal	8	7.6176
Mature love	social	10	9.3462
National security	social	12	12.4615
Pleasure	personal	13	12.4706
Salvation	personal	2	2.8235
Self-respect	personal	3	5.3500
Social recognition	social	17	14.7097
True friendship	social	7	7.3214
Wisdom	personal	6	6.8056
Instrumental Values			
Ambitious	competence	9	9.1333
Broad-minded	moral	14	11.4231
Capable	competence	3	6.7586
Cheerful	moral	15	12.0000
Clean	competence	17	14.6471
Courageous	competence	4	7.8889
Forgiving	moral	7	8.8636
Helpful	moral	11	10.0263
Honest	moral	1	1.7656
Imaginative	competence	18	15.1944
Independent	competence	6	8.4444
Intellectual	competence	12	10.4500
Logical	competence	10	9.1429
Loving	moral	5	8.4211
Obedient	moral	16	14.5152
Polite	moral	13	10.8000
Responsible	moral	2	3.5965
Self-controlled	competence	8	9.0000

Note: Lower median ranks and composite rank orders indicate higher priorities

### 3.5.2 Comparing Baseline and Student Data: Part 2 of the Pilot Study

The terminal and instrumental value priorities of a sample of graduate level accounting students were compared to the baseline values of the accounting profession in Georgia.

### 3.5.2.1 Method

The RVS and the demographic questionnaire were manually completed by 127 accounting students attending SPSU. This researcher, who is a professor of accounting at that institution, and other accounting instructor colleagues, solicited their accounting students to participate in the survey. Students attending fully online classes ( $N = 97$ ) uploaded the completed survey to a drop box on their class website, while students attending “live” classes ( $N = 30$ ) submitted their completed survey to their instructor.

### 3.5.2.2 Incentives

Instructors incentivized student participation, which was not mandatory, by awarding a small number of extra points (two to five points out of an available 1,000–1,500 total points) to students who completed both instruments.

### 3.5.2.3 Confidentiality

The RVS and demographic questionnaire packet completed in both the online and the in-class (live) classes contained a signature page (Appendix A) on which students entered their name and the title and course number of their class. This page, which was the only location where the student’s identity was recorded, was detached from the survey instruments and used by the instructor solely for the purpose of assigning extra points. Students were instructed to place their name or other form of identification, such as student number, on only the cover page—not on the demographic questionnaire or on either of the two pages of the RVS. This procedure assured the anonymity of the participants.

### 3.5.3 Results

The demographic makeup of the students who participated in the Pilot Study along with the analysis of the Pilot Study data follows.

#### 3.5.3.1 Demographic Makeup of Student Respondents

As presented in Table 6, the 127 Pilot Study subjects included five (3.9%) students at the junior level, 25 (19.7%) at the senior level, and 97 (76.4%) at the graduate level. The majority of these students were female ( $N = 71$ ; 55.9%), under 40 years of age ( $N = 101$ ; 79.5%), had more than five years of work experience ( $N = 87$ ; 65.4%), were born in the United States ( $N = 85$ ; 67%), and resided in the United States at the age of 16 ( $N = 94$ ; 74%).

Table 6  
Pilot Study  
Upper Level Undergraduate and Graduate  
Accounting Student Demographics

	No.	%
Total Students Surveyed	127	100.0
Student Status		
Junior	5	3.9
Senior	25	19.7
Graduate	97	76.4
Gender		
Female	71	55.9
Male	51	40.2
No Response	5	3.9
Age		
≤ 29	55	43.3
30-39	46	36.2
40-49	21	16.6
≥ 50	5	3.9
Work Experience		
≤ 5	43	33.9
6-11	37	29.1
12-17	28	22.1
18-23	11	8.7
≥ 24	7	5.5
No Response	1	.7
Country of Birth		
U.S.A.	85	67.0
Not U.S.A.	42	33.0
Country of Residence at 16		
U.S.A.	94	74.0
Not U.S.A.	32	25.2
No Response	1	.8

### 3.5.3.2 Analysis of Pilot Study Data

Table 7 reports the composite rank order, the medians, the Mann-Whitney U test results and the supplemental median test results for the CPA leaders (the baseline/referent group) and the convenience sample of accounting students in the Pilot Study. Both statistical methods found 17 significant value differences ( $p \leq .05$ ). That is, the accounting students and CPA referent group differed in the priority given to almost half ( $N = 17$ ; 47.2%) of the 36 RVS values.

Table 7  
Pilot Study  
Values of CPA Leaders & Upper Level Accounting Students  
Mann-Whitney U Test & Median Test

Terminal Values	Composite Rank Order (#) & Medians		Median Test	Mann-Whitney U Test
	CPAs (193)	Students (127)	p	p
A comfortable life	(11) 10.0000	(4) 7.4737	.005**	.002**
An exciting life	(15) 13.6389	(13) 12.111	.045*	.003**
A sense of accomplishment	(9) 8.0263	(7) 8.6842	.164	.403
A world at peace	(14) 13.5000	(14) 12.1818	.036*	.003**
A world of beauty	(18) 15.4048	(18) 15.6087	.262	.570
Equality	(16) 13.7500	(12) 10.0000	.000**	.000**
Family security	(1) 2.6757	(1) 3.1875	.176	.064
Freedom	(4) 5.9714	(6) 8.3478	.000**	.001**
Happiness	(5) 6.7241	(2) 4.5000	.000**	.000**
Inner harmony	(8) 7.6176	(11) 8.9231	.058	.210
Mature love	(10) 9.3462	(8) 8.7647	.595	.691
National security	(12) 12.4615	(16) 13.4706	.179	.036*
Pleasure	(13) 12.4706	(15) 12.3077	.944	.695
Salvation	(2) 2.8235	(5) 7.5556	.034*	.021*
Self-respect	(3) 5.3500	(3) 7.0400	.001**	.001**
Social recognition	(17) 14.7097	(17) 15.0769	.402	.794
True friendship	(7) 7.3214	(9) 8.8000	.079	.001**
Wisdom	(6) 6.8056	(10) 8.8095	.016*	.062
Instrumental Values				
Ambitious	(9) 9.1333	(3) 6.6429	.030*	.001**
Broad-minded	(14) 11.4231	(14) 11.2308	.978	.466
Capable	(3) 6.7586	(11) 10.1667	.000**	.000**
Cheerful	(15) 12.0000	(16) 12.3571	.770	.558
Clean	(17) 14.6471	(17) 13.5833	.397	.090
Courageous	(4) 7.8889	(13) 11.1667	.000**	.000**
Forgiving	(7) 8.8636	(5) 7.7059	.282	.698
Helpful	(11) 10.0263	(6) 8.0714	.027*	.056
Honest	(1) 1.7656	(1) 2.7586	.000**	.001**
Imaginative	(18) 15.1944	(18) 15.2778	.770	.586
Independent	(6) 8.4444	(7) 8.5185	.981	.671
Intellectual	(12) 10.4500	(8) 8.9048	.025*	.033*
Logical	(10) 9.1429	(12) 10.3000	.227	.111
Loving	(5) 8.4211	(4) 6.6818	.052	.064
Obedient	(16) 14.5152	(15) 12.0625	.036*	.016*
Polite	(13) 10.8000	(9) 9.6316	.225	.145
Responsible	(2) 3.5965	(2) 5.8125	.000**	.000**
Self-controlled	(8) 9.0000	(10) 9.7143	.305	.155

(#) = Composite rank order

\* = Difference significant at  $p \leq .05$

\*\* = Difference significant at  $p \leq .01$

Note: Lower median ranks and composite rank orders indicate higher priorities

Also observable in Table 7, the medians of only three terminal values and one instrumental value were found significantly different by one method and not the other: The CPA and student groups significantly differed in the priority given to *national security* and *true friendship* with the Mann-Whitney U test ( $p =$



.036;  $p = .001$ ) but not with the median test ( $p = .179$ ;  $p = .079$ ); and CPA and student groups significantly differed in the priority given to *wisdom* and *helpful* with the supplemental median test ( $p = .016$ ;  $p = .027$ ) but not with the Mann-Whitney U test ( $p = .062$ ;  $p = .056$ ).

Table 8 reports the RVS median rankings of the 30 undergraduate accounting students compared to the RVS median rankings of the 97 MSA graduate level accounting students. These two groups significantly differed in the ranking of only three of the 36 RVS values (8.3%) using the Mann-Whitney U test: the undergraduate accounting students and graduate students significantly differed in their rankings of two terminal values (*a world of beauty* and *salvation*) and one instrumental value (*forgiving*). The graduate accounting students compared to the undergraduate accounting students gave a higher priority to all three values.

The instrumental value of *forgiving* is not one of the four instrumental values targeted for the Value Change Study. That is, these two groups of students did not significantly differ in their rankings of the four instrumental values of *honest*, *responsible*, *courageous*, and *capable*. This finding in the Pilot Study suggests efficacy for the targeting of the four instrumental values for both undergraduate and graduate accounting students. Moreover, as previously indicated, one significant value difference in 18 simultaneous calculations can be expected by chance (Rice, 1989). Therefore, this sample of undergraduate accounting students and graduate accounting students substantially agreed in their value priorities. Accordingly, the value priorities of these two groups of upper level accounting students are combined in the Pilot Study and subsequently in the P-O Fit Study.

Table 8  
Pilot Study  
Undergraduate & Graduate Accounting Students  
Mann-Whitney U Test & Median Test of Rokeach Value Survey Values

Terminal Values	Composite Rank Order (#) and Medians		Median Test	Mann-Whitney U Test
	Undergrad (30)	Grad. (97)	p	p
A comfortable life	(4) 6.2857	(5) 7.7647	.520	.552
An exciting life	(12) 12.2000	(14) 12.0769	.864	.778
A sense of accomplishment	(9) 9.2857	(7) 8.3846	.839	.419
A world at peace	(13/14) 12.3333	(13) 12.0769	.805	.707
A world of beauty	(18) 16.6364	(17) 15.1579	.073	.050*
Equality	(6) 7.5714	(12) 10.6667	.363	.115
Family security	(1) 3.2500	(1) 3.1667	.822	.973
Freedom	(5) 6.4000	(9) 8.7500	.128	.069
Happiness	(2) 4.4000	(2) 4.5455	.882	.630
Inner harmony	(11) 11.1667	(6) 8.1000	.034*	.051
Mature love	(10) 11.0000	(8) 8.6250	.335	.568
National security	(16) 13.1667	(16) 3.6364	.713	.224
Pleasure	(15) 12.4000	(15) 12.2500	.787	.422
Salvation	(13/14) 12.3333	(3) 6.0000	.166	.027*
Self-respect	(3) 6.1667	(4) 7.3333	.174	.187
Social recognition	(17) 14.3333	(18) 15.2105	.623	.520
True friendship	(7) 8.2500	(11) 9.2308	.092	.174
Wisdom	(8) 8.8571	(10) 8.7857	.538	.680
Instrumental Values				
Ambitious	(6) 8.0000	(3) 6.4615	.287	.811
Broad-minded	(12) 11.0000	(14) 11.2727	.805	.453
Capable	(11) 10.1250	(11) 10.2000	.623	.666
Cheerful	(16) 12.7500	(16) 12.3077	.882	.277
Clean	(17) 13.5000	(13) 13.5000	.961	.900
Courageous	(13/14) 11.5000	(17) 11.1000	.882	.903
Forgiving	(15) 12.1667	(5) 6.8667	.008**	.004**
Helpful	(7) 8.2500	(6) 8.0000	.864	.842
Honest	(1) 2.2500	(1) 2.9524	.332	.576
Imaginative	(18) 16.1667	(18) 15.0667	.571	.449
Independent	(4) 7.0000	(7) 8.8261	.105	.355
Intellectual	(5) 7.5000	(8) 9.0500	.923	.858
Logical	(10) 9.5000	(12) 10.4667	.623	.372
Loving	(3) 6.2000	(4) 6.8235	.676	.853
Obedient	(13/14) 11.5000	(15) 12.2500	.623	.907
Polite	(9) 9.2857	(9) 9.7857	.432	.811
Responsible	(2) 4.7143	(2) 6.3636	.219	.158
Self-controlled	(8) 9.2500	(10) 10.0000	.207	.587

(#) = Composite rank order

\* = Difference significant at  $p \leq .05$

\*\* = Difference significant at  $p \leq .01$

Note: Lower median ranks and composite rank orders indicate higher priorities

### 3.5.3.3 Pilot Study Conclusions

The Pilot Study was firstly aimed at establishing a baseline of the values of CPA leaders, at identifying their most treasured values, and lastly at investigating if students' values significantly differ from that of CPA leaders. The results of the Pilot Study provides a way forward for this research. Baseline information was collected and the most important values to this group of CPAs (proxy values for the CPA profession) were identified. In the Pilot Study, the data collected from upper level accounting students indicated that students and CPA practitioners significantly differed in the priority given to a number of the RVS values: specifically, they differed in a number of instrumental values which are moral or competence related. The findings suggests a lack of P-O fit—a finding that merits further study. The findings also direct the subsequent intervention to the four instrumental values which were deemed most important by CPAs; all of which are related to guidance given in the Code of Professional Conduct and Bylaws (2012) of the AICPA.

## **3.6 DATA COLLECTION AND THE P-O FIT STUDY**

This section provides the background and hypothesis for the P-O Fit Study, the method used to solicit study participation, information regarding how the study was incentivised, the nature of the sampling method employed, and the procedures used to deliver the RVS to student subjects.

### 3.6.1 Background and Hypothesis

No prior study has been found that compared the RVS values of upper level accounting students with the RVS values of CPA leaders. However, as reported in Chapter 2 (2.1.4), separate studies with accounting students and CPAs have provided RVS rankings that support value incongruity between the two groups. In addition, the three studies in which the values, as measured with instruments other than

the RVS, of accounting students and accounting practitioners were compared, significant differences between the two groups were found in the priority given to various values: work values (See & Kummerow, 2008), values and a value type included in the Schwartz Value Questionnaire (Lan et al., 2009), and head and heart values (Krambis-Kapardis & Zopiatis, 2011).

These findings suggest that accounting students may lack P-O fit with the accounting profession: that is, that accounting students and leaders in the accounting profession may differ in their value priorities. Moreover, the Pilot Study results found that accounting students and CPA leaders significantly differed in the priority given to 17 of the 36 (47.2%) RVs values. This was noticeably the case in the four instrumental values deemed as most important by the CPA respondents. Therefore, the first hypothesis (stated in the null) is as follows:

**Hypothesis 1:** There are no differences in the value priorities of CPA leaders in Georgia and accounting students in Georgia.

This hypothesis is set to test the validity of the results found in the Pilot Study.

### 3.6.2 Solicitation of Student Respondents

In order to further investigate the preliminary finding of a lack of student P-O fit and to test Hypothesis 1, a broader sample of accounting students in Georgia was desirable. Accordingly, accounting students attending institutions of higher education throughout Georgia were asked to complete the RVS.

The Georgia Society of Certified Public Accountants supported this investigation of the values of accounting students in Georgia. This organization, which is the leading organization of CPAs in Georgia, solicited their student members (approximately 1,400 students) to participate in this research. The following advertisement (Exhibit 3) was placed, free of charge, in the November and December 2013 issues of *Stepping Stones*, the organization's student newsletter.

Exhibit 3  
Georgia Society of CPAs  
*Stepping Stones* Advertisement

<p><b>Help the Accounting Profession!</b> Complete a short survey and gain a chance to win an <u>Apple iPad Mini 16GB</u> Go to: <a href="https://www.surveymonkey.com/s/rokeach_value_survey">https://www.surveymonkey.com/s/rokeach_value_survey</a></p>
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Additional solicitations were made to 217 accounting professors teaching at 25 colleges/universities located in Georgia. A list of the college/universities, which includes the number of accounting professors that were contacted at each institution, is included in Appendix E. The email addresses for these professors were obtained from the Hasselback Accounting Directory (2012), published by Pearson Education, Inc. This directory, which is sponsored by the American Accounting Association, includes contact information for accounting professors at virtually all U.S.A. (and many international) institutions of higher education. The solicitation of accounting student participation through accounting professors was conducted from October 21 through December 12, 2013. During this timeframe, the professors were contacted by email on six occasions. A copy of this email solicitation is included in Appendix F. In addition, email solicitations were twice sent, during this same two-month period, to all accounting students at SPSU. A copy of this follow-up email solicitation is included in Appendix G.

### 3.6.3 Incentive for Participation

As an incentive for completing all three parts of the survey (a demographic questionnaire plus the two-part RVS), students had the option of either entering or not entering a sweepstakes in which the prize was an Apple mini-iPad (a tablet computer), valued at approximately 300 U.S. dollars. Sweepstake entry required the student to provide their name and address. This confidential information was maintained solely by SurveyMonkey, who randomly selected the prize winner. At the conclusion of the survey, the SurveyMonkey administrator directly received from SurveyMonkey the name and

contact information of the winner, purchased the mini-iPad prize, and shipped it to the winner. In addition, this administrator collected the survey data and sent to the present researcher the aggregated results, which did not contain personal identifications.

#### 3.6.4 Nature of Sampling Method Employed

The sample was a convenience sample. The study was designed to elicit participation from a large number of accounting students attending institutions of higher education located throughout Georgia. Data collection lacked randomness and therefore did not insure that a representative sample of accounting students would be selected.

#### 3.6.5 Delivery of Rokeach Value Survey

The RVS and accompanying demographic questionnaire were delivered to accounting students using SurveyMonkey. SurveyMonkey is a reputable data collection tool. The web site for SurveyMonkey (2014) describes this web-based tool as being easy, flexible, fast and reliable and as having “15 million customers worldwide”, including “99% of the Fortune 500.” An internet search conducted on March 12, 2014 using the ProQuest search engine and “SurveyMonkey” as the search term accessed 1,366 full text, peer reviewed publications. A limited review of this research indicates that this tool has been used in a plethora of surveys: for example, surveys related to project managers (Gavin, Gibbs, Sullivan, & Williams, 2014), academic pharmacy choice (Sheaffer et al., 2008), dietetics (Wildish & Evers, 2010), rescue inhalers (Allen, Henselman, Laird, Quinones, & Reutzell, 2012), athletic trainer perceptions (Eberman & Kahanov, 2013), the financial planning of entrepreneurships and small businesses (Dunn & Liang, 2011), and the retirement planning of small business owners (McCullough, 2012).

The RVS and the demographic questionnaire were converted to the SurveyMonkey format by a paid distance learning professional, who also acted as the SurveyMonkey administrator. In the

SurveyMonkey format, respondents answered 10 questions by clicking on a radial button. The respondents were allowed to continue to the two parts of the RVS only after all questions had been answered. The digitized RVS allowed the respondents to rank order each list of 18 values by either clicking on a drop down menu (with choices of 1-18) for each value or by dragging and dropping each value into the desired order.

### **3.7 DATA COLLECTION AND THE VALUE CHANGE STUDY**

The Value Change Study was conducted with two graduate level, seven-week-long, fully online MSA classes in professional judgment. The two classes, which were equalized for number and gender, were designated as Group 1 or as Group 2. The value change experiment involved two interventions: First, in both classes the curriculum was modified to focus on the importance to the accounting profession of the value of *courageous*. Thus, both classes received the Curriculum Modification Intervention. Second, the VSC Intervention targeted change in the priority given to the four values of *honest, responsible, capable* and *courageous*. The VSC Intervention was only delivered to Group 2.

The syllabus, which is presented in its entirety in Appendix I, was identical for both classes. Exhibit 4 (an excerpt from the course syllabus) presents the language used to inform students that the course would focus on personal and professional values, that they would begin the course by completing the RVS, and that the individual results of their RVS self-assessment would be kept confidential.

#### Exhibit 4 Personal Values: Statement Contained in Course Syllabus

Throughout this course, we will explore ethics from a professional decision making viewpoint: that is, the professional judgment needed to practice as an ethical accountant. The personal and professional values that are activated in ethical situations have been suggested as “drivers” of ethical behavior.

Therefore, we will begin the course with you carefully considering the importance you place on the two sets of values contained in the Rokeach Value Survey. For the remainder of the course (as you analyze the 13 assigned ethics cases) you should think about the values that are important to you (in your life) and the values that are important to the accounting

Exhibit 4 (Continued)  
Personal Values: Statement Contained in Course Syllabus

profession. You should continually ask yourself if there are instances where your personal values and the values of the profession are in conflict, and how you would resolve any such conflict?

The result of these self-assessment exercises will be kept totally confidential. I will collect your name merely for the purpose of assigning points. Note: there is no right or wrong set of values: As indicated by Milton Rokeach (1973), "...the values that [the Rokeach Value Survey] contains are virtually all socially desirable ones..."

The values data collected in this class will be aggregated with survey data collected from hundreds of students and Certified Public Accountants. This research has been reviewed by SPSU's Institutional Review Board.

If you have completed the Rokeach Value Survey in another course, please complete it again; just be sure to indicate in the space provided that you have previously taken it.

The following sections include the two short-term Value Change Study Hypotheses (Hypothesis 2 and Hypothesis 3), the method used in selecting the four instrumental values targeted for change, the method used to deliver the VSC Intervention, and the particulars of Hypothesis 4 relating to long-term value change.

### 3.7.1 Value Change Study Hypotheses

If accounting students and CPA leaders do differ in their value priorities, and thus lack P-O fit, can an education intervention be utilized to change student values and thus improve student fit? The literature on value change presented in Chapter 2 (2.2) suggests that the answer is yes. Of the 34 VSC extant studies reviewed (2.2.3.1), 29 targeted change in one to three values and 27 (93.2%) were successful in changing the priority given to at least one value. Thus, with a focus on the four targeted values identified in the Pilot Study, the first part of the experiment was designed to address the following Hypotheses, which are stated in the null:

**Hypothesis 2:** The Curriculum Modification Intervention will have no effect on value change amongst accounting students. (Operationalized Hypothesis: For Group 1, there will be no difference in the priority given to the value of *courageous* from Pretest to Posttest 1).

**Hypothesis 3:** The VSC Intervention will have no effect on value change amongst accounting students. (Operationalized Hypothesis: For Group 2, there will be no difference in the priorities given to the values of *capable*, *courageous*, *honest*, and *responsible* from Pretest to Posttest 1).



### 3.7.2 Selection of Values Targeted for Intervention in the Value Change Study

The values of *capable*, *courageous*, *honest*, and *responsible* were targeted for change based on the following reasoning: (1) In prior research, VSC interventions have targeted one to three values (most often only two values) from either the terminal or instrumental portions of the RVS. In the present study four values were selected for intervention, which is broader than in previous interventions. (2) The values selected were deemed most important by the referent group of CPAs (given ranks of 1, 2, 3 and 4). (3) The values selected were all related to Sections of the Code of Professional Judgment and Bylaws (2012) of the American Institute of Certified Public Accountants. Thus, the four targeted values fit the course curriculum of the professional judgment class in which the experiment was conducted. And, (4) the accounting students in the Pilot Study ranked these four values significantly lower than did the CPAs—gave them lower median ranks. This is explained in greater detail below.

In the Pilot Study results (Table 7) the CPAs gave the lowest rank (their highest priority) to the instrumental values of *honest* (a rank of 1), *responsible* (a rank of 2), *capable* (a rank of 3), and *courageous* (a rank of 4). While the composite rank order (which Rokeach (1973) indicates as a general index) of two of these four values were the same for both students and CPAs (*honest* and *responsible* were given a rank of 1 and a rank of 2, respectively, by both groups), the median rankings of all four of these values differed at a significance level of  $p < .01$ —a significance level higher than the alpha of  $p \leq .05$  set for this study. In all instances, as presented in Table 9, the accounting students ranked these values as significantly less important than the referent group of CPA leaders. Therefore, the Value Self-Confrontation Intervention targeted these four values.

Table 9  
Pilot Study  
Rokeach Value Survey Instrumental Values Targeted For Intervention

Instrumental Values	Value Type	Composite Rank Order & Medians		Median Test p	Mann-Whitney U Test p
		CPAs (N = 193)	Students (N = 127)		
Honest	moral	(1) 1.7656	(1) 2.7586	.000**	.001**
Responsible	moral	(2) 3.5965	(2) 5.8125	.000**	.000**
Capable	competence	(3) 6.7586	(11) 10.1667	.000**	.000**
Courageous	competence	(4) 7.8889	(13) 11.1667	.000**	.000**

(#) = Composite rank order

\*\* = Difference significant at  $p \leq .01$

Note: Lower median ranks and composite rank orders indicate higher priorities

Rokeach (1973) and Musser and Orke (1992) indicated that *honest* and *responsible* are moral type values and *capable* and *courageous* are competence type values. However, in an accounting context, all four of these values are directly or indirectly related to ethical standards contained in the Code of Professional Conduct and Bylaws (2012) of the AICPA: *honest* in ET Section 4, Article 3; *capable* in ET Section 56, Article 5; *courage* in ET Section 55, Article 5; and, *responsible* in ET 52, Article 1 (Exhibit 8). Therefore, for the purpose of this accountant specific study, these values can all be considered moral type values. This could be seen as an additional reason for selecting an intervention directed at these values.

### 3.7.3 Value Self-Confrontation Intervention

The Value Self-Confrontation Intervention (Appendix C) used in the present study is generally the standard VSC intervention as explained in Chapter 1 with the addition of an element of persuasion: an element of persuasion was effectively used in the VSC studies conducted by Hollen (1972), Hopkins (1973), Gray and Ashmore (1975), and Arieli et al. (2014). In addition, persuasion is included in the framework for value change developed by Bardi and Goodwin (2011).

The persuasion element complemented and augmented the content of this professional judgment course in that it was educational—it allowed the students in the Group 2 to compare and contrast their

value priorities with those of an esteemed referent group, a reflective activity consistent with International Education Standard 4 (IES 4, 2014), and provided Code of Professional Conduct and Bylaws (2012) of the AICPA based reasons for the priority given to the targeted values by the esteemed referent group. In addition, the persuasion element provided content related to the course objectives as stated in the syllabus (Appendix I).

#### 3.7.4 Delivery of the Value Self-Confrontation Intervention

The VSC Intervention was administered online using the SurveyMonkey data collection tool. The full RVS (containing both the terminal and instrumental values) was administered online to both the Group 1 and Group 2 during the first week of class (Pretest). Since the targeted values were all from the instrumental list of RVS values, only the second part of the RVS was administered online at the end of class (Posttest 1). Prior to completing the Posttest 1 survey, Group 2 took a short online quiz (Appendix D), which was untimed and allowed for repeated attempts. The purpose of this quiz was to verify that the students had carefully read the VSC Intervention (Appendix C). The SurveyMonkey tool did not allow students in Group 2 to proceed to Posttest 1 until they had completed, with a perfect score, the VSC Quiz (Appendix D), which was, for these students, titled the RVS Feedback Quiz.

#### 3.7.5 Long-term Value Change: Background and Hypothesis

As previously detailed in Chapter 2 (2.2.4.5), VSC literature (e.g., Rokeach, 1968a; Penner, 1971; Rokeach, 1971a; Rokeach & Cochrane, 1972; Greenstein, 1976; Grube, 1982; Waller, 1994; Arieli et al., 2014) indicates that the VSC intervention can induce long-term value change. For example, Rokeach (1971a) found that the VSC intervention resulted in changes in the priorities given to the values of *freedom* and *equality* that persisted for 68 weeks after intervention. In the present study, Group 2 completed the RVS immediately after being given the Value Self-Confrontation Intervention.

Consequently, any short-term change in priority given to any of the four targeted values might result from an evaluation apprehension/demand effect (e.g., Campbell & Hanna, 1976; Spillman, 1979), an ego defense effect (Ball-Rokeach et al., 1984), or from a value priming effect (MacMillan, 2012). Therefore, the question arises as to whether or not any change in value priorities following the VSC Intervention will persist after the end of class and thus after the time when a demand effect, ego defense effect, or a priming effect would perhaps be most applicable. Thus, long-term value change is addressed with Hypothesis 4, which is stated in the null:

**Hypothesis 4:** The VSC Intervention will have no long-term effect on value change amongst accounting students. (Operationalized Hypothesis: For Group 2, there will be no difference in the priorities given to the values of *capable*, *courageous*, *honest*, and *responsible* from Pretest to Posttest 2 or from Pretest to Posttest 3).

In order to investigate whether or not any changes found in the priority given to the four targeted values persisted after Posttest 1 (after the end of the class), and thus test Hypothesis 4, Group 2 completed the instrumental portion of the RVS at two additional time intervals: five to six weeks (Posttest 2) and 15-16 weeks (Posttest 3) after the VSC Intervention completed immediately prior to Posttest 1.

Since the professional judgment class was only taught in the summer semester and the one-year MSA program normally began in the fall semester, this course was often one of the last courses taken by students completing this ten-course program. Consequently, several of the students in the Group 2 had graduated by the time Posttest 2 was conducted—five to six weeks after the intervention; and more than half of the students in Group 2 had graduated by the time Posttest 3 was conducted—15 to 16 weeks after intervention.

#### 3.7.5.1 Value Change Study: Posttest 2

Five weeks after the VSC Intervention (after the class had ended), a new RVS link was sent directly by the SurveyMonkey administrator to each student in Group 2; a follow-up email was sent a few days later to students who had not yet responded. On a daily basis, the SurveyMonkey administrator reported

to this researcher the names of students who had not yet completed the survey. This researcher followed up with non-responders with both email and telephone solicitations.

#### 3.7.5.2 Value Change Study: Posttest 3

A third Posttest (Posttest 3) was conducted 15-16 weeks after the VSC Intervention (15-16 weeks after the class had ended). The SurveyMonkey administrator again sent a new link to the instrumental portion of the RVS to all 16 students in Group 2 and again regularly reported to this researcher the names of students who had not timely completed the survey. A personal request for the fourth completion of the RVS was communicated by this researcher at the beginning of week 15 to each student by both telephone and email. Follow-up emails were sent approximately four days after the initial request.

#### 3.7.5.3 Value Change Study: Posttest 3 Incentive

This researcher felt he was imposing on the generosity of the Group 2 (many of whom had graduated; one had graduated and moved back to his home country of Nigeria) by asking them to complete the RVS for a third time. Therefore, an incentive in the form of a \$25 gift certificate, issued by one of two well know and popular retailers (Starbucks, a retailer of specialty coffee; and Barnes and Noble, a retailer of books), was given to each student who completed the Posttest 3 survey.

#### 3.7.5.4 Value Change Study: Confidential Nature of Posttests

The confidential nature of all Posttests was communicated to the students and was rigorously maintained. The SurveyMonkey administrator developed a special link for each student and directly received from SurveyMonkey the completed survey data. While the names of non-responders were communicated to this researcher, which allowed for follow-up solicitations, the names of the students

were not associated with the aggregated data that was subsequently sent to this researcher: numbers randomly assigned to each student by the SurveyMonkey administrator allowed for tracking of the respondent's median rankings of the RVS instrumental values from Pretest to Posttests 1, 2 and 3.

### 3.7.6 Curriculum Modification Intervention Procedures

The curriculum of the two classes in professional judgment were modified to accommodate the delivery of the two types of educational interventions. The course content of both classes were modified to include a focus on the value of *courageous*, which is defined in the RVS as “standing up for your beliefs.” The resulting Curriculum Modification Intervention included students viewing eight short video clips on moral courage; regular postings (on the class online landing pages) of moral courage quotations; the viewing of the Milgram and Stanford Prison Experiments (Appendix H) followed by an online class discussion; the reading of three articles on moral courage authored or co-authored by this researcher (Ariail, 2009a; Ariail, 2009b; Ariail et al., 2012), the reading of a moral courage poem authored by this researcher (Exhibit 5), and instructor feedback that pointed out the moral courage (or lack thereof) exhibited by the accountants in each of the 13 assigned ethics scenarios.

Exhibit 5  
Courage is What it Takes  
By Dr. Donald L. Ariail, CPA

Courage to the CPA is what it's always been:

Courage to do the right  
when there's profit in the wrong.

Courage to oppose the group  
when principles are denied.

Courage to defy greed  
when avarice is the vogue.

Courage to speak up  
when silence is a lie.

Courage to disengage  
when dealing with deceit.

Courage to tell the truth  
when the lie is what they want.

Yes, courage is what it takes  
to fight the numbers true  
to choose the path of honor  
and thus serve the public good.

Published in Current Accounts,  
Georgia Society of CPAs, January/February 2009.

The eight videos on moral courage were located by internet search. These video clips, which were from 1.25 to 4.11 minutes in length, were made available to the students at intervals of approximately seven days beginning on May 15, 2013 and ending on July 3, 2013. These videos included three clips from the "I Am Moral Courage" series, an interview with Dennis Muilenburg, president and CEO of The Boeing Company, a video clip from BizEthicOmaha, a sermon on moral courage by Dr. Martin Luther King, Jr., and two musical video-slide presentations of moral courage quotations. Students were asked to view each video and provide the instructor with feedback. The viewing of each video was a voluntary task; one extra point per video was awarded to students who self-reported their viewing of each video and provided the required feedback. The content of each video along with its internet source and the date it was first made available to students are presented in Exhibit 6.

Exhibit 6  
 YouTube Moral Courage Videos (MCV)  
 Delivered to Both Group 1 and Group 2

MCV	First Date Available	Content
1	May 15	I Am Moral Courage – Jane Jane Akre, a reporter for Fox News, tells of being fired for “keeping her integrity” in reporting on growth hormones in Milk products sold by Monsanto. <a href="http://www.youtube.com/watch?v=GJZgTOwT3YU">http://www.youtube.com/watch?v=GJZgTOwT3YU</a> Length: 3:04
2	May 22	DavidsQuotes on Courage “Inspiring, uplifting and motivational COURAGE Quotes” <a href="http://www.youtube.com/watch?v=sskfUWDO5AU">http://www.youtube.com/watch?v=sskfUWDO5AU</a> Length: 4:11
3	May 29	Martin Luther King Jr. Sermon on moral courage: “You died when you refused to stand up for right; you died when you refused to stand up for truth; you died when you refused to stand up for justice.” <a href="http://www.youtube.com/watch?v=CtHZIUx-Bmo">http://www.youtube.com/watch?v=CtHZIUx-Bmo</a> Length: 3:51 minutes
4	June 5	Moral Courage: CrazyMrNoPants Inspiring musical video slide presentation on moral courage. <a href="http://www.youtube.com/watch?v=JukKFObtIEU">http://www.youtube.com/watch?v=JukKFObtIEU</a> Length: 3:20 minutes
5	June 12	Moral Courage Video: BizEthicsOmaha Ethics scenario presented by the Business Ethics Alliance: a subordinate is ordered to falsify time worked on a client account. <a href="http://www.youtube.com/watch?v=Hc7eINAOQRk">http://www.youtube.com/watch?v=Hc7eINAOQRk</a> Length: 1:25 minutes
6	June 19	I Am Moral Courage: TJ “Former Nazi now fights against racism.” <a href="http://www.youtube.com/watch?v=TEGKUPMUoC4">http://www.youtube.com/watch?v=TEGKUPMUoC4</a> Length: 3:05 minutes
7	June 26	I Am Moral Courage: Rosemary “Rosemary is a former special agent with the FBI. She was one of the first women in that role. And she helped pave the way for a woman to now be considered head of the FBI.” <a href="http://www.youtube.com/watch?v=ocgS5T8pcZk">http://www.youtube.com/watch?v=ocgS5T8pcZk</a> Time: 3:18
8	July 3	Dennis Muilenburg, President and CEO of Boeing, talks about fighting the pressure to cut corners in order to gain a competitive advantage. <a href="http://www.youtube.com/watch?v=SphOC1uSsvc">http://www.youtube.com/watch?v=SphOC1uSsvc</a> Time: 2:57

From June 6 through June 25, seven moral courage quotations were separately posted as news items (Moral Courage Quote of the Day) on the home page of each class. “News Posts” were used in these online courses for announcements regarding assignment due dates, guidance for completing assignments, statistical feedback on assessments, general feedback, etc. Thus, students had to regularly read the News Posts in order to effectively navigate through their class. The quotation postings, which were interspersed with other announcements, included quotations attributed to Lao Tzu, Fredrick



Douglas, William Shakespeare, Ernest Hemingway, Theodore Roosevelt, and Mahatma Gandhi. The instructor provided students with input relating the content of the quotation to the moral courage required of accountants. For example, Mahatma Gandhi said that “it’s easy to stand with the crowd. It takes courage to stand alone.” This instructor’s input was as follows: “the quote given below speaks to the groupthink involved in a number of accounting frauds—especially where there was an unethical tone-at-the-top.” The seven quotations, along with the dates posted, the person to whom each quotation is attributed, and the instructor input that accompanied each quotation are presented in Exhibit 7.

Exhibit 7  
Moral Courage Quotes Delivered to  
Both Group 1 and Group 2

No.	Dates Posted	Instructor Input/Quote	Source
1	June 6-10	Quote: A man with outward courage dares to die; a man with inner courage dares to live.	Lao Tzu, <i>Tao Te Ching</i>
2	June 10-30	Instructor Input: Standing up to your peers, clients and bosses when they want you to do something that you feel is wrong, unjust or against the professional code of conduct, can be difficult - it takes moral courage! In the below quote, Fredrick Douglas delivers a similar message to that of Dr. Martin Luther King Jr. (Please view Moral Courage Video 3). Quote: I prefer to be true to myself, even at the hazard of incurring the ridicule of others, rather than to be false, and to incur my own abhorrence.	Fredrick Douglass
3	June 12-20	Instructor Input: The following quote is mainly about physical courage, while we are focused on moral courage. However, it is a quote we all have heard and is applicable to moral courage as well. To paraphrase Martin Luther King Jr, if we don't have the moral courage to stand up for our principles, we are as good as dead. Quote: Cowards die many times before their deaths; The valiant never taste of death but once. Of all the wonders that I yet have heard, it seems to me most strange that men should fear; Seeing that death, a necessary end, will come when it will come.	William Shakespeare: <i>Julius Caesar</i>
4	June 19- July 7	Instructor Input: As accountants, we must have the inner courage (moral courage) to always follow the Professional Code of Ethics and to follow our moral compass. Quote: A man with outward courage dares to die; a man with inner courage dares to live.	Lao Tzu, <i>Tao Te Ching</i>
5	June 20- July 12	Quote: Few men are willing to brave the disapproval of their fellows, the censure of their colleagues, the wrath of their society. Moral courage is a rarer commodity than bravery in battle or great intelligence. Yet it is the one essential, vital quality of those who seek to change a world which yields most painfully to change.	Ernest Hemingway, <i>A Farewell to Arms</i>
6	June 23- July 12	Instructor Input: The fourth component of Rest's 4 Component Model of Ethical Behavior is Moral Character. As previously indicated, Moral Courage is an important trait included in Moral Character. Quote: Character, in the long run, is the decisive factor in the life of an individual and of nations alike.	President Theodore Roosevelt
7	June 25- July 12	Instructor Input: The below quote speaks to the groupthink involved in a number of accounting frauds - especially when there is an unethical tone at the top. Quote: It’s easy to stand with the crowd. It takes courage to stand alone.	Mahatma Gandhi

Both of the professional judgment classes ran simultaneously. The same Curriculum Modifications Intervention, which focused on the targeted value of *courageous*, was included in the content of both classes. All News Post notifications regarding all aspects of the curriculum modification (e.g., News Posts directing the student to view moral courage video clips) were made at exactly the same time on the online landing page of both Group 1 and Group 2 classes.

### 3.7.7 Value Self-Confrontation Intervention Procedures

The VSC Intervention (Appendix C) was administered to Group 2 only. The VSC procedures, as developed by Milton Rokeach (1968, 1973), have been previously utilized (in various iterations) in a number of studies, which are reviewed in the Chapter 2 (2.2.1). As indicated in Chapter 2 (2.2.4.1) the standard VSC procedure was modified to include an element of persuasion (Exhibit 8). The standard portion of the VSC Intervention had the students in Group 2 (1) study the RVS rankings of the referent group of CPAs, (2) review the value priority differences between the CPA referent group and a peer group of 97 MSA graduate accounting students at SPSU (a subset of the 127 students in the Pilot Study deemed most relevant as a referent group), (3) read a brief interpretation of the meaning of the significant differences found between the CPA leaders and graduate accounting students for each of the four targeted values (for example, the interpretation for the value of honest is “being sincere and truthful is significantly more important to CPA leaders than it is to graduate accounting students”), and (4) compare their personal rankings of the four targeted values to the corresponding rankings by the CPA referent group. Finally, students read the persuasion portion of the intervention (Exhibit 8), which is composed of a several paragraphs per targeted value of suggested reasons for why the CPA referent group so highly prioritized each of the four targeted values. These explanations were tied to specific standards in the AICPA’s Code of Professional Conduct and Bylaws (2012) and to accounting ethics literature, including the assigned ethics textbook.

Exhibit 8  
Persuasion Element Included in the Value Self-Confrontation Intervention  
Suggested Reasons for the Four Targeted Values  
Being Prioritized by CPA Leaders

**Honest:**

The Rokeach Value Survey defines the value of *honest* as *sincere, truthful*. The Josephine Institute of Ethics includes honesty as part of Trustworthiness, which is their first of Six Pillars of Character. Mintz and Morris (2011, 8) state that “honesty is the most basic ethical value and means that we should express the truth as we know it and without deception.” The Code of Professional Conduct and Bylaws (ET Section 54, Article 3) of the AICPA states the following:

Integrity is an element of character fundamental to professional recognition. It is the quality from which the public trust derives and the benchmark against which a member must ultimately test all decisions. Integrity requires a member to be, among other things, honest and candid within the constraints of client confidentiality. Service and the public trust should not be subordinated to personal gain and advantage. Integrity can accommodate the inadvertent error and the honest difference of opinion; it cannot accommodate deceit or subordination of principle.

Truthfulness is basic to the concept of accounting and being accountable. In their book titled *Understanding Accounting Ethics*, Cheffers and Pakaluk (2007, 39) state that “the task of accounting is to declare the truth about the financial condition of an enterprise, thus to provide the conditions necessary for a market economy.” Robert Montgomery (1972-1953), a president of the AICPA and a partner in the international accounting firm that became Coopers & Lybrand, proclaimed the following (Cheffers & Pakaluk, 2007, 41):

In order to tell the truth there must be some detachment from one’s immediate environment; from the opinions of neighbors; from ambition, money, power, fame, comfort, security and ease. Have we the courage to proclaim the truth, or do we shrink from the struggle?

**Responsible:**

The Josephson Institute of Ethics includes Responsible as one of their Six Pillars of Character. According to Mintz and Morris (2011, 11) “a responsible person carefully reflects on alternative courses of action using ethical principles. A responsible person acts diligently and perseveres in carrying out moral action.”

ET Section 52, Article 1, of the Code of Professional Conduct and Bylaws (2012) of the AICPA directly addresses the responsibilities of CPAs:

As professionals, certified public accountants perform an essential role in society. Consistent with that role, members of the American Institute of Certified Public Accountants have responsibilities to all who use their professional services. Members also have a continuing responsibility to cooperate with each other to improve the art of accounting, maintain the public’s confidence, and carry out the profession’s special responsibilities for self-governance.

In addition, the Code of Professional Conduct and Bylaws (2012; ET Section 56, Article 5) of the AICPA states that “members should be diligent in discharging responsibilities to clients, employees, and the public. Diligence imposes the responsibility to render services promptly and carefully, to be thorough, and to observe applicable technical and ethical standards.”

Being dependable and reliable are traits that epitomize a professional accountant. Clients depend on CPAs to accomplish their tasks with due professional care; and rely on them to possess technical competence.

(Continued)

Exhibit 8 (Continued)  
Persuasion Element Included in Value Self-Confrontation Intervention  
Suggested Reasons for the Four Targeted Values  
Being Prioritized by CPA Leaders

**Capable:**

The Rokeach Value Survey defines the value of *capable* as *competent* or *effective*. The American Institute of Certified Public Accountants (AICPA) Code of Professional Conduct and Bylaws (2012; AICPA ET Section 56, Article 5) states the following:

A member should observe the profession's technical and ethical standards, strive continually to improve competence and the quality of services, and discharge professional responsibility to the best of the member's ability. ... Due care requires a member to discharge professional responsibilities with competence and diligence. ... The maintenance of competence requires the commitment to learning and professional improvement that must continue throughout a member's professional life.

In addition, The Institute of Management Accountants (IMA) Statement on Ethical Professional Practice lists *competence* as the first Standard (see Mintz and Morris, page 24) and the Code of Ethics of the Institute of Internal Auditors (IIA) lists Competency as the fourth Principle (see Mintz and Morris, page 100).

As a professional, a CPA has only two things to sell: their time and knowledge (wisdom). In their book *Understanding Accounting Ethics*, Cheffers and Pakaluk (2007, 79) state the following:

Speculative wisdom in a human being involves a systematic understanding of fundamental realities. The analogue of speculative wisdom in an accountant is technical knowledge, competence and skill which are well grounded in a good grasp of accounting theory: to carry out his [or her] distinctive task well, an accountant needs a thorough grasp of relevant accounting principles, as well as a thorough understanding of the business ... [being] audited.

Therefore, in order to abide by the various codes of ethics and serve the public's best interest, CPAs must be capable. They must keep abreast of the ever-changing accounting, auditing and tax standards, laws and regulations and discharge their duties with due professional care. "The quest for excellence is the essence of due care" (AICPA ET 56, Article 5).

**Courageous:**

Courage (fortitude) is one of the 4 virtues of classical antiquity (the other 3 are prudence, justice and temperance). For accountants, professional courage is a character trait that promotes honorable behavior. It takes courage to resist demands by peers, superiors or clients to subordinate one's professional judgment. The Code of Professional Conduct and Bylaws (2012; ET Section 55, Article 5) of the AICPA states that "... members should protect the integrity of their work, maintain objectivity, and avoid any subordination of their judgment."

James Rest's Four-Component Model of Morality includes the elements of moral sensitivity (perception that an ethical situation exists), moral judgment (the cognitive ability to make judgments about right and wrong – see Kohlberg's Six-Stage Model of moral judgment), moral motivation (the prioritizing of moral values over personal values), and moral character. In *Postconventional Moral Thinking: A Neo-Kohlbergian Approach*, Rest, Narvaez, Bebeau and Thoma (1999) definition of Moral Character includes "having courage." Your instructor suggests that moral courage is the key factor that often determines whether or not the ethical act will be taken. It is not enough for an accountant to be morally sensitive, have good moral judgment and be morally motivated! Behavior is an act; and ethical behavior requires an act that is often fraught with risks such as loss of one's job (or other employer retaliation) or loss of a lucrative client. In these stressful situations, it takes professional courage to do the right thing.

The WorldCom fraud provides us with examples of both a courageous CPA and of accountants who lacked this important character trait. Cynthia Cooper was a whistleblower who did the right thing despite unbelievable pressure to overlook unethical accounting practices. Her moral courage was exemplary. On the other hand, Betty Vinson and Troy Norman were "good soldiers" who protected their jobs by following the unjust orders of their superiors. Their unethical acts demonstrated a lack of moral courage, a failing that sent both of them to jail.

### **3.8 ETHICAL CONSIDERATION AND AUTHORIZATION**

The various ethical considerations involved in this study of values and value change, and the obtaining of proper authorization to conduct the three phases of this study are presented below.

#### 3.8.1 Ethical Considerations

Several ethical considerations were taken into account in the planning and execution of this study including the confidentiality of survey responses, the potential for arbitrarily manipulating student values, the positive nature of the RVS values, the truthfulness of the content of the VSC intervention, and the educational nature of the self-reflection (cf., IES 4, 2014) provided by the RVS and the content of the VSC Intervention.

##### 3.8.1.1 Confidentiality of Survey Responses

The confidential nature of all RVS and demographic questionnaire responses was communicated to student participants and rigorously maintained throughout all three studies. SPSU students who manually completed the RVS were instructed to place their name and class information on the signature page (Appendix A) and “NOT to include any form of personal identification on the other pages of [the] survey.” The signature pages were used by the professors who administered the surveys to assign extra credit points (two to five points out of 1,000-1,500 total points) to students who completed both parts of the survey (the RVS and the demographic questionnaire). The signature pages were detached from the demographic questionnaire and RVS. Prior to the data being entered into SPSS, the present researcher randomly assigned a number to each survey and corresponding demographic questionnaire.

The SurveyMonkey web-based tool was used to deliver the RVS and demographic questionnaire to student participants in both the P-O Fit Study and in the Value Change Study. In the P-O Fit Study,

students clicked on a single link which took them to the digital version of the survey documents. Once at the survey site, students had the option to either enter or not enter a contest for a chance to win a mini-iPad tablet computer. If the respondent did not chose to enter the contest, no identifying information was required. However, students who did enter the contest had to submit their name and address. This participant information was collected by SurveyMonkey for the purpose of randomly selecting the prize winner and was not available to either this researcher or to the SurveyMonkey administrator. SurveyMonkey reported to the administrator the aggregated RVS and demographic data, which did not contain any identifying information.

In the Value Change Study, the SurveyMonkey administrator sent each student an individualized link to the RVS site. In the professional judgment classes, students were required to participate in the survey (Appendix I), which was administered at the beginning and at the end of the course. Students in Group 2 were later solicited to complete the survey a third and fourth time. Therefore, in order to track those who had, and those who had not, completed the survey, it was necessary to monitor participation. This task was totally in the hands of the SurveyMonkey administrator who regularly reported to this investigator the status of survey responses. At the completion of the surveys, the administrator reported to this researcher the aggregated data that was received directly from SurveyMonkey. Neither individual names nor any other form of individual identification were included with the aggregated data.

#### 3.8.1.2 Arbitrarily Manipulating Student Values

Value change is posited to be unidirectional. According to Ball-Rokeach et al. (1984), “. . . all people are hypothesised to be predisposed to change their beliefs, attitudes, or values only in the direction they perceive to be compatible with self-definitions of competence or morality” (Ball-Rokeach et al., 1984, p. 168). The results of two studies (Rokeach & Grube, 1979; Grube, 1982) provided support for this hypothesis. Grube (1982) concluded that “. . . it is unlikely that self-confrontation can be used to manipulate human values in whatever direction desired” (Grube, 1982, p. 533).

The four values targeted for change in the Value Change Study were the instrumental values given the highest priority by a referent group (CPA leaders) often esteemed by accounting students. Anecdotal evidence suggests that most accounting students aspire to become CPAs. Moreover, all four of these values are closely linked to the Code of Professional Conduct and Bylaws (2012) of the AICPA (e.g., Mintz & Morris, 2011). Therefore, this researcher suggests that a curriculum focused on increasing the importance given by students to these four values (potentially described as virtues of the accounting profession) would be perceived by accounting students as a focus on the values related to being a competent and moral accountant; and thus would not be perceived by students as an arbitrary selection of values.

#### 3.8.1.3 Positive Nature of the Rokeach Value Survey

The instructions contained in the RVS cover letter (Appendix B) indicated that “there are no right or wrong answers.” That is, there are no right or wrong ways to rank the terminal and instrumental values. According to Rokeach (1973), the RVS was “. . . designed to elicit information about values that the respondent would be willing or even eager to admit he had. . .” (Rokeach, 1973, p. 27). Consequently, the RVS does not contain values that have a negative connotation. Therefore, this study did not focus on any values that would be considered socially, personally, or professionally undesirable (Rokeach, 1973).

#### 3.8.1.4 Truthfulness of the Value Self-Confrontation Intervention

The modified VSC Intervention (Appendix C) used in the Value Change Study included only truthful information: The value priorities of 193 CPA leaders were extracted from previously collected RVS data; the value priorities of 97 MSA students were extracted from the results of the Pilot Study; the targeted values were identified based on the priority assigned to these values by a sample of CPA

leaders; and the reasons suggested for why the CPA leaders prioritized these values were summarized from information contained in the Code of Professional Conduct and Bylaws (2012) of the AICPA, the textbook used in the course, and from two additional ethics references. No attempt was made to mislead students with false information, as was done in the VSC studies by Spillman (1979), Maio et al. (2009), and McClure et al. (2012).

### 3.8.1.5 The Educational Nature of the Rokeach Value Survey and VSC Intervention

Completing the RVS provides students with the opportunity to reflect on the values they deem as personally important—a reflective activity consistent with a suggested application of International Education Standard 4 (IES 4, 2014). While there is much discussion in the media about values (e.g., values related to political ideologies), it has been suggested (e.g., Rokeach, 1973; Ball-Rokeach et al., 1984) that few people take the time to reflect on the values that are important to them as goals in life (terminal values) and the values they will use to reach their goals (instrumental values). Therefore, completing the RVS is an educational exercise in self-awareness (Ball-Rokeach, et al., 1984).

The information included in the VSC Intervention (Appendix C) was educational in nature. This intervention provided students with information about the RVS values given the highest (and also the lowest) priority by leaders in the accounting profession—the profession they aspire to enter. It also gave them the opportunity to compare their own value priorities to the value priorities of an esteemed referent group and to note differences, especially as related to their self-conceptions of being competent and moral accountants. Ball-Rokeach et al. (1984) states that the VSC method provides

. . . factual information that . . . [can] lead to genuine self-awareness or self-understanding about contradictions that may already . . . [exist] in . . . participants but of which most people are ordinarily unaware. Making people aware of what they are ordinarily not aware conforms to most people's conceptions of education. . . (Ball-Rokeach et al., 1984, p. 167)



### 3.8.2 Authorization

Prior to initiating this research, the use of the RVS in the Pilot Study and in other values research and the details of the educational interventions that would be used in this researcher's professional judgment class were sent at two separate times to the Institutional Review Board at SPSU (SPSU-IRB; Appendix K). According to SPSU's Policy and Procedures Manual, this board

. . . reviews for approval and monitors for progress all research protocols and instructional experimentation in which human subjects, human biological samples or animals are involved. . . [While] the SPSU-IRB does not expect research to be free from risk . . . [it] does expect the investigator to be aware of the risks, to minimize risk which possible, and to take appropriate precautions whenever necessary. (SPSU Policy and Procedures Manual, P&P 604.0, SPSU-IRB, n.d.)

The IRB approved the use of the RVS in the Pilot Study and in future studies to be conducted by this researcher. Subsequently, the IRB Chair determined that the proposed value change educational interventions were exempt from IRB approval under Department of Health and Human Services (DHHS; 2009) policy 46.101 which in part states the following:

Unless otherwise required by department or agency heads, research in which the only involvement of human subjects will be in one or more of the following categories are exempt from this policy:

Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instruction strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

It was the determination by the Chair of the IRB that the proposed educational interventions used the RVS to test the effectiveness of two instructional techniques (focused curriculum and student self-knowledge facilitated by the VSC Intervention methodology) and was therefore exempt from IRB approval (Appendix K).

### **3.9 SUMMARY**

This Chapter presented the methodology used in conducting the three phases of this research. The results of the first phase, the Pilot Study, which are presented in this Chapter, provided the basis for continuing this research. The results of the P-O Fit Study and the Value Change Study are presented in Chapter 4.

## CHAPTER 4

### RESULTS

In this chapter the results of the Person-Organization Fit Study (4.1) and the Value Change Study (4.2) are reported. The person-organization fit results are reported first. The results are presented under 5 headings: data regarding the responses to the RVS survey (4.1.1); details regarding the demographics of the sample of upper level accounting students (4.1.2); a comparison of the CPA and student demographics (4.1.3); a comparison of the RVS values of CPAs and students (4.1.4), including the effect size results (4.1.4.4); and finally the decision regarding acceptance or rejection of Hypothesis 1 (4.1.5).

The Value Change Study section begins with a descriptive analysis and a statistical comparison of the demographics of Group 1 and Group 2 (4.2.1). The report on the Value Change Study includes sections on both long-term and short-term effects. The short-term value change section (4.2.2) includes separate reporting for Group 1 (4.2.2.1) and Group 2 (4.2.2.2). For each of the groups it proceeds as follows: a descriptive analysis of the medians of the RVS instrumental values at Pretest and Posttest 1; the Wilcoxon signed-rank test results; and the paired-samples sign test results. The section is concluded with decisions regarding acceptance or rejection of Hypothesis 2 (4.2.2.1.4) and of Hypothesis 3 (4.2.2.2.4).

The long-term value change part of the experiment (4.2.3) is reported in four parts: a descriptive analysis of the Group 2's median rankings of the four targeted values across the four testing periods (4.2.3.1); the Friedman's test results (4.2.3.2); and the post hoc paired-samples sign test results for the six combinations of Pretest, Posttest 1, Posttest 2, and Posttest 3 (4.2.3.3). Next, the decision regarding acceptance or rejection of Hypothesis 4 (4.2.3.4). The section is concluded with a presentation of the short-term and long-term value effect size results (4.2.4)

## **4.1 PERSON-ORGANIZATION FIT STUDY**

The Person-Organization Fit Study was conducted with a sample of upper level accounting students attending Southern Polytechnic State University (now Kennesaw State University), which is located in Marietta, Georgia, and upper level accounting students attending colleges and universities throughout Georgia, U.S.A. This sample of accounting students was not randomly selected. The limitations imposed by this convenience sample methodology are addressed in Chapter 5.

### 4.1.1 Rokeach Value Survey Response Rates

SurveyMonkey received a total of 509 student responses. These responses were sent directly to the SurveyMonkey administrator who then transmitted the aggregated data to this researcher. The data received from SurveyMonkey was in an Excel spreadsheet format that included columns for the responses to each of the 10 questions in the Demographic Questionnaire (Exhibit 2) and the rankings by student of each of the 36 RVS values. No information was provided that allowed this researcher to readily identify either specific students or the specific institutions attended by these students.

In addition, 145 RVS responses were received from students attending SPSU. This number included the 127 Pilot Study responses. Therefore, a total of 654 Rokeach Value Surveys were submitted to this researcher.

The demographic information indicated that 30 (4.6%) of the students were at the freshman or sophomore level of their accounting education and 17 (2.6%) students indicated that they were not accounting majors. Since this research is focused on the RVS values of upper level accounting students, the data of these 47 (7.2%) students were purged from the sample. In addition, the data was purged for 19 (2.9%) students who indicated (answered yes to question 10 on the Demographic Questionnaire) that they had previously completed the survey. While the SurveyMonkey controls did not allow students to complete the RVS a second time using the same computer, the controls did not prevent them from

completing the survey a second time using a different computer. The relatively high monetary value of the sweepstakes prize may have enticed students to make more than one submission.

In addition, 44 (6.7%) students failed to complete one or more of the three parts of the survey (Demographic Questionnaire and the rankings of the two lists of RVS values) and 28 (4.3%) students failed to properly follow the instructions for ranking the values. The data for these 72 (11.0%) students were also purged from the sample data.

In total, the data from 138 (21.1%) students were purged from the sample. Therefore, the final sample includes the demographic data and RVS value rankings of 516 upper level accounting students. The RVS response rates are summarized in Table 10.

Table 10  
RVS Response Rates

Description	Numbers	%
SurveyMonkey responses	509	77.8
Other responses	145	22.2
Total surveys completed	654	100.0
Less: Not upper level accounting students	30	4.6
Not accounting majors	17	2.6
Previously taken RVS	19	2.9
Subtotal	66	10.1
Did not follow instructions	28	4.3
Incomplete surveys	44	6.7
Subtotal	72	11.0
Total useable surveys	516	78.9

The study design limitations related to 22.2% of the sample having been drawn from the accounting student population of one university in Georgia and the potential for the RVS having been completed more than once by student respondents are addressed in Chapter 5.

#### 4.1.2 Sample Demographics

The demographics of this sample of accounting students are summarized in Table 11.

Table 11  
Accounting Students  
Demographics

	No.	%
Total useable surveys	516	100.0
Variables		
Student status		
Junior	103	20.0
Senior	183	35.5
Graduate	230	44.6
Gender		
Female	319	61.8
Male	192	37.2
No Response	5	1.0
Age		
Under 30	330	64.0
30-39	114	22.1
40-49	58	11.2
Over 49	14	2.7
Work experience		
0-5	279	54.1
Over 5	236	45.7
No response	1	.2
Ethics course taken		
Yes	310	60.1
No	205	39.7
No response	1	.2
Country of birth		
U.S.A.	406	78.7
Not U.S.A.	110	21.3
Residence at age 16		
U.S.A.	390	75.6
Not U.S.A.	126	24.4
Political orientation		
Liberal	94	18.2
Moderate	240	46.5
Conservative	180	34.9
No response	2	.4

The majority ( $N = 413$ ; 80.1%) of this sample of accounting students were at the senior ( $N = 183$ ; 35.5%) and graduate levels ( $N = 230$ ; 44.6%) of their accounting education (in the United States, accounting students at the senior and graduate levels are nearest to entering the accounting labor market). In addition, the majority of the students were female ( $N = 319$ ; 61.8%), under 30 years of age ( $N = 330$ ; 64.0%), had less than six years of work experience ( $N = 279$ ; 54.1%), had previously taken a college ethics course ( $N = 310$ ; 60.1%), were born in the US ( $N = 406$ ; 78.7%), had lived in the U.S.A. at the age of 16 ( $N = 390$ ; 75.6%), and self-accessed their political orientation as moderate ( $N = 240$ ; 46.5%) or conservative ( $N = 180$ ; 34.9%).

### 4.1.3 Comparison of CPA and Student Demographics

The demographics of the CPAs (who were identified by this researcher as proxy leaders of the public accounting profession in Georgia) are presented in Table 2. Table 12 presents a combination of Table 3 (CPA demographics) and Table 11 (student demographics). Only four variables were common to both groups: gender, age, ethics course taken, and political orientation.

Table 12  
Comparison of CPA and Student Demographics

Variable	CPAs ( <i>N</i> = 193)		Students ( <i>N</i> = 516)	
	No.	%	No.	%
<b>Gender</b>				
Male	134	69.4	192	37.2
Female	58	30.1	319	61.8
No response	1	.5	5	1.0
<b>Age</b>				
Under 30	2	1.0	330	64.0
30-39	20	10.4	114	22.1
40-49	67	34.7	58	11.2
Over 49	104	53.9	14	2.7
<b>Ethics course taken</b>				
Yes	33	17.1	310	60.1
No	159	82.4	205	39.7
No response	1	.5	1	.2
<b>Political orientation</b>				
Liberal	18	9.3	94	18.2
Moderate	63	32.7	240	34.9
Conservative	106	54.9	180	34.9
No response	6	3.1	2	.4

#### 4.1.3.1 Descriptive Analysis

The sample of CPAs was mainly (*N* = 134; 69.4%) composed of male respondents while the sample of students was mainly (*N* = 319; 61.8%) composed of female respondents. As one would expect when comparing a group of experienced CPA leaders to a group of accounting students, the CPAs were older than the students: The CPAs were predominately (*N* = 171; 88.6%) 40 years of age or older while the accounting students were predominately (*N* = 444; 86.1%) under 40 years of age. The two groups of accountants also differed in their level of formal ethics education. While the majority (*N* = 310; 60.1%)

of students had previously taken a college level ethics course, the majority ( $N = 159$ ; 82.4%) of CPAs had not completed a college ethics course. Finally, question nine of the demographic questionnaire asked respondents to indicate which of three terms (liberal, moderate, conservative) best described their attitudes towards social, political and economic issues. The CPAs self-assessed themselves as mainly conservative ( $N = 106$ ; 54.9%) while the students self-assessed themselves as mainly moderate ( $N = 240$ ; 46.5%) or conservative ( $N = 180$ ; 34.9%). The choice of liberal was selected by the smallest number of CPAs ( $N = 18$ ; 9.3%) and students ( $N = 94$ ; 18.2%).

#### 4.1.3.2 Chi-square Test Results

To test if the groups differed significantly on these dimensions, Pearson's chi-square tests were performed. The results of these tests are presented in Table 13.

Table 13  
Comparison of CPA and Student Demographics  
Chi-Square Tests

Variable	$N$	$X^2$	df	$p$
Gender	703	58.988	1	.000**
Age	709	393.879	3	.000**
Ethics course taken	709	104.854	2	.000**
Political orientation	701	26.423	2	.000**

\*\*  $p < .01$

As indicated above, the two groups of accountants (CPAs and students) significantly differed ( $p \leq .05$ ) in gender, age, college ethics course taken, and political orientation. The potential impact on value priorities of these variables are addressed in Chapter 5.

#### 4.1.4 Comparison of the RVS Values of CPAs and Student

As indicated in Chapter 3, the Mann-Whitney U test was the primary statistic used for comparing the RVS value priorities of upper level accounting students with the value priorities of CPA leaders. Supplemental analysis was performed using the median test.



#### 4.1.4.1 Mann-Whitney U Test Results

Students and CPAs significantly differed (Table 14) in the priority given to 13 of the 18 (72.2%) terminal values and 11 of the 18 (61.1%) instrumental values. Overall, these two groups significantly differed ( $p \leq .05$ ) in the priority given to 24 of the 36 (66.7%) RVS values. The effect sizes were small ( $r \leq .10$ ) for seven of the values, and small to medium ( $r > .10$  and  $< .30$ ) for 17 of the values. None of the effect sizes were medium to large ( $r \geq .30$  and  $< .50$ ) or large ( $r \geq .50$ ).

Students gave a higher priority (evidenced by lower median values) than CPAs to the terminal values of a *comfortable life*, *an exciting life*, *a world at peace*, *a world of beauty*, *equality*, and *happiness*, while CPAs compared to students gave a higher priority to the values of *family security*, *freedom*, *inner harmony*, *national security*, *salvation*, *self-respect*, and *true friendship*; and for the instrumental values, students compared to CPAs gave a higher priority to the values of *ambitious*, *broad-minded*, *cheerful*, and *intellectual*, while CPAs compared to students gave a higher priority to the values of *capable*, *clean*, *courageous*, *honest*, *logical*, *responsible*, and *self-controlled*.

In agreement with the results found in the Pilot Study, CPAs and students significantly ( $p \leq .05$ ) differed in the priority given to the four instrumental values targeted for change: *capable* (Mdn = 8.0,  $U = 42656.5$ ,  $Z = -2.947$ ,  $r = -.11$ ,  $p = .003$ ), *courageous* (Mdn = 10.0,  $U = 39853.5$ ,  $Z = -4.103$ ,  $r = -.15$ ,  $p < .001$ ), *honest* (Mdn = 2.0,  $U = 38308.0$ ,  $Z = -4.870$ ,  $r = -.18$ ,  $p < .001$ ), and *responsible* (Mdn = 5.0,  $U = 34431.0$ ,  $Z = -6.355$ ,  $r = -.24$ ,  $p < .001$ ). The  $r$  values for *capable* ( $r = -.11$ ), *courageous* ( $r = -.15$ ), *honest* ( $r = -.18$ ), and *responsible* ( $r = -.24$ ) indicated small to medium ( $r > .10$  and  $< .30$ ) effect sizes.

The six most important (top tercile) terminal values of CPAs were (by composite rank order) (1) *family security*, (2) *salvation*, (3) *self-respect*, (4) *freedom*, (5) *happiness*, and (6) *wisdom*; and the six most important (top tercile) terminal values of students were (1) *family security*, (2) *happiness*, (3) *self-respect*, (4) *a sense of accomplishment*, (5) *a comfortable life*, and (6) *freedom*. While the composite rank order of *family security* and *self-respect* were the same for CPAs and students, the Mann-Whitney U test found significant differences in the medians for both of these values and for three other of the

values given the top six ranks by CPAs: *salvation*, *freedom*, and *happiness*. In summary, five of the six terminal values (83.3%) given the highest priority by CPAs were ranked significantly different by students.

CPAs gave the highest priority (top tercile) to the six instrumental values of (1) *honest*, (2) *responsible*, (3) *capable*, (4) *courageous*, (5) *loving*, and (6) *independent* while students gave the highest priority to the 6 instrumental values of (1) *honest*, (2) *ambitious*, (3) *responsible*, (4) *loving*, (5) *capable*, and (6) *intellectual*. *Honest* held the top composite rank for both CPAs and students.

Nevertheless, the Mann-Whitney U test indicated that students significantly differed from CPAs in their median rankings of this value and three of the other top six instrumental values of CPAs: four of the six instrumental values (66.7%) deemed most important by CPAs were significantly ( $p \leq .05$ ) less important to students.

Table 14  
Values of CPAs and Accounting Students  
Mann-Whitney U Test

Terminal Values	Composite Rank Orders (#) & Grouped Medians		Mann-Whitney U Test (N = 709)				
	CPAs (N = 193)	Students (N = 516)	Mdn	U	Z	r	p
A comfortable life	(11) 10.0000	(5) 7.2985	8.0	36660.5	-5.421	-.20	.000**
An exciting life	(15) 13.6389	(13) 11.4557	12.0	37498.5	-5.077	-.19	.000**
A sense of accomplishment	(9) 8.0263	(4) 7.2353	7.0	46113.0	-1.520	-.06	.128
A world at peace	(14) 13.5000	(15) 12.7681	13.0	44607.0	-2.143	-.08	.032*
A world of beauty	(18) 15.4048	(17) 14.6952	15.0	44998.5	-1.989	-.07	.047*
Equality	(16) 13.7500	(12) 10.2333	12.0	34084.5	-6.485	-.24	.000**
Family security	(1) 2.6757	(1) 3.7222	3.0	40038.5	-4.058	-.15	.000**
Freedom	(4) 5.9714	(6) 7.4265	7.0	43016.5	-2.799	-.11	.005**
Happiness	(5) 6.7241	(2) 4.8131	5.0	40058.0	-4.026	-.15	.000**
Inner harmony	(8) 7.6176	(11) 9.9275	9.0	30612.5	-4.202	-.16	.000**
Mature love	(10) 9.3462	(10) 9.8730	10.0	49171.0	-.257	-.01	.797
National security	(12) 2.4615	(16) 13.2346	13.0	45030.5	-1.968	-.07	.049*
Pleasure	(13) 12.4706	(14) 12.7500	13.0	48096.0	-.288	-.01	.773
Salvation	(2) 2.8235	(8) 8.2609	6.0	42569.5	-3.051	-.11	.002**
Self-respect	(3) 5.3500	(3) 7.0769	7.0	39203.5	-4.376	-.16	.000**
Social recognition	(17) 14.7097	(18) 15.2059	15.0	46339.5	-1.434	-.05	.152
True friendship	(7) 7.3214	(9) 8.3465	8.0	43454.5	-2.619	-.10	.009**
Wisdom	(6) 6.8056	(7) 8.0000	8.0	46132.5	-1.512	-.06	.131
Instrumental Values							
Ambitious	(9) 9.1333	(2) 5.8243	7.0	33293.0	-6.814	-.23	.000**
Broad-minded	(14) 11.4231	(8) 9.4032	10.0	40180.0	-3.968	-.15	.000**
Capable	(3) 6.7586	(5) 8.3846	8.0	42656.5	-2.947	-.11	.003**
Cheerful	(15) 12.0000	(15) 11.1026	11.0	44761.5	-2.078	-.08	.038*
Clean	(17) 4.6471	(16) 12.6056	13.0	40862.5	-3.692	-.14	.000**
Courageous	(4) 7.8889	(12) 10.1333	10.0	39853.5	-4.103	-.15	.000**
Forgiving	(7) 8.8636	(11) 9.8197	10.0	45975.5	-1.576	-.06	.115
Helpful	(11) 10.0263	(9) 9.4521	10.0	49052.5	-.306	-.02	.759
Honest	(1) 1.7656	(1) 2.7721	2.0	38308.0	-4.870	-.18	.000**
Imaginative	(18) 15.1944	(18) 14.6979	15.0	48090.5	-.706	-.03	.480
Independent	(6) 8.4444	(7) 8.8904	9.0	48615.0	-.487	-.02	.627
Intellectual	(12) 10.4500	(6) 8.7619	9.0	42897.5	-2.847	-.11	.004**
Logical	(10) 9.1429	(13) 10.7077	10.0	43960.5	-2.408	-.09	.016*
Loving	(5) 8.4211	(4) 7.4231	8.0	47378.0	-.998	-.04	.318
Obedient	(16) 14.5152	(17) 14.4714	15.0	48661.0	-.469	-.02	.639
Polite	(13) 10.8000	(14) 10.7419	11.0	49182.5	-.252	-.01	.801
Responsible	(2) 3.5965	(3) 5.8478	5.0	34431.0	-6.355	-.24	.000**
Self-controlled	(8) 9.0000	(10) 9.7500	9.0	43568.0	-2.570	-.10	.010**

(#) = Composite rank order

\* = Difference significant at  $p \leq .05$

\*\* = Difference significant at  $p \leq .01$

Note: Lower median ranks and composite rank orders indicate higher priorities

#### 4.1.4.2 Median Test Results

Supplemental analysis with the median test (Table 15) also found significant differences in the terminal and instrumental value priorities of CPAs and students. Students and CPAs significantly differed ( $p \leq .05$ ) in the priority given to 10 of the 18 (55.6%) terminal values and nine of the 18 (50%) instrumental values. Overall, these two groups differed in the priority given to 19 of the 36 (52.8%) RVS values.

Table 15  
 Values of CPAs and Accounting Students  
 Supplemental Analysis  
 Median Test

Terminal Values	Composite Rank Orders (#) & Grouped Medians		Median Test (N = 709)		
	CPAs (N = 193)	Students (N = 516)	Mdn	Chi-Sq.	p
A comfortable life	(11) 10.0000	(5) 7.2985	8.0	19.357	.000**
An exciting life	(15) 13.6389	(13) 11.4557	12.0	20.187	.000**
A sense of accomplishment	(9) 8.0263	(4) 7.2353	7.0	2.669	.102
A world at peace	(14) 13.5000	(15) 12.7681	13.0	.920	.338
A world of beauty	(18) 15.4048	(17) 14.6952	15.0	4.565	.033*
Equality	(16) 13.7500	(12) 10.2333	12.0	27.047	.000**
Family security	(1) 2.6757	(1) 3.7222	3.0	11.781	.001**
Freedom	(4) 5.9714	(6) 7.4265	7.0	9.260	.002**
Happiness	(5) 6.7241	(2) 4.8131	5.0	13.095	.000**
Inner harmony	(8) 7.6176	(11) 9.9275	9.0	18.291	.000**
Mature love	(10) 9.3462	(10) 9.8730	10.0	.414	.520
National security	(12) 2.4615	(16) 13.2346	13.0	2.117	.146
Pleasure	(13) 12.4706	(14) 12.7500	13.0	.227	.634
Salvation	(2) 2.8235	(8) 8.2609	6.0	10.134	.001**
Self-respect	(3) 5.3500	(3) 7.0769	7.0	10.712	.001**
Social recognition	(17) 14.7097	(18) 15.2059	15.0	.254	.291
True friendship	(7) 7.3214	(9) 8.3465	8.0	.103	.122
Wisdom	(6) 6.8056	(7) 8.0000	8.0	.077	.093
Instrumental Values					
Ambitious	(9) 9.1333	(2) 5.8243	7.0	35.098	.000**
Broad-minded	(14) 11.4231	(8) 9.4032	10.0	10.955	.001**
Capable	(3) 6.7586	(5) 8.3846	8.0	9.820	.002**
Cheerful	(15) 12.0000	(15) 11.1026	11.0	1.884	.170
Clean	(17) 4.6471	(16) 12.6056	13.0	14.663	.000**
Courageous	(4) 7.8889	(12) 10.1333	10.0	10.320	.001**
Forgiving	(7) 8.8636	(11) 9.8197	10.0	1.436	.231
Helpful	(11) 10.0263	(9) 9.4521	10.0	.629	.428
Honest	(1) 1.7656	(1) 2.7721	2.0	10.650	.000**
Imaginative	(18) 15.1944	(18) 14.6979	15.0	.987	.321
Independent	(6) 8.4444	(7) 8.8904	9.0	.541	.462
Intellectual	(12) 10.4500	(6) 8.7619	9.0	5.195	.023*
Logical	(10) 9.1429	(13) 10.7077	10.0	6.076	.014*
Loving	(5) 8.4211	(4) 7.4231	8.0	1.309	.253
Obedient	(16) 14.5152	(17) 14.4714	15.0	.000	.985
Polite	(13) 10.8000	(14) 10.7419	11.0	.001	.979
Responsible	(2) 3.5965	(3) 5.8478	5.0	40.771	.000**
Self-controlled	(8) 9.0000	(10) 9.7500	9.0	1.137	.286

(#) = Composite rank order

\* = Difference significant at  $p \leq .05$

\*\* = Difference significant at  $p \leq .01$

Note: Lower median ranks and composite rank orders indicate higher priorities

#### 4.1.4.3 Combined Results

While the median tests compared to the Mann-Whitney U test found five fewer significant differences in the value priorities of CPAs and students (Mann-Whitney U test:  $N = 24$ , 66.7%; median test:  $N = 19$ , 52.8%), both statistics similarly indicated that these two groups significantly differed in their value systems regarding the rankings of the top six terminal and instrumental values: that is, the rankings of the top tercile of the goal related values (terminal values) and the top tercile of the means related values (instrumental values).

Using both statistics, the terminal values of *family security*, *salvation*, *self-respect*, and *freedom* (given ranks of 1-4 respectively by CPAs) were significantly ( $p \leq .05$ ) more important to the CPAs while the value of *happiness* (given a rank of 5 by CPAs) was significantly more important ( $p \leq .05$ ) to students. The two groups did not significantly differ in the priority given to the terminal value of *wisdom* (given a ranks of 6 by CPAs and ranks of 7 by students).

Similar results were found using both statistics with the instrumental values: CPAs compared to students deemed the instrumental values of *honest*, *responsible*, *capable*, and *courageous* (ranked 1-4 respectively by CPAs) as significantly ( $p \leq .05$ ) more important while CPAs and students did not significantly differ in the rankings of the values of *loving* and *independent* (given ranks of 5 and 6 respectively by CPAs and ranks of 4 and 7 respectively by students).

#### 4.1.4.4 Effect Size Results

According to Sullivan and Feinn (2012) “. . . the p value can inform the reader whether an effect exists, the p value will not reveal the size of the effect. Effect size helps readers understand the magnitude of differences found, whereas statistical significance examines whether the findings are likely due to chance” (Sullivan & Feinn, 2012, p. 2 & 4). Carson (2012) indicated that “an often-recommended

technique is the use of effect size to describe the practical significance of a statistical test result, independent of the sample size and the measurement scale” (Carson, 2012, para. 8).

The Mann-Whitney U test employed in the present study indicated that CPAs and accounting students significantly ( $p \leq .05$ ) differed in the priority given to 24 of the 36 RVS values. Nevertheless, the effect sizes were either small ( $r < .10$ ;  $N = 7$ ) or small to medium ( $r > .10$  and  $< .30$ ;  $N = 17$ ). The small effect sizes found in this study increases the chance that a Type I error was made. According to Rosnow and Rosenthal (1989), “Type I errors may be thought of as inferential errors of gullibility or overeagerness [(sic)], that is, an effect or a relationship is claimed where none exists” (Rosnow & Rosenthal, 1989, p. 1278).

Field (2009) noted that when “. . . we use a lots of Mann-Whitney tests we will inflate the Type I error rate. . .” (Field, 2009, p. 565). In the present study, the Mann-Whitney test is used 18 times for the terminal values and 18 times for the instrumental values. A method of minimizing a Type I error, is to use a very restrictive alpha level. “The easiest method is to use a Bonferroni correction, which in its simplest form just means that instead of using .05 as the critical value for significance for each test, you use a critical value of .05 divided by the number of tests you’ve conducted” (Field, 2009, p. 565). With 18 tests, the Bonferroni corrected p needed for significance is .003. At this more restrictive level of p, CPAs and accounting students differed in the priority given to 15 of the 36 (41.7%) RVS values: eight terminal values and seven instrumental values. Of note, at this more critical level of significance CPAs and accounting students still differed in the priority given to all four of the values targeted for change in the Value Change Study.

#### 4.1.5 Hypothesis 1

As previously formulated, Hypothesis 1 states the following:

**Hypothesis 1:** There are no differences in the value priorities of CPA leaders in Georgia and accounting students in Georgia.

Based on the results obtained with both the Mann-Whitney U test and the median test, Hypothesis 1 is rejected. These samples of Georgia CPA leaders and Georgia accounting students did significantly differ in the majority of their value priorities: 66.7% using the Mann-Whitney U test and 52.8% using the median test. In addition, using the more restrictive Bonferroni correction alpha of  $p \leq .003$  with the Mann-Whitney U test, the two groups still significantly differed in the priority given to 41.7% ( $N = 15$ ) of the RVS values. Moreover, these two groups significantly ( $p \leq .05$ ) differed in both the terminal and instrumental values given the most importance by CPAs: five of the top six terminal values and four of the top six instrumental values.

## **4.2 VALUE CHANGE STUDY**

The value change experiment was conducted with two Master of Science in Accounting classes in professional judgment taught by this researcher at Southern Polytechnic State University. The classes ran simultaneously and were delivered totally online—there were no in-class components. The two classes were initially equalized for number and gender. Randomly, one class was designated Group 1 and the other Group 2. Both groups received the identical curriculum which was also made available to both groups at the same time. The only difference between the two groups was that Group 2, and not the Group 1, received the VSC Intervention.

### 4.2.1 Sample Demographics

At the beginning of the semester, both of the Group 1 and Group 2 classes had 16 students reenrolled. However, three of the students in Group 1 withdrew from the course prior to the second week of class. Consequently, the final sample sizes were 13 for Group 1 and 16 for Group 2.



#### 4.2.1.1 Descriptive Analysis

As summarized in Table 16, the majority of the students in both Group 1 and Group 2 were female (Group 1, 53.8%; Group 2, 56.2%), less than 30 years of age (Group 1, 61.5%; Group 2, 50.0%), born in the United States (Group 1, 84.6%; Group 2, 62.5%), residents of the United States at age 16 (Group 1, 84.6%; Group 2, 75.0%), and moderate in their self-accessed political orientation (Group 1, 69.2%; Group 2, 62.5%). In addition, the majority of both groups (Group 1, 76.9%; Group 2, 68.8%) had previously taken an ethics course. Most of students in Group 1 (69.2%) had five or fewer years of work experience while half (50.0%) of the students in Group 2 had 11 or fewer years of work experience. The mean grade point averages (GPA; 4.0 maximum) were 3.54 for Group 1 and 3.41 for Group 2.

Table 16  
Group 1 and Group 2 Demographics

Variables	Group 1 ( <i>N</i> = 13)		Group 2 ( <i>N</i> = 16)	
	No.	%	No.	%
Gender				
Male	6	46.2	7	43.8
Female	7	53.8	9	56.2
Age				
0-29	8	61.5	8	50.0
Over 29	5	15.4	8	25.0
Work experience				
0-5	9	69.2	6	37.5
Over 5	4	30.8	10	62.5
Ethics course taken				
Yes	10	76.9	11	68.8
No	3	23.1	5	31.2
Country of birth				
U.S.A	11	84.6	10	62.5
Not U.S.A	2	15.4	6	37.5
Residence at age 16				
U.S.A	11	84.6	12	75.0
Not U.S.A.	2	15.4	4	25.0
Political orientation				
Liberal	1	7.7	1	6.3
Moderate	9	69.2	10	62.5
Conservative	3	23.1	5	31.2
Grade point average				
Means	13	3.54	16	3.41

#### 4.2.1.2 Chi-square Test and T-Test Results

The statistical significances of the demographic differences between these 2 groups of students were investigated with Pearson’s chi-square test (Table 17) and with a t-test (Table 18).

Table 17  
Comparison of Group 1 and Group 2  
On Seven Demographic Variables  
Chi-Square Test Results

Groups	N	Mean	Std. Dev.	Std. Error	t	df	p
Group 2	16	3.41	.44488	.11122	-.820	27	.419
Group 1	13	3.54	.37532	.10409			

Table 18  
Comparison of Group 1 and Group 2  
On the Demographic Variable  
Of Mean Grade Point Average  
T-Test Results

Variables	N	X <sup>2</sup>	df	p
Gender	29	0.017	1	.897
Age	29	2.584	3	.460
Work experience	29	2.892	1	.089
Ethics course taken	29	.240	1	.624
Country of birth	29	1.756	1	.185
Residence at age 16	29	.404	1	.525
Political orientation	29	.245	2	.885

Pearson chi-square tests did not find any significant differences between Group 1 and Group 2 for the variables of gender, age, work experience, ethics course taken, country of birth, residence at age 16, and political orientation. In addition, the t-test did not find a significant difference in the mean GPAs of the students assigned to the two groups. Therefore, for these eight variables, Group 1 and Group 2 were relatively matched.

#### 4.2.2 Short-Term Value Change (Pretest to Posttest 1)

The short-term value change portion of the experiment tested the change in priority given to the four targeted values from the beginning of class to the end of class (Pretest to Posttest 1), which was a period of seven to eight weeks. For Group 2, Posttest 1 took place immediately after the VSC Intervention. The results are presented separately for Group 1 and Group 2.

##### 4.2.2.1 Group 1

The Group 1 completed the RVS at the beginning of the course, before having access to any of the modified course content. During the class, Group 1 received the Curriculum Modification Intervention focused on the importance to the CPA profession of the value of *courageous*: having the moral courage to refuse the unethical demands of superiors, peers and clients—refusing, as required by the Code of Professional Conduct and Bylaws (2012, ET Section 55.02) of the AICPA, to subordinate their professional judgment. At the end of class, Group 1 completed the instrumental portion of the RVS.

##### 4.2.2.1.1 Descriptive Analysis

Group 1's composite rank orders, medians, and change in medians from Pretest to Posttest 1 are presented in Table 19. This preliminary analysis indicated that, compared to the medians at Pretest, the medians at Posttest 1 for the nine values of *broad-minded*, *capable*, *cheerful*, *courageous*, *honest*, *imaginative*, *independent*, *loving*, and *self-controlled* were lower; the medians at Posttest 1 for the seven values of *ambitious*, *clean*, *forgiving*, *logical*, *obedient*, *polite*, and *responsible* were higher; and the medians at Posttest 1 for the two values of *helpful* and *intellectual* did not change.

In addition, the composite rank order changed for all but two of the 18 values: *honest* (1) and *independent* (5) were ranked the same at both time periods. Since lower medians and composite rank

orders indicate higher priorities, this comparison of medians found an increase from Pretest to Posttest 1 in the importance given by Group 1 to nine of the 18 RVS values.

Table 19  
Group 1 (N = 13)  
Pretest to Posttest 1  
Composite Rank Orders, Grouped Medians,  
And Changes in Grouped Medians

Instrumental Values	Composite Rank Orders (#) & Grouped Medians		Changes in Grouped Medians	
	Pretest	Posttest 1	(H/L)	Importance
Ambitious	(2) 4.50	(5) 5.00	H	Less
Broad-minded	(7) 9.33	(8) 9.25	L	More
<b>Capable</b>	<b>(3) 5.00</b>	<b>(2) 3.80</b>	<b>L</b>	<b>More</b>
Cheerful	(16) 12.67	(13) 12.00	L	More
Clean	(10) 11.00	(14) 12.33	H	Less
<b>Courageous</b>	<b>(11) 11.33</b>	<b>(4) 6.00</b>	<b>L</b>	<b>More</b>
Forgiving	(6) 8.00	(9) 9.50	H	Less
Helpful	(8/9) 10.00	(10/11/12) 10.00	No change	
<b>Honest</b>	<b>(1) 2.83</b>	<b>(1) 2.80</b>	<b>L</b>	<b>More</b>
Imaginative	(18) 15.67	(15/16) 14.33	L	More
Independent	(5) 7.67	(5) 6.67	L	More
Intellectual	(8/9) 10.00	(10/11/12) 10.00	No change	
Logical	(12) 11.67	(15/16) 14.33	H	Less
Loving	(15) 12.50	(6) 7.67	L	More
Obedient	(17) 15.33	(18) 16.50	H	Less
Polite	(14) 12.33	(17) 15.00	H	Less
<b>Responsible</b>	<b>(4) 6.75</b>	<b>(7) 8.33</b>	<b>H</b>	<b>Less</b>
Self-controlled	(13) 12.00	(10/11/12) 10.0	L	More

(#) = Composite rank orders

H = Higher grouped median

L = Lower grouped median

**Bold** = Targeted values

Note: Lower median ranks and composite rank orders indicate higher priorities

Group 1's Pretest and Posttest composite rank orders and medians for the four values targeted for change with Group 2 are separately presented in Table 20. Of note, the value of *courageous*, which was the only value targeted for change with Group 1, had a median of 11.33 and a composite rank order of 11 at Pretest compared to a median of 6.0 and a composite rank order of 4 at Posttest 1. Therefore, students in Group 1 (that received only the Curriculum Modification Intervention targeted at increasing the importance given to this value) ranked *courageous* seven ranks lower (higher priority) at Posttest 1

than they had at Pretest—a move from the lower third (ranks of 7-12) to the top third (ranks of 1-6) rankings of the 18 RVS instrumental values.

In addition, two of the three other values targeted for change with Group 2, but not treated (no intervention) with Group 1, also had lower medians (were given higher priority) at Posttest 1 than at Pretest: *Capable* had a median of 5.00 and a composite rank order of 3 at Pretest compared to a median of 3.80 and a composite rank order of 2 at Posttest 1; and *honest* had a median of 2.83 at Pretest and slightly lower median of 2.80 at Posttest 1 while its composite rank order was 1 at both Pretest and Posttest 1. The fourth targeted value of *responsible* was given a lower priority at Posttest 1 than at Pretest: it had a median of 6.75 and a composite rank of 4 at Pretest compared to a median of 8.33 and a composite rank order of 7 at Posttest 1.

Table 20  
Group 1  
Composite Rank Order and Grouped Medians  
Pretest to Posttest 1  
Four Targeted Values

Targeted Values	Composite Rank Orders (#) And Grouped Medians	
	Pretest	Posttest 1
Capable	(3) 5.00	(2) 3.80
<b>Courageous</b>	<b>(11) 11.33</b>	<b>(4) 6.00</b>
Honest	(1) 2.83	(1) 2.80
Responsible	(4) 6.75	(7) 8.33

(#) = Composite rank order

Note: Lower medians and composite rank orders indicate higher priority.

**Bold** = Value targeted for change with Curriculum Modification Intervention.

The significance of these findings was investigated using the Wilcoxon signed-rank test and the paired-samples sign test.

#### 4.2.2.1.2 Wilcoxon Signed-Rank Test Results

As indicated in Chapter 3, an assumption of the Wilcoxon signed-rank test is that “the distribution of the differences between the 2 related groups . . . needs to be symmetrical” (Laerd Statistics, Wilcoxon

signed-rank test, 2014. para. 4). Since the rankings of the individual RVS values are often skewed (Rokeach, 1973), symmetrical distributions were not expected. However, the median differences of *capable* and *honest* were symmetrical. Therefore, for the two targeted values of *capable* and *honest*, the Wilcoxon signed-rank test was used to determine the significance of the change in medians from Pretest to Posttest 1. The alternate statistic, the paired-samples sign test, was used to determine the significance of the change in medians (where the median differences were skewed) from Pretest to Posttest 1 for the two values of *courageous* and *responsible*.

The results of the Wilcoxon signed-rank test are presented in Table 21. The decrease in the medians of *capable* from Pretest (Mdn = 5.00) to Posttest 1 (Mdn = 3.80) was (while a move in the desired direction of greater importance) not significant ( $p = .422$ ). The slight change in the medians of *honest* from Pretest (Mdn = 2.83) to Posttest 1 (Mdn = 2.80) was also not significant ( $p = .674$ ). As expected, Group 1 did not give these two values a higher priority at Posttest 1 compared to at Pretest.

Table 21  
Group 1  
Pretest and Posttest 1  
Wilcoxon Signed-Rank Test

Targeted Values	N	Test Statistic	Std. Error	Z	r	p
Capable	13	24.000	11.203	-.803	-.157	.422
Honest	13	21.000	7.133	.421	.083	.674

#### 4.2.2.1.3 Paired-Samples Sign Test Results

Neither a log natural, a log 10, nor a square root transformation worked to correct the skew at Pretest and at Posttest 1 of the median differences of the targeted values of *courageous* and *responsible*. This result was expected. As previously indicated, Rokeach (1973) found that the distributions of the rankings of individual RVS values were often not symmetrical. Therefore the alternate test, the paired-samples sign test, which does not require symmetrical data, was used to compare the medians of these values. Of note, as indicated by Laerd Statistics,

the sign test determines whether the medians of the paired differences are different from zero, not whether the medians [at] the two [periods] are statistically significant. [Therefore] . . . the paired differences [are] not necessarily equivalent to the difference between the medians of the two [periods]. (Laerd Statistics, Median Values and Paired differences, no page)

The results of the paired-samples sign test for all four of the targeted values are presented in Table 22. From Pretest to Posttest 1, the value of *responsible* became less, rather than more, important: Mdn = 6.75 at Pretest; Mdn = 8.33 at Posttest 1. At Posttest 1 compared to at Pretest, *responsible* was ranked lower (as more important) by five students, was ranked higher (as less important) by six subjects, and neither higher nor lower (no change; a tie) by two students. The paired-samples sign test did not find the median of the differences significantly different from zero ( $Z = 0$ ).

*Courageous* was the only value targeted for change with Group 1. *Courageous* was ranked higher at Posttest 1 than at Pretest: Pretest Mdn = 11.33; Posttest 1 Mdn = 6.00. However, as with *responsible*, the median of the differences between the rankings at Pretest to Posttest 1 was 0. At Posttest 1 compared to Pretest, an equal number of subjects ( $N = 6$ ) ranked the value higher and lower; and one student did not change his or her ranking (a tie). The paired-samples sign test did not find the median of the paired differences significantly different from zero.

In agreement with the results of the Wilcoxon signed-rank test, the values of *capable* and *honest* were not ranked lower (were not considered more important) at Posttest 1 compared to at Pretest: *capable* ( $Z = -.603$ ,  $r = .118$ ,  $p = .549$ ); *honest* ( $Z = .354$ ,  $r = .069$ ,  $p = .727$ ). Thus, as expected, *capable*, *honest*, and *responsible* (values for which there was no value change intervention) were not ranked significantly higher at Posttest 1 compared to at Pretest. Unexpectedly, *courageous*, which was targeted for change with the Curriculum Modification Intervention, was also not ranked significantly higher at Posttest 1 compared to at Pretest.

Table 22  
Group 1  
Pretest and Posttest 1  
Paired-Samples Sign Test

Value	Medians		
	Pretest	Posttest 1	Paired Differences <sup>a</sup>
Capable	5.00	4.00	1.00
Courageous	12.00	7.00	.00
Honest	3.00	3.00	.00
Responsible	7.00	8.00	.00

Note: Grouped medians are not reported.

<sup>a</sup> Paired differences may differ from differences in medians

Targeted Values	N	Pos. Diffs.	Neg. Diffs.	Ties	Z	r	p <sup>a</sup>
Capable	13	4	7	2	-.603	.118	.549
Courageous	13	6	6	1	.000	0	1.000
Honest	13	5	3	5	.354	.069	.727
Responsible	13	6	5	2	.000	0	1.000

<sup>a</sup> The exact p-value was calculated using the binomial distribution

#### 4.2.2.1.4 Hypothesis 2

As previously formulated, Hypothesis 2 states the following:

The Curriculum Modification Intervention will have no effect on value change amongst accounting students. (Operationalized Hypothesis: For Group 1, there will be no difference in the priority given to the value of *courageous* from Pretest to Posttest 1).

Hypothesis 2 is not rejected. While the medians for *courageous* moved from Pretest to Posttest 1 in the direction (Table 20) of greater importance and the composite rank order increased by seven ranks (from a composite rank order of 11 at Pretest to a composite rank order of four at Posttest 1), the distribution of differences in the medians from Pretest to Posttest did not significantly change. Therefore, from Pretest to Posttest 1, the paired-samples sign test indicates that Group 1 did not significantly change the priority given to *courageous*. This finding suggests that for this group of students, the Curriculum Modification Intervention was not an effective value change intervention.



#### 4.2.2.2 Group 2

Group 2 completed the RVS at the beginning of class, received the Curriculum Modification Intervention throughout the class, received the VSC Intervention (Appendix C) at the end of class, and then completed the instrumental portion of the RVS. All 16 students in Group 2 completed the RVS within a day of receiving the VSC Intervention and within a day of completing the VSC quiz (labeled for students as the RVS Feedback Quiz; Appendix D).

##### 4.2.2.2.1 Descriptive Analysis

Group 2 ranked six values lower (gave a higher priority) and 12 values higher (gave a lower priority) at Posttest 1 compared to at Pretest. The values of *capable*, *courageous*, *helpful*, *honest*, *logical*, and *responsible* had lower medians, and thus were more important, at Posttest 1 than at Pretest; and the values of *ambitious*, *broad-minded*, *cheerful*, *clean*, *forgiving*, *imaginative*, *independent*, *intellectual*, *loving*, *obedient*, *polite*, and *self-controlled* had higher medians, and thus were less important, at Posttest 1 than at Pretest. The composite rank order of 14 of the 18 RVS instrumental values changed from Pretest to Posttest 1. There was no change from Pretest to Posttest 1 in the composite rank orders of the four values of *honest* (1), *responsible* (3), *forgiving* (10), and *imaginative* (18). The Pretest and Posttest 1 composite rank orders, medians and change in the importance given to each of the 18 RVS instrumental values are presented in Table 23.

Table 23  
Group 2 (N = 16)  
Pretest to Posttest 1  
Composite Rank Order, Grouped Medians,  
And Changes in Grouped Medians

Instrumental Values	Composite Rank Orders (#) & Grouped Medians		Changes in Grouped Medians	
	Pretest	Posttest 1	(H/L)	Importance
Ambitious	(2) 3.00	(5/6) 7.75	H	Less
Broad-minded	(13) 11.33	(14) 13.33	H	Less
<b>Capable</b>	<b>(7) 9.25</b>	<b>(4) 4.14</b>	<b>L</b>	<b>More</b>
Cheerful	(14) 11.75	(15) 13.67	H	Less
Clean	(17) 13.75	(16) 14.67	H	Less
<b>Courageous</b>	<b>(6) 8.67</b>	<b>(2) 2.80</b>	<b>L</b>	<b>More</b>
Forgiving	(10) 10.40	(10) 10.60	H	Less
Helpful	(9) 10.00	(8) 8.75	L	More
<b>Honest</b>	<b>(1) 1.90</b>	<b>(1) 1.13</b>	<b>L</b>	<b>More</b>
Imaginative	(18) 15.75	(18) 17.11	H	Less
Independent	(4) 7.40	(7) 8.00	H	Less
Intellectual	(11) 10.86	(12) 11.25	H	Less
Logical	(16) 13.50	(11) 10.67	L	More
Loving	(8) 9.50	(9) 10.33	H	Less
Obedient	(15) 12.33	(17) 15.25	H	Less
Polite	(12) 11.00	(13) 13.00	H	Less
<b>Responsible</b>	<b>(3) 4.40</b>	<b>(3) 3.40</b>	<b>L</b>	<b>More</b>
Self-controlled	(5) 7.67	(5/6) 7.75	H	Less

(#) = Composite rank order

H = Higher grouped median

L = Lower grouped median

**Bold** = Targeted values

Note: Lower median ranks and composite rank orders indicate higher priorities

The medians and composite rank orders of *capable*, *courageous*, *honest* and *responsible*, targeted for change with Group 2, are separately presented in Table 24. Group 2 ranked all four of these values as more important at Posttest 1 than they had at Pretest: the medians for *capable* were 9.25 at Pretest and 4.14 at Posttest 1; the medians for *courageous* were 8.67 at Pretest and 2.80 at Posttest 1; the medians for *honest* were 1.90 at Pretest and 1.13 at Posttest 1; and the medians for *responsible* were 4.40 at Pretest and 3.40 at Posttest 1. The composite rank orders of *capable* and *courageous* were lower (more important) at Posttest 1 than at Pretest: *capable* had composite rank orders of 7 at Pretest and 4 at Posttest 1; and *courageous* had composite rank orders of 6 at Pretest and 2 at Posttest 1. The composite rank orders of *honest* (composite rank of 1) and *responsible* (composite rank of 3) did not change from Pretest to Posttest 1.

Table 24  
Group 2  
Composite Rank Order and Medians of  
Targeted Values  
Pretest to Posttest 1

Targeted Values	Composite Rank Orders (#) And Grouped Medians	
	Pretest	Posttest 1
Capable	(7) 9.25	(4) 4.14
Courageous	(6) 8.67	(2) 2.80
Honest	(1) 1.90	(1) 1.13
Responsible	(3) 4.40	(3) 3.40

(#) = Composite rank order

Note: Lower medians and composite rank orders indicate higher priority

#### 4.2.2.2.2 Wilcoxon Signed-Rank Test Results

*Responsible* was the only value of the four targeted values for which the distribution of the differences between the Pretest and Posttest 1 medians was approximately symmetrical. Therefore, the Wilcoxon signed-rank test was used to determine the significance of the change in medians from 4.40 at Pretest to 3.40 of Posttest 1. The result reported in Table 25 indicates that the change in medians reached significance ( $p \leq .05$ ):  $Z = -1.959$ ,  $r = -.346$ ,  $p = .050$ . The  $r$  statistic indicates a medium to large effect size ( $r > .30$  and  $< .50$ ).

Table 25  
Group 2 (Pretest to Posttest 1)  
Wilcoxon Signed-Rank Test

Targeted Value	N	Test Statistic	Standard Error	Z	r	p
Responsible	16	26.000	17.357	-1.959	-.346	.050*

\* = Significant at  $p \leq .05$

#### 4.2.2.2.3 Paired-Samples Sign Test Results

Neither a log natural, a log 10, nor a square root transformation worked to correct the skew of the distribution of the differences between the Pretest and Posttest 1 medians of the targeted values of

*capable*, *courageous* and *honest*. Again, this result was not unexpected (Rokeach, 1973). Therefore, the paired-sample sign test, which does not require symmetrical data, was used to compare the medians at Pretest and Posttest 1 of these values. In order to consistently compare the medians of all four values, the paired-samples sign test statistic was also computed for *responsible*. The results of this test are presented in Table 26.

Table 26  
Group 2  
Pretest and Posttest 1  
Paired-Samples Sign Test

Targeted Values	Medians		
	Pretest	Posttest 1	Paired Differences <sup>a</sup>
Capable	9.50	4.00	4.50
Courageous	9.00	3.00	5.00
Honest	2.00	1.00	1.00
Responsible	4.00	3.50	1.00

Note: Grouped medians are not reported.

<sup>a</sup> Paired differences may differ from differences in medians

Targeted Values	N	Positive Diffs.	Negative Diffs.	Ties	Z	r	p <sup>a</sup>
Capable	16	1	15	0	-3.250	-.575	.001**
Courageous	16	2	14	0	-2.750	-.486	.004**
Honest	16	0	9	7	-2.667	-.471	.004**
Responsible	16	4	11	1	-1.549	-.274	.118

<sup>a</sup> The exact p-value was calculated using the binomial distribution.

\*\* = Significant at  $p < .01$

The paired-samples sign test indicates that the medians at Pretest and Posttest 1 for the values of *capable*, *courageous* and *honest* were significantly lower ( $p \leq .05$ ; higher priority as indicated by negative Z scores) at Posttest 1 than at Pretest. The effect size was large ( $r \geq .50$ ) for the value of *capable* and medium to large ( $r \geq .30$  and  $< .50$ ) for the values of *courageous* and *honest*. The medians of *responsible* were also lower (higher priority as indicated by negative Z scores) at Posttest 1 than at Pretest. However, the median differences for *responsible* were not significant ( $p = .118$ ). Using the Wilcoxon signed-rank test, the change in medians of *responsible* from Pretest to Posttest 1 did reach significance ( $p = .050$ ) with a medium to large effect size ( $r = -.346$ ). Since the Wilcoxon signed-rank

test is a more powerful statistic than the paired-samples sign test (Field, 2009), the median change for *responsible* (from 4.40 at Pretest to 3.40 at Posttest 1) is considered significant.

#### 4.2.2.2.4 Hypothesis 3

As previously formulated, Hypothesis 3 states the following:

The VSC Intervention will have no effect on value change amongst accounting students. (Operationalized Hypothesis: For Group 2, there will be no difference in the priorities given to the values of *capable*, *courageous*, *honest*, and *responsible* from Pretest to Posttest 1).

Hypothesis 3 is rejected. The students in Group 2 gave a significantly ( $p \leq .05$ ) higher priority at Posttest 1, compared to at Pretest, to all four of the targeted values: *capable*, *courageous*, and *honest* at  $p < .01$  (Table 26); and *responsible* at  $p \leq .05$  (Table 25).

There were no tied rankings at Pretest and Posttest 1 for the values of *capable* and *courageous* and the value of *responsible* had one tied ranking. *Honest* had seven tied rankings, which is a relatively high percentage of tied to total ranks. At Posttest 1, nine students (56.25%) ranked *honest* higher than at Pretest while seven students (43.75%) neither increased nor decreased their ranking of this value. This large number of ties is mitigated in that all seven of the students who maintained their rankings of this value gave it the highest rank (1) at both time periods. Therefore, the number of ties may be explained by a “ceiling effect,” which results when higher ranks are not available (Riverside Publishing, 2014, no page).

#### 4.2.3 Long-Term Value Change (Pretest to Posttest 2 to Posttest 3)

In addition to completing the RVS at the beginning of class and then completing the instrumental portion of the RVS at the end of class (as was done by both Group 1 and Group 2), Group 2 also completed the instrumental portion of the RVS for a third time at Posttest 2, which was about five to six weeks after the Posttest 1, and again for a fourth time at Posttest 3, which was about 15-16 weeks after

Posttest 1. While both Group 1 and Group 2 received the Curriculum Modification Intervention, which focused on the importance to the CPA profession of the value of *courageous*, Group 2 also received the VSC Intervention (Appendix C) which focused on the importance to the CPA profession of all four targeted values: *capable*, *courageous*, *honest* and *responsible*. As previously indicated, the VSC Intervention was delivered immediately prior to Posttest 1.

#### 4.2.3.1 Descriptive Analysis

The composite rank orders and grouped medians of the 18 RVS instrumental values at each of the four time periods are presented in Table 27. The medians at Posttest 3 compared to the medians at Pretest were higher (given a lower priority) for the nine values of *ambitious* (medians of 3.00 and 7.00), *cheerful* (medians of 11.75 and 13.86), *clean* (medians of 13.75 and 14.50), *forgiving* (medians of 10.40 and 14.00), *helpful* (medians of 10.00 and 11.71), *imaginative* (medians of 15.75 and 16.20), *loving* (medians of 9.50 and 10.00), *polite* (medians of 11.00 and 14.40), and *self-controlled* (medians of 7.67 and 8.67).

Conversely, nine of the 18 values were given a higher priority (lower medians) at Posttest 3 than at Pretest. The values of *broad-minded* (medians of 11.33 and 11.00), *independent* (medians of 7.40 and 5.80), *intellectual* (medians of 10.86 and 8.75), *logical* (medians of 13.50 and 7.83), *obedient* (medians of 12.33 and 12.00), which were not targeted for change, were all given a higher priority at Posttest 3 than at Pretest. Importantly, all four of the targeted values of *capable* (medians of 9.25 and 4.40), *courageous* (medians of 8.67 and 2.89), *honest* (medians of 1.90 and 1.55) and *responsible* (medians of 4.40 and 3.18) were also given a higher priority at Posttest 3 compared to at Pretest.

Table 27  
Group 2 (N = 16)  
Pretest to Posttest 1, to Posttest 2, to Posttest 3  
Composite Rank Orders and Grouped Medians

Instrumental Values	Composite Rank Orders (#) & Grouped Medians			
	Pretest	Posttest 1	Posttest 2	Posttest 3
Ambitious	(2) 3.0000	(5/6) 7.7500	(6) 7.0000	(6) 7.0000
Broad-minded	(13) 11.3333	(14) 13.3333	(12) 11.5000	(11) 11.0000
<b>Capable</b>	<b>(7) 9.2500</b>	<b>(4) 4.1429</b>	<b>(4) 4.6667</b>	<b>(4) 4.4000</b>
Cheerful	(14) 11.7500	(15) 13.6667	(15) 13.5000	(14) 13.8571
Clean	(17) 13.7500	(16) 14.6667	(13) 11.6667	(17) 14.5000
<b>Courageous</b>	<b>(6) 8.6667</b>	<b>(2) 2.8000</b>	<b>(2) 2.4286</b>	<b>(2) 2.8889</b>
Forgiving	(10) 10.4000	(10) 10.6000	(9) 10.0000	(15) 14.0000
Helpful	(9) 10.0000	(8) 8.7500	(10) 10.4000	(12) 11.7143
<b>Honest</b>	<b>(1) 1.9000</b>	<b>(1) 1.1250</b>	<b>(1) 1.6154</b>	<b>(1) 1.5455</b>
Imaginative	(18) 15.7500	(18) 17.1111	(18) 16.4286	(18) 16.2000
Independent	(4) 7.4000	(7) 8.0000	(5) 6.6000	(5) 5.8000
Intellectual	(11) 10.8571	(12) 11.2500	(7) 8.2000	(9) 8.7500
Logical	(16) 13.5000	(11) 10.6667	(11) 11.1429	(7) 7.8333
Loving	(8) 9.5000	(9) 10.3333	(14) 13.0000	(10) 10.0000
Obedient	(15) 12.3333	(17) 15.2500	(17) 15.0000	(13) 12.0000
Polite	(12) 11.0000	(13) 13.0000	(16) 14.5000	(16) 14.4000
<b>Responsible</b>	<b>(3) 4.4000</b>	<b>(3) 3.4000</b>	<b>(3) 4.0000</b>	<b>(3) 3.1818</b>
Self-controlled	(5) 7.6667	(5/6) 7.7500	(8) 8.5000	(8) 8.6667

(#) = Composite rank order

**Bold** = Targeted values

Note: Lower median ranks and composite rank orders indicate higher priorities

The composite rank orders and medians of the four targeted values over the time periods of Pretest, Posttest 1, Posttest 2 and Posttest 3 are separately presented in Table 28. All four of the values had lower medians at each of the three Posttests than at Pretest. That is, after the VSC Intervention, all four of the targeted values were given a higher priority (had lower medians) at Posttest 3 compared to at Pretest.

The composite rank orders of *capable* and *courageous* changed from lower composite rankings at Pretest to a higher composite rankings that remained unchanged at each of the subsequent Posttests: *capable* went from a composite rank of 7 at Pretest to a composite rank of 4 at each subsequent Posttest; and *courageous* went from a composite rank of 6 at Pretest to a composite rank of 2 at each subsequent Posttest. At all four time periods, *honest* had a composite rank order of 1 and *responsible* had a composite rank order of 3.

Table 28  
Group 2  
Composite Rank Orders and Grouped Medians of  
Four Targeted Values  
Pretest, Posttest 1, Posttest 2, and Posttest 3

Targeted Values	Composite Rank Orders (#) and Grouped Medians			
	Pretest (Beginning of class)	Posttest 1 (End of class; after VSC intervention)	Posttest 2 (5-6 weeks after VSC intervention)	Posttest 3 (15-16 weeks after VSC intervention)
Capable	(7) 9.2500	(4) 4.1429	(4) 4.6667	(4) 4.4000
Courageous	(6) 8.6667	(2) 2.8000	(2) 2.4286	(2) 2.8889
Honest	(1) 1.9000	(1) 1.1250	(1) 1.6154	(1) 1.5455
Responsible	(3) 4.4000	(3) 3.4000	(3) 4.0000	(3) 3.1818

(#) = Composite rank order

Note: Lower median ranks and composite rank orders indicate higher priorities.

The change in medians from Pretest, to Posttest 1, to Posttest 2, and to Posttest 3 are graphically illustrated in four figures: *capable* in Figure 1, *courageous* in Figure 2, *honest* in Figure 3, and *responsible* in Figure 4. The significance of these findings were investigated using Friedman's test and multiple post hoc tests with the paired-samples sign test.



Figure 1  
Group 2  
Grouped Medians  
Pretest to Posttest 1, to Posttest 2, to Posttest 3

Capable

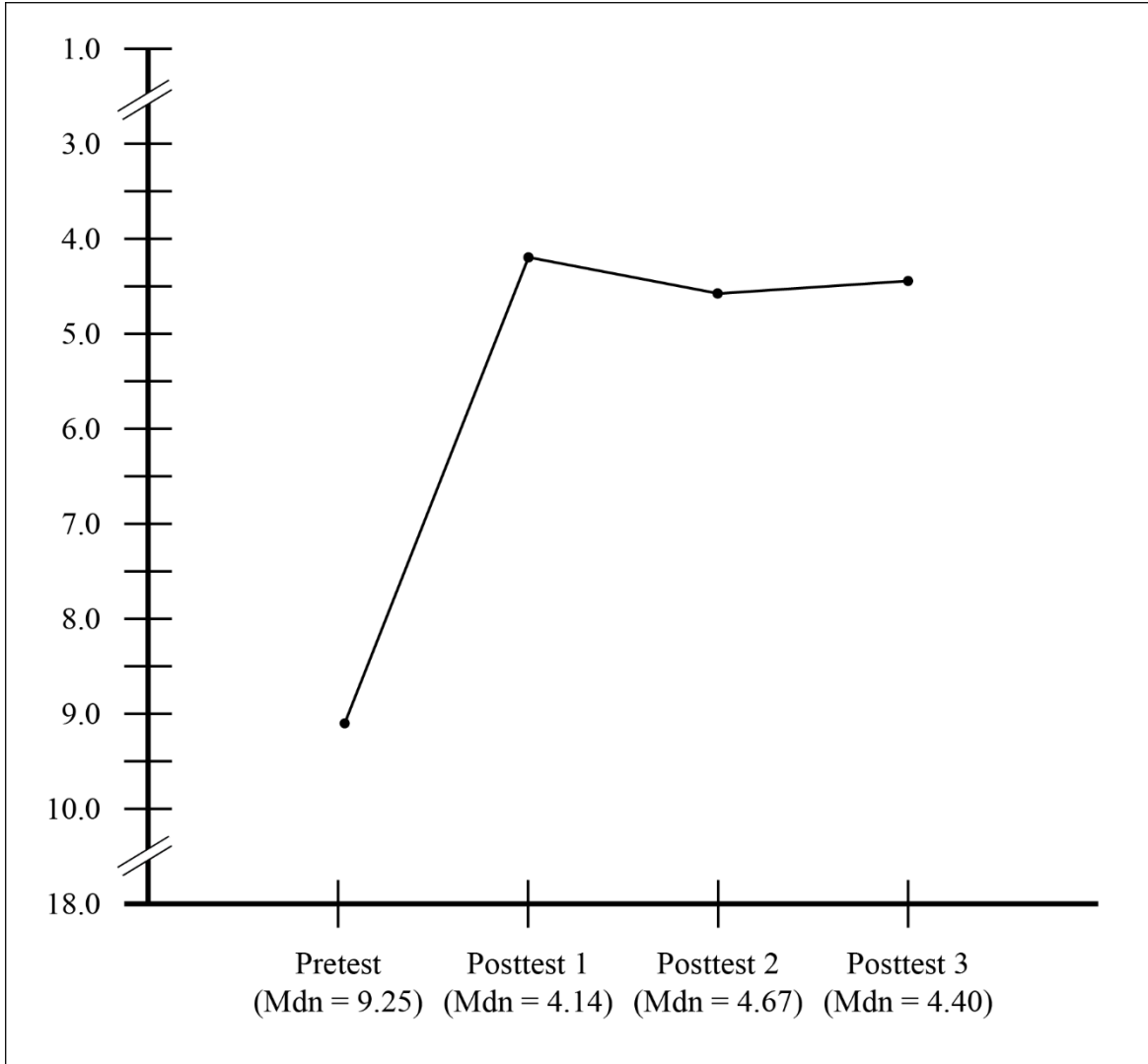


Figure 2  
Group 2  
Grouped Medians  
Pretest to Posttest 1, to Posttest 2, to Posttest 3

Courageous

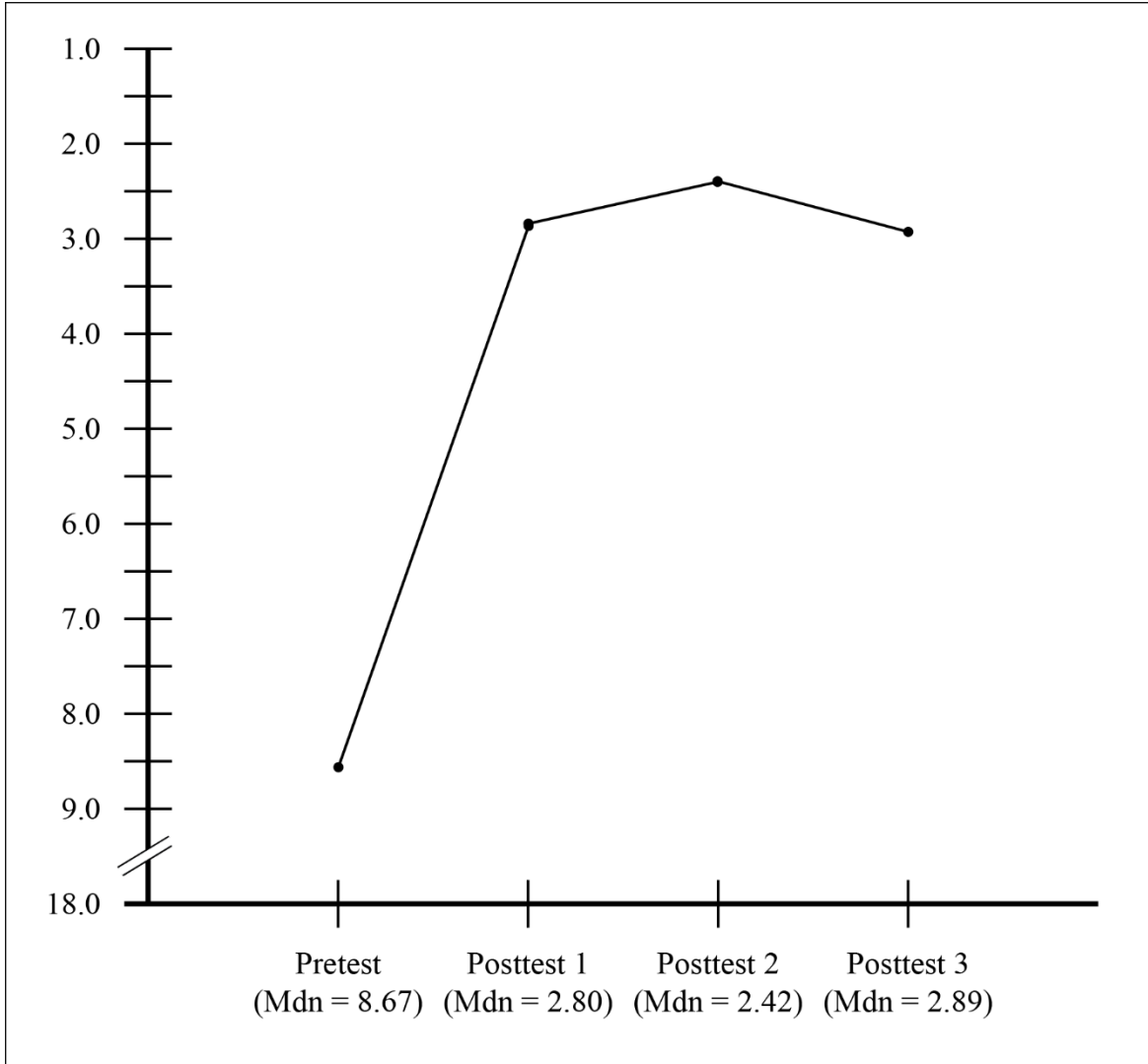


Figure 3  
Group 2  
Grouped Medians  
Pretest to Posttest 1, to Posttest 2, to Posttest 3

Honest

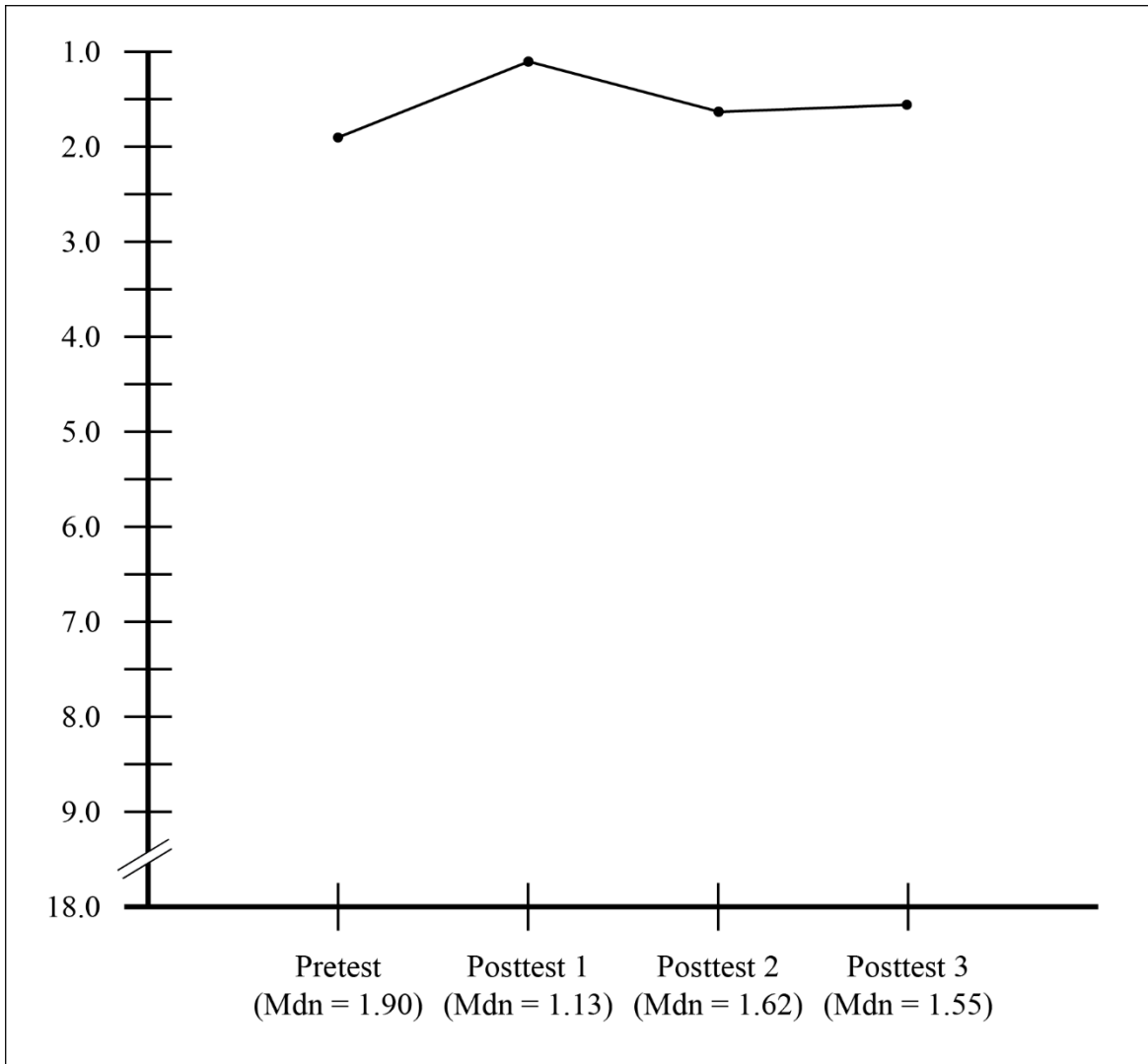
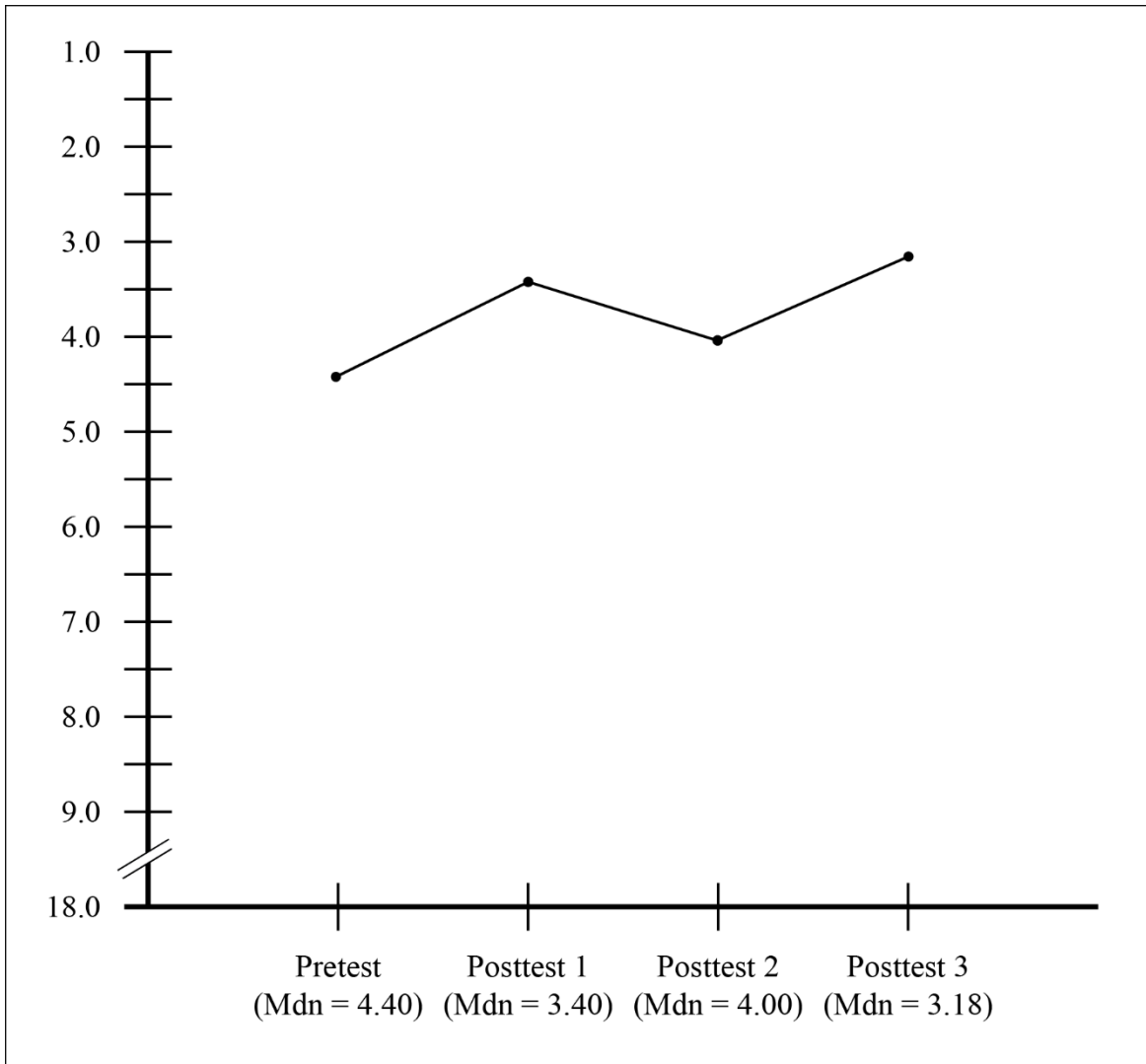


Figure 4  
 Group 2  
 Grouped Medians  
 Pretest to Posttest 1, to Posttest 2, to Posttest 3

Responsible



#### 4.2.3.2 Friedman's Test Results

Friedman's test was run for the median values of the targeted values of *capable*, *courageous*, *honest* and *responsible* across the four testing periods of Pretest, Posttest 1, Posttest 2, and Posttest 3. The results, which are presented in Table 29, found the differences in the medians for the values of *capable*, *courageous*, and *honest* significant ( $p \leq .05$ ). However, the median differences across the four testing

periods for the value of *responsible* were again not significant ( $p = .208$ ). Therefore, this statistic indicates that the three values of *capable*, *courageous* and *honest* were also deemed significantly more important across the four testing periods.

Table 29  
Group 2  
Friedman's Test  
Pretest, Posttest 1, Posttest 2, and Posttest 3

Targeted Value	N	X <sup>2</sup>	df	p
Capable	16	12.933	2	.002*
Courageous	16	12.806	2	.002*
Honest	16	13.351	2	.001*
Responsible	16	3.138	2	.208

\* = Significant at  $p \leq .05$

#### 4.2.3.3 Post Hoc Results: Paired-Samples Sign Test

As indicated in Chapter 3, Friedman's test "is an omnibus test . . . [that] tells you whether there are overall differences . . . but does not pinpoint which groups in particular differ from each other" (Laerd Statistics, Friedman Test in SPSS, no page). Due to the medians of most of the paired differences being skewed, as expected (Rokeach, 1973), and unable to be transformed to symmetrical using various transformations, the paired-samples sign test was used in multiple post hoc tests across the four testing periods for all four of the targeted values.

The results, which are presented in Table 30, indicate that *capable* was given a significantly higher priority at Posttest 1 compared to Pretest ( $Z = -3.250$ ,  $r = -.575$ ,  $p = .001$ ), was given a higher priority that barely failed to reach significance at Posttest 2 compared to Pretest ( $Z = -1.871$ ,  $r = -.331$ ,  $p = .057$ ), and was given a significantly higher priority at Posttest 3 compared to Pretest ( $Z = -2.250$ ,  $r = -.398$ ,  $p = .021$ ). The effect sizes for *capable* were large ( $r \geq .50$ ) from Pretest to Posttest1; and were medium to large ( $r > .30$  and  $< .50$ ) from Pretest to Posttest 2 and from Pretest to Posttest 3. Therefore, following the VSC Intervention, *capable* was given a significantly higher priority that persisted for 15-16 weeks.

The value of *courageous*, which was treated with both education interventions (the VSC Intervention and the Curriculum Modification), increased in importance across all Posttests: At Posttest 1 compared to Pretest, *courageous* was given a higher priority ( $Z = -2.750$ ,  $r = -.486$ ,  $p = .004$ ); at Posttest 2 compared to Pretest, *courageous* was given a higher priority ( $Z = -2.582$ ,  $r = -.456$ ,  $p = .007$ ); and at Posttest 3 compared to Pretest, *courageous* was given a higher priority ( $Z = -2.066$ ,  $r = -.365$ ,  $p = .035$ ). The effect sizes for *courageous* were medium to large ( $r > .30$  and  $< .50$ ) across all three periods: from Pretest to Posttest 1, from Pretest to Posttest 2, and from Pretest to Posttest 3. Therefore, for the value of *courageous*, the long-term change following the VSC Intervention persisted for 15-16 weeks.

For the value of *honest*, Friedman's test found the median differences significant ( $p \leq .05$ ) across both the time periods of Pretest to Posttest 2 and also significant ( $p \leq .05$ ) across the testing periods of Pretest to Posttest 3. However, as illustrated in Figure 3, the medians of this value, while lower (indicating higher priority) at each Posttest compared to at Pretest, varied across the paired samples. The paired-samples sign test indicated that *honest* was given a significantly higher priority at Posttest 1 compared to at Pretest ( $Z = -2.667$ ,  $r = -.471$ ,  $p = .004$ ) and was given a higher priority, but not significantly so, at both Posttest 2 and Posttest 3 compared to at Pretest ( $Z = -1.333$ ,  $r = -.236$ ,  $p = .180$ ). *Honest* was given a significantly ( $p \leq .05$ ) lower priority at Posttest 2 compared to Posttest 1 ( $Z = 2.475$ ,  $r = .438$ ,  $p = .008$ ), and a significantly ( $p \leq .05$ ) lower priority at Posttest 3 compared to Posttest 1 ( $Z = 2.041$ ,  $r = .361$ ,  $p = .031$ ). The effect sizes were medium to large ( $r > .30$  and  $< .50$ ) from Pretest to Posttest 1, from Posttest 1 to Posttest 2, and from Posttest 1 to Posttest 3. Thus, the post hoc test results with the paired-samples sign test supported the posited long-term change for *capable* and *courageous* but did not support the posited long-term value change for *honest*. Nevertheless, *honest* was the top ranked value at each time period.

Friedman's test did not find significant differences in the medians of *responsible* across the three Pretest to Posttest periods. The post hoc tests results agree with this finding. While the importance given to *responsible* increased from Pretest to Posttest 1 and from Pretest to Posttest 3, the differences were not significant at an alpha of  $p \leq .05$ .

Table 30  
Group 2  
Post Hoc Analysis with  
Paired-Samples Sign Test

Capable

	Pretest to Posttest 1	Pretest to Posttest 2	Pretest to Posttest 3	Posttest 1 to Posttest 2	Posttest 1 to Posttest 3	Posttest 2 to Posttest 3
Z	-3.250	-1.871	-2.250	.267	.555	-.267
r	-.575	-.331	-.398	.047	.098	.047
p	.001**	.057	.021*	.791	.581	.791

Courageous

	Pretest to Posttest 1	Pretest to Posttest 2	Pretest to Posttest 3	Posttest 1 to Posttest 2	Posttest 1 to Posttest 3	Posttest 2 to Posttest 3
Z	-2.750	-2.582	-2.066	.000	.000	.667
r	-.486	-.456	-.365	.000	.000	.118
p	.004**	.007**	.035*	1.000	1.000	.508

Honest

	Pretest to Posttest 1	Pretest to Posttest 2	Pretest to Posttest 3	Posttest 1 to Posttest 2	Posttest 1 to Posttest 3	Posttest 2 to Posttest 3
Z	-2.667	-1.333	-1.333	2.475	2.041	.000
r	-.471	-.236	-.236	.438	.361	.000
p	.004**	.180	.180	.008**	.031*	1.000

Responsible

	Pretest to Posttest 1	Pretest to Posttest 2	Pretest to Posttest 3	Posttest 1 to Posttest 2	Posttest 1 to Posttest 3	Posttest 2 to Posttest 3
Z	-1.549	.000	-.866	.866	-.289	-.289
r	-.274	.000	-.153	.153	-.051	-.051
p	.118	1.000	.388	.388	.774	.774

\* = Significant at  $p \leq .05$   
\*\* = Significant at  $p < .01$

#### 4.2.3.4 Hypothesis 4

As previously formulated, Hypothesis 4 states the following:

**Hypothesis 4:** The VSC Intervention will have no long-term effect on value change amongst accounting students. (Operationalized Hypothesis: For Group 2, there will be no difference in the priorities given to the values of *capable*, *courageous*, *honest*, and *responsible* from Pretest to Posttest 2 or from Pretest to Posttest 3).

Based on the results of Friedman's test and the post hoc tests with the paired-samples sign test, Hypothesis 4 is rejected. The change in the medians of *courageous* was significant ( $p \leq .05$ ) across the time period of Pretest to Posttest 2 (approximately five to six weeks after the VSC Intervention); and the change in medians of both *capable* and *courageous* were significant ( $p \leq .05$ ) across the time period from Pretest to Posttest 3 (approximately 15-16 weeks after the VSC Intervention). That is, the VSC Intervention had the effect of increasing the importance given to these two targeted values that persisted for about four months. Prior research (Rokeach & McLellan, 1972; Hollen, 1972; McLellan, 1974; Sherrid & Beech, 1976; Grube, 1979; Waller, 1994; Grube et al., 1994; Arieli et al., 2014) used a much shorter period—a period of 4 weeks—as indicative of long-term value change. While Friedman's test did find significant differences in the medians of *honest* across all four testing periods, the post hoc tests with the paired-samples sign test indicated that the only significant change took place was from Pretest to Posttest 1.

While the Wilcoxon signed-rank test results indicated that *responsible* was considered more important at Posttest 1 than at Pretest, Friedman's test indicated a lack of significance across both the four testing periods. The post hoc test results supported a lack of significance across the six sets of paired samples.

#### 4.2.4 Effect Size Results

The effect sizes computed with the paired-samples sign test (4.2.2.2.3, Table 26) for the short-term value changes from Pretest to Posttest 1, which took place immediately after the VSC Intervention, were large for *capable* ( $r = .575$ ) and medium to large ( $r > .30$  and  $< .50$ ) for *courageous* ( $r = .486$ ) and *honest* ( $r = .471$ ). The short-term effect size computed with the Wilcoxon signed-rank test was also medium to large ( $r > .30$  and  $< .50$ ) for *responsible* ( $r = .346$ ). And the effect sizes for the long-term value changes from Pretest to Posttest 3 (15-16 weeks after the VSC Intervention) were medium to large ( $r > .30$  and  $< .50$ ) for the values of *capable* ( $r = .398$ ) and *courageous* ( $r = .365$ ).



#### 4.2.5 Summary

This chapter reports the results from the testing of four hypotheses: Hypothesis 1 stated that “there are no differences in the value priorities of CPA leaders in Georgia and accounting students in Georgia”; Hypothesis 2 stated that “the Curriculum Modification Intervention will have no effect on value change amongst accounting students.” Operationalized Hypothesis 2 stated that “for Group 1, there will be no difference in the priority given to the value of *courageous* from Pretest to Posttest 1.” Hypothesis 3 stated that the VSC Intervention will have no effect on value change amongst accounting students.” Operationalized Hypothesis 3 stated that “for Group 2, there will be no difference in the priorities given to the values of *capable*, *courageous*, *honest*, and *responsible* from Pretest to Posttest 1.” And, Hypothesis 4 stated that “the VSC Intervention will have no long-term effect on value change amongst accounting students.” And, Operationalized Hypothesis 4 stated that “for Group 2, there will be no difference in the priorities given to the values of *capable*, *courageous*, *honest*, and *responsible* from Pretest to Posttest 2 or from Pretest to Posttest 3.”

Hypothesis 1 is rejected. Using an alpha of  $p \leq .05$ , CPA leaders in Georgia and accounting students in Georgia significantly differed in the priority given to a majority (66.7%) of the RVS values; and using a more restrictive Bonferroni corrected alpha of  $p < .003$ , CPA leaders in Georgia and accounting students in Georgia significantly differed in the priority given to 15 of the 36 (41.7%) RVS values. Supplemental analysis also indicated that these two groups of accountants significantly differed in a majority (52.8%) of their personal values. These results suggest that the personal values of accounting students in Georgia and of the values of the CPA profession in Georgia are not congruent: That is, accounting students lacked P-O fit with the accounting profession.

Hypothesis 2 is not rejected. The Curriculum Modification Intervention given to Group 1 was targeted at increasing the importance given to the value of *courageous*. The professional judgment class curriculum was modified to focus on the importance to the public accounting profession of being morally courageous. The descriptive analysis of the results of the short-term value change from Pretest

to Posttest 1 indicated that the priority given to this value moved in the desired direction—towards greater importance: The median ranks were 11.33 at Pretest and 6.00 at Posttest 1. Nevertheless, the paired-samples sign test indicated a lack of significance in the differences between the Pretest and Posttest 1 medians—an unexpected finding that, for this sample of accounting students in Georgia, indicates that the Curriculum Modification Intervention was not an effective value change intervention.

Hypothesis 3 is rejected. In addition to receiving the Curriculum Modification Intervention that focused on the value of *courageous*, Group 2 also received a VSC Intervention (Appendix C) targeted at the four values of *capable*, *courageous*, *honest*, and *responsible*. From Pretest to Posttest 1, Group 2 significantly ( $p \leq .05$ ) increased the priority given to all four of the targeted values.

Hypothesis 4 is rejected. The medians of two of the four targeted values were significantly lower (indicating higher priority) at Posttest 3 than at Pretest. The results of Friedman’s test indicated that the medians of *capable*, *courageous*, and *honest*, across the four testing periods (Pretest, Posttest 1, Posttest 2, and Posttest 3), were significantly ( $p \leq .05$ ) lower (indicating higher priority). The value of *honest* was also ranked higher at each of the Posttests that followed the VSC Intervention. However, the changes in priority, while significantly different using Friedman’s test, were not significantly different from Pretest to Posttest 2 and from Pretest to Posttest 3 using the paired-samples sign test. Since the value of *honest* was given the highest rank order (composite rank of 1) at each testing, the lack of significance may be attributable to a “ceiling effect” (Riverside Publishing, 2014, no page). While the Wilcoxon ranked-sign test indicated that *responsible* was given a higher priority at Posttest 1 compared to at Pretest, neither Friedman’s test nor the paired-samples sign test found a significant lasting effect. Conclusions of the ramifications suggested by these findings along with study limitations and recommendations for future research, and conclusions are presented in Chapter 5.

## **CHAPTER 5**

# **DISCUSSION, LIMITATIONS, RECOMMENDATIONS, AND CONCLUSIONS**

### **5.1 PERSON-ORGANIZATION FIT STUDY**

In the P-O Fit Study (4.1), the personal values of upper level accounting students attending higher education institutions in Georgia were compared to the personal values of CPA leaders in Georgia. Value priorities were measured with the Rokeach Value Survey (Rokeach, 1973). Upper level accounting students were defined as students in either their last two years of undergraduate accounting education (at the junior or senior levels) or as students pursuing a graduate degree in accounting. Thus, these students had expressed their intention to soon enter the accounting profession.

The sample of CPAs was composed of CPA leaders who were defined as accounting practitioners at the owner or partner levels in public accounting, or at the controller or chief financial officer levels in industry accounting. The personal values of these CPA leaders constituted a measure of the organizational values of the accounting profession that Bourne and Jenkins (2013) identified as espoused values—the values of its leaders—and which Rokeach (1979) specified as the values of an organization’s “gatekeepers.” Thus, the comparison of the personal values of upper level accounting students with a measure of the values of the accounting profession rendered a measure of P-O fit (Chatman, 1989) that Kristof (1996) delineated as a measure of complimentary P-O fit.

#### 5.1.1 Discussion

The results of the P-O Fit Study suggest that the values of upper level accounting students were not congruent with the values of the accounting profession—that P-O fit was lacking. Using the primary

statistic, the Mann-Whitney U test (4.1.4.1, Table 14) to compare the rankings by the two groups of the 36 RVS values, the students and CPAs differed ( $p \leq .05$ ) in the priority given to a majority (67.7%) of the values: 72.2% of the terminal values, and 61.1% of the instrumental values. Due to the small, and small to medium, effect sizes (Rosnow & Rosenthal, 1989) found in the median differences identified by the primary statistic, a Bonferroni correction (4.1.4.4) was used to minimize Type I errors (Field, 2009). With this correction, which resulted in a more restricted level of significance ( $p \leq .003$ ), the students and CPAs still differed in the priority given to 41.7% of the RVS values: eight terminal values and seven instrumental values. Supplemental analysis using the median test (4.1.4.2, Table 15) found differences in the priority given to 52.8% of the RVS values: ten terminal values and nine instrumental values.

The finding of differences in the value priorities of CPA leaders and accounting students is consistent with indications of differences previously found using the RVS in studies of these separate groups of accountants: CPAs in the studies by Swindle et al. (1987), Wilson Jr. et al. (1998), and Ariail (2005); and accounting students in the studies by Baker (1976), Swindle and Phelps (1984), Eaton and Giacomino (2001), and Abdolmohammadi and Baker (2006). Differences in the value priorities of accounting practitioners and accounting students, when directly compared, were also found in three studies that measured the personal values of accounting practitioners and accounting students with instruments other than the RVS. In a study of South Australian CPAs and students in their last year of studying for a bachelor's degree in accounting, See and Kummerow (2008) found differences between the two groups in four of seven work values and in all three dimensions of work-family values. Accounting practitioners and accounting graduate students in China were found by Lan et al. (2009) to differ in the priority given to 32.1% of the SVQ values (Schwartz, 1992; Schwartz & Sagiv, 1995); and Cyprus CPAs and students studying for the Cyprus CPA exam were found by Krambia-Kapardis and Zopiatis (2011) to differ in the priority given to head and heart type values (Maccoby, 1976). The Cyprus CPAs gave a higher priority than the students to head type values.

In each of the above three studies, the personal values of accounting students who were nearing entry into the accounting profession were compared to the values of accounting practitioners. Nevertheless, these studies compared student values to practitioner values that do not appear to have been measures of institutional values. There were no indications that P-O fit was measured in accordance with institutional values defined as the values of “gatekeepers” (Rokeach, 1979) or as organizational values which were promoted as espoused values by Hambrick and Mason (1984), Wally and Baum (1994), Kabanoff et al. (1995), Pant and Lachman (1998), and Agle et al. (1999). A strength of the present study is the use of a sample of CPA leader values as the baseline for comparison. This baseline measure of the RVS values of the accounting profession in Georgia allowed for an assessment of the P-O fit of accounting students in Georgia based on fit with institutional values of the accounting profession defined as espoused values.

In addition to over 40% of the RVS values having been ranked differently by the two groups of accountants, a lack of P-O fit was further suggested by the differences found in the priorities given to five of the six terminal values and to four of the six instrumental values deemed most important by the CPA leaders (the composite rank order of the CPAs are below presented in parentheses): CPAs, compared to accounting students, gave a higher priority to the terminal values of *family security* (1), *salvation* (2), *self-respect* (3), *freedom* (4), and a lower priority to the value of *happiness* (5). The two groups did not differ in the priority given to the terminal value of *wisdom* (6). CPAs compared to students gave a higher priority to the instrumental values of *honest* (1), *responsible* (2), *capable* (3), and *courageous* (4). The two groups did not differ in the priority given to the instrumental values of *loving* (5) and *independent* (6).

The finding of value incongruity between the two populations of accountants may be, at least partially, attributed to demographic differences. The four demographic variables in which the samples of CPAs and students differed were gender, age, political orientation, and ethics education (4.1.3.2, Table 13).

With the student sample being generally composed of college age students who were about to enter the accounting profession, and the CPA sample being composed of experienced accountants who had gained leadership positions in the accounting profession, it was expected that the two groups would have age related differences in value priorities. Rokeach (1973) indicated that personal values, while relatively stable, do change with age. According to Rokeach (1973), “. . . value development is, at least in large part, a continuing maturation process of change from birth to death and does not stop arbitrarily with the end of the period of psychosexual development that Freud speaks of” (Rokeach, 1973, p. 81).

Prior research with the RVS and various groups of accountants have found age related value differences: studies conducted with CPAs (Wilson et al., 1998; Ariail, 2005), accounting professors (Pinac-Ward et al., 1995), and accounting alumni (Giacomino & Eaton, 2003). Using the SVS to measure the values of a sample of accounting students, Akers and Giacomino (1999) also found value priorities related to age. Some of the value differences found between these two groups of accountants may, therefore, be attributable to age differences.

The two groups also differed in gender, with the CPA group being mainly composed of males (69.4%) and the student group being mainly composed of females (61.8%). The AICPA (AICPA 2015 Trends Report, n.d.) reported the gender composition of accounting students in the United States in 2015 at 47% female and 53% male. The trend for relative gender equality in the number of students pursuing accounting degrees has been stable for the past 20 years. Women, however, hold a minority of CPA leadership positions in accounting (e.g., CFOs and controllers in industry, and owners and partners in CPA firms): Women account for only 14.3% of leadership positions in industry and 19% of leadership positions in CPA firms (AICPA, n.d. b; Franzel, 2014).

Gender differences in value priorities have previously been found in RVS studies with accounting professors (Pinac-Ward et al., 1995), CPAs (Wilson et al., 1998; Ariail, 2005), and accounting alumni (Giacomino & Eaton, 2003). Two studies in which the SVS was used to measure personal values also found gender differences in the value priorities of accounting students (Giacomino & Akers, 1998) and certified internal auditors (Akers & Giacomino, 1999). More recently, Windsor and

Dagwell (2014) found that female and male auditors differed in their preference for organizational values: female auditors prioritized respect for people and team oriented values while male auditors prioritized outcome and action oriented values. The gender differences between the two groups of accountants, therefore, may also explain some of the variations found in value priorities.

CPAs and accounting students also differed in their political orientations: the student accountants were more liberal (18.2% to 9.3%) and moderate (34.9% to 32.7%) than the CPAs, while the CPAs were more conservative (54.9% to 34.9%) than the accounting students. The differences in the political orientations of these two groups of accountants may also have contributed to the finding of value incongruity. Prior studies (e.g., Sweeney et al., 2003; Ariail, 2005; Ariail et al., 2013) have found CPAs and accountants to have a political orientation that favors conservative values. Sweeney et al.'s (2003) results further indicated that auditors working in CPA firms of various sizes perceived that a conservative value orientation was conducive to promotion.

The focus on accounting ethics education that followed the revelation of the turn-of-the century accounting scandals that included Enron, WorldCom, and Arthur Andersen (McLean & Elkind, 2003; Lease, 2006; Clikeman, 2009) and the 2002 enactment of SOX (Sarbanes-Oxley Act of 2002, 2002) continues today in both higher education (e.g., Pathways Commission, 2012; Huff et al., 2014) and in pre-entry education and continuing education for licensed accountants (e.g., Bates et al., 2008; IASB, 2008; IES 4, 2014). Thus, the finding that 60.1% of the students and only 17.1% of the CPAs had taken an ethics course was expected. The sample of the RVS values of CPA leaders that was used to develop the baseline measure of the values of the accounting profession was collected long after these professionals would have earned their college degrees, but relatively soon after the passage of SOX; while the sample of the RVS values of accounting students was collected long after SOX, when accounting ethics courses were more commonly included in the accounting curriculum.

No prior research is believed to have investigated the impact that ethics education has on RVS measured value priorities. It might be expected that accounting ethics training would positively impact the priority given to the Code of Professional Conduct and Bylaws (2012) of the AICPA related values

of *capable*, *courageous*, *honest*, and *responsible*. The Code is a topic which is often emphasized, in the content of accounting ethics textbooks (e.g., Cheffers & Pakaluk, 2007; Mintz & Morris, 2011). The sample of upper level accounting students, therefore, who had taken an accounting ethics course would have most probably been familiar with this Code.

The expected positive relation between accounting ethics education and the prioritizing of Code related values was not found. The CPAs gave a higher priority than the students (4.1.4.1, Table 14) to all four of the Code related values of *capable* ( $p = .003$ ), *courageous* ( $p < .001$ ), *honest* ( $p < .001$ ), and *responsible* ( $p < .001$ )—all of which met the Bonferroni correction level of significance of  $p \leq .003$ . Perhaps, the training that the CPAs had undergone in preparing for the CPA exam (e.g., CPA exam review courses), coupled with their practical experience, had given these professionals an appreciation for these values. An alternate explanation might be that current accounting ethics pedagogy is ineffective in inculcating accounting students with the values important to professional practice.

The above demographic differences provide potential explanations for why these two groups of accountants differed in their value priorities. Nonetheless, the reasons for the value differences are, from a P-O fit perspective, irrelevant. That is, while the causes of value differences are edifying, the focus of P-O fit is on the lack of value congruence—no matter what may have caused the incongruity.

The lack of P-O fit of accounting students with the values of the accountant profession provides a potential explanation for two of the ongoing problems in public accounting: undesirable turnover and the unethical behavior of CPAs. Prior research has indicated that P-O misfit has negative implications for accounting students being hired (self-selection and organization selection), and once hired, being socialized and retained in an accounting organization (e.g., Chatman, 1991; Yamamura & Westerman, 2007; Church, 2014; Swider et al., 2015).

Consistent with prior years, staffing problems in 2015 again topped the list of concerns of CPA firms (AICPA PCPS, n.d.). AICPA Horizons's 2025 (2011) predicted that CPA firms will continue for many years to experience problems with attracting and retaining employees—that is, with undesired employee turnover (Elkjaer & Filmer, 2015). Turnover in public accounting is costly. Using 2015 salary



data published by Robert Half (n.d.) along with the *CPA Practice Advisor's* (2015) estimate of the tangible cost of turnover at about 30% of compensation, the cost of undesired turnover per staff member is as high as \$31,950. This amount was computed without factoring in the intangible costs of turnover such as the decreased productivity of replacement staff (e.g. Hillmer et al. 2004). Suggestions for ways to remedy the persistent problem of undesired turnover include P-O fit related measures such as mentoring (Chatman, 1991), having flexible workhours (Almer & Kaplan, 2002), teambuilding (Cory et al., 2007; MacLean, 2013; Jankowski, 2016), and the hiring of employees who fit the culture of the CPA firm (e.g., Cory et al., 2007; *CPA Practice Advisor*, 2015; Vien, 2017).

P-O fit has been theorized (e.g., Schneider, 1987; Chatman, 1989; Chatman, 1991) as composed of three elements: selection, socialization, and retention. Prior studies with non-accounting subjects have found P-O fit positively associated with all three of these elements. In an accounting context, P-O fit has been found related to self-selection (e.g., Swider et al., 2015), organizational selection (e.g., Chatman, 1991), socialization (e.g., Chatman, 1991; Clikeman & Henning, 2000), and retention (e.g., Chatman, 1991; O'Reilly et al., 1991; Yamamura & Westerman, 2007; Hinkle & Choi, 2009; Inabinett & Ballaro, 2014). The finding in the P-O Fit Study of accounting students lacking P-O fit with their intended profession may be indicative of at least one cause of the ongoing staffing problems in public accounting. If so, improving the P-O fit of upper level accounting students theoretically should result in less staff turnover. Improving the P-O fit of entry level students may also positively impact other turnover related attitudes and behaviors such as organization commitment (e.g., Arthur Jr. et al., 2006), job satisfaction (e.g., Spanjol et al., 2015; Abzari et al., 2015) and other desirables such as creativity (e.g., Sarac et al., 2014; Spanjol et al., 2015), organization effectiveness (e.g., Zhu et al., 2014), and individual job performance (e.g., Deng et al., 2015).

Moreover, research (Liedtka, 1989; Andrews et al., 2011; Ruiz-Palomino & Martinez-Canas, 2014; Abzari et al., 2015, Bobek et al., 2015) has indicated that P-O fit has positive ethical implications, which include improved perceptions of an organization's ethical environment (Amernic & Craig, 2013; Campbell & Goritz, 2014; Jondle et al., 2014). Perceptions of ethical culture have been found related to

ethical behavior in an accounting context (e.g., King, 2013; Soltani, 2014). The present researcher, therefore, posits that increasing the P-O fit of upper level accounting students by increasing the priority given to the four Code related values of *capable*, *courageous*, *honest*, and *responsible* may positively impact their future ethical behavior, a hypothesis not explored in the present study.

### 5.1.2 Contributions to New Knowledge

The P-O Fit Study makes several contributions to the literature: First, it provides an updated report on the RVS value priorities of a relatively large ( $N = 516$ ) sample of U.S. accounting students. The last known study of the RVS values of accounting students, published in 2000 by Eaton & Giacominio (2000), was conducted with a sample of 155 accounting students. Second, it is believed to be the first such study to explore a state-wide sample of the RVS values of accounting students. Third, it is thought to be the first study to have employed the RVS to explore the P-O fit of accounting students with the accounting profession. And, fourth, it utilized (in a unique but literature supported way) a baseline measure of the institutional values of the accounting profession—the RVS values of “gatekeepers” of the accounting profession (Rokeach, 1979). The development of a baseline of the values of the accounting profession identified as the RVS values of accounting leaders is suggested by the present researcher as a salient contribution. Prior P-O fit studies with accountants have used other measures of organizational values such as the OCP (e.g., Chatman, 1991; Cable & Judge, 1997; O’Reilly et al., 1991), the PFS (e.g., Hinkle & Choi, 2009), and researcher developed scales (e.g., Yamamura & Westerman, 2007; Inabinett & Ballaro, 2014; Swider et al., 2015).

### 5.1.3 Limitations

Limitations include the methodologies employed in the selection of student survey participants, which resulted in a convenience sample being obtained. The lack of randomness in the collection of student

values data, therefore, negated the extrapolation of the results to the population of accounting students in Georgia, and thus to the population of accounting students in the United States.

The methodology employed in developing the baseline measure of CPA leader values is another study limitation. Data regarding the RVS values of CPAs in Georgia had been collected by this researcher as part of a previous values study (Ariail, 2005). The sample of 313 CPAs, from which values data for 193 CPA leaders was extracted, was also not randomly selected. Consequently, the baseline measure of CPA leader values may not be representative of the “gatekeeper” values (Rokeach, 1979) of the accounting profession in Georgia.

Another baseline measure limitation relates to the almost ten year time-lag between the sampling of the RVS values of CPA leaders and of accounting students. In the only known study of the RVS values of CPAs conducted before or since that of Ariail (2005), Wilson et al. (1998) also found, the instrumental values of *honest* (1), *responsible* (2), and *capable* (4) ranked amongst the most important instrumental values—in the top tercile—while *courageous* (17) was ranked as one of the least important instrumental values—in the bottom tercile. Importantly, Wilson et al.’s (1998) study did not include the variable of “level in the organization” and thus did not purport to derive a measure of the institutional values of the accounting profession (Rokeach, 1979). Wilson et al.’s (1998) results do, nevertheless, suggest both value stability and value change during the period from 1998 to 2005: value stability in the priority given to the three instrumental values of *capable*, *honest*, and *responsible*, and value change in the priority given to the instrumental value of *courageous*, which was ranked 17<sup>th</sup> by the CPAs in Wilson et al.’s (1998) study and 4<sup>th</sup> by CPA leaders in the study by Ariail (2005). Hence, the RVS baseline data used to evaluate P-O fit may have been dated. The institutional values of the CPA profession may have changed by the time the RVS values of the accounting students were collected.

The majority (77.8%) of the total of 654 of accounting student respondents (4.1.1, Table 10) completed the RVS using SurveyMonkey. Students completing the RVS using this internet survey tool were incentivized with a sweepstake drawing for a mini iPad computer, which had a relatively high value. Students were only allowed to complete the survey once and were asked to indicate on the

demographic questionnaire if they had previously completed the survey. Dishonest students could have increased their chances of winning the sweepstakes by completing the survey multiple times using different computers. While repeated completions of the RVS by student subject was not expected or detected, the potential for such abuse must be considered as an additional study limitation.

Restrictive range, which is relevant to any form of sampling, may be considered another study limitation. Although efforts were made to collect values data from a large number of accounting students and CPAs, no effort was made, nor could have practically been effected, to collect the values data of all of the members of these groups. We thus know something about the values of the students and CPAs who participated in the study, but know nothing about the values of those who did not. However, it is worthy to note that the RVS values of accounting students and CPAs that were collected in the present study are believed to be largest ever obtained from these two groups. It is especially difficult to collect values data from a large sample of practicing CPA leaders—practitioners whose time is limited and valuable.

#### 5.1.4 Recommendations for Future Research

With the present study believed to be the first to investigate the P-O fit of accountants as operationalized with the RVS values of accounting students and of the values of the accounting profession, specified as the RVS values of the accounting profession's "gatekeepers" (Rokeach, 1973), farther research is needed. Recommendations for future investigations of the P-O fit of accounting students include refinement of the baseline measure of CPA leader values, synchronizing the collection of subject values and baseline values, better controlling of the potential for duplicate survey submissions, and replication of the study with the values of the SVS. Each of these recommendations is in turn discussed.

- The baseline measure of the RVS values of the accounting profession needs to be refined. A random sample of CPA leaders collected from across the United States could provide a statistically valid measure of the RVS values of the accounting profession.
- Minimizing the time-lag between the collection of baseline data and the collection of values data from upper level students should improve the assessment of current P-O fit. Thus, the baseline RVS values of CPA leaders should optimally be obtained as near in time as possible to the collection of the RVS values of students.
- Additional controls are needed to better assure that each online survey respondent is a unique individual. Scrutinizing the IP addresses of respondents for duplications, as was done in the present study, only addresses duplicate submissions made from the same computer. Perhaps, reducing or eliminating the incentive for participation in the study (3.6.3) would decrease the impetus for students to submit more than one survey. On the other hand, not incentivizing participation may also reduce the number of respondents.
- Preferably, student subjects at the upper levels of their accounting education should be randomly selected from the U.S. population of accounting students. Randomization in the selection process may allow for the results to be extrapolated to the general population of upper level accounting students in the United States.
- It may also be beneficial to replicate this study using the SVS instrument, which requires respondents to rate, rather than rank, value priorities. The use of rated values will allow for analysis with more robust parametric statistics. The use of the SVS for determining P-O fit will require the development of a baseline measure of the values of the accounting profession derived from “gatekeeper” SVS data.

### 5.1.5 Recommendations for Accounting Leaders

Given the importance of P-O fit to the two the public accounting problems of retention and ethical behavior, leaders in both accounting academia and accounting practice should be concerned about the implications of the present findings, which support prior research indications of a lack of P-O fit in accounting (e.g., See & Kummerow, 2008; Lan et al., 2009; Krambia-Kapardis & Zopiatis, 2011). If upper level accounting students who are nearing employment in the accounting profession have not learned to prioritize the values of their chosen profession (cf. Fogarty, 2000), an educational deficit exists that demands the attention of both leaders in academia and leaders in practice.

Leaders in accounting academia may need to modify accounting curricula to insure that the values of the profession are being included as an essential topic of instruction. As noted by the IASB (2008) accounting students need to perceive that professional values, including ethical values, are an important part of their education—as important as technical skills in becoming proficient accounting practitioners. The present researcher recommends that the inclusion in the accounting curriculum of a standalone course on professional judgement/ethics is one way for academic leaders to inculcate accounting students with the values of the profession. Requiring such a course will communicate the importance given to this subject. As previously noted, some U.S. state boards of accountancy (e.g., Texas, Maryland) have made a college ethics course a prerequisite for taking the CPA exam. Nevertheless, most state boards do not have an ethics course prerequisite.

Practitioner leaders are major stakeholders in the training of future accounting professionals—their future hires. The present researcher recommends that leaders in practice work to influence accounting curricula towards including a focus on professional values. Practitioner leaders can directly influence academic curriculum in at least two ways: by serving on accounting program advisory boards, and by giving academic leaders input regarding desired accounting student attributes. In the former role, the practitioner leader can impart retention and ethics related reasons for desiring an emphasis in the curriculum on the values of the profession; and in the later role, accounting practitioner recruiters, who

are often very important to higher education accounting programs (placement rates are not infrequently touted as indicative of program success), can let academic leaders know of their interest in hiring students who have specific “soft ” skills, such as integrity and a strong regard for professional values. In addition, accounting leaders can indirectly influence the curricula of accounting programs through their active participation in the academic and ethics committees of their state society of CPAs, and through input provided to their state board of accountancy. Georgia is an example of a state where practitioner leader influence might make a difference. As previously indicated, Georgia does not include a college level accounting ethics course as a prerequisite for taking the CPA exam; and, following licensure, Georgia does not require CPAs to complete continuing education classes in ethics.

The primary recommendation for leaders in accounting practice is that value fit—both congruence with the values of the profession and congruence with the values of the firm—should be a focus of recruitment. While accounting new hires must have the technical proficiencies required to practice in the knowledge profession of accounting, the “soft” skills of applicants (e.g., Ahabiat & Smith, 1994), which are often values related (for example, integrity), must not be overlooked. The Hanke Group, P.C.’s method of employee selection is an example of a values focus in the selection process: Their “. . . recruiting and selection processes focus on identifying unique individuals who will thrive in their . . . environment” (Cory et al., 2007, p. 62).

The results of the present study suggest that many upper level accounting students who are nearing entry into the profession may not have learned to prioritize the values embedded in the Code of Professional Conduct and Bylaws (2012) of the AICPA. Thus, the present researcher suggests that the future success of the public accounting, which necessitates that practitioners practice with integrity in order to maintain the public’s trust, calls for students who prioritize the values of the profession of accounting be hired ahead of those who do not. Thus, practitioner leaders should consider using the P-O fit of accounting student recruits as an important criteria for employment.

### 5.1.6 Conclusions

The accounting profession continues to experience problems with turnover. The finding of a lack of P-O fit suggests that the academy may not adequately be preparing students for their careers as practitioners. Since P-O fit has been positively associated with decreased turnover (selection, socialization, and retention), improving P-O fit by the pre-employment instilling of students with the values of the profession may provide both accounting academia and accounting practice with a way forward in addressing both employee turnover and the ethics of upper level accounting students. Section 5.2 presents the Value Change Study in which two separate education interventions were employed; each aimed at improving the P-O fit of upper level accounting students by increasing the priority given by them to targeted instrumental values—values which are related to the AICPA’s Code Professional Conduct and Bylaws (2012), and which are held in the highest regard by the accounting profession.

## **5.2 VALUE CHANGE STUDY**

The Value Change Study was conducted with two simultaneously taught professional judgment classes. Both classes were delivered fully online. The classes were randomly identified as Group 1 and Group 2. The curriculum of both groups was modified to focus on increasing the priority given to the value of *courageous*. Thus, both Group 1 and Group 2 received the Curriculum Modification Intervention; an intervention that was delivered throughout the eight-week duration of the classes. Group 1 was given a Pretest at the beginning of the course—prior to any content being delivered—and then was given Posttest 1 at the end of the course.

Group 2, but not Group 1, received the Value Self-Confrontation Intervention, which was focused on increasing the priority given to the four instrumental values of *capable*, *courageous*, *honest*, and *responsible*. This intervention was delivered at the end of the course—after the delivery of all of the course content. Simultaneously with Group 1, Group 2 was also given the Pretest at the beginning of the



class and Posttest 1 at the end of the class. However, Group 2 was administered Posttest 1 after receiving the VSC Intervention. Five to six weeks after Posttest 1, Group 2 was given Posttest 2, which was followed 15-16 weeks later with Posttest 3. Only Group 2 was given Posttest 2 and Posttest 3, which tested for long-term value change. Posttest 1, Posttest 2, and Posttest 3 consisted of subjects rank ordering the 18 instrumental RVS values.

The ranking of the RVS values produced nonparametric data. Two statistical methods were used to analyze the changes in median rankings across the testing periods: the Wilcoxon signed-rank test (3.4.8) and the paired-samples sign test (3.4.9). The Wilcoxon signed-rank test requires symmetrical distribution of median differences (Laerd Statistics, Wilcoxon signed-rank test, 2014, para. 4). This requirement was met from Pretest to Posttest 1 by Group 1 for the values of *capable* and *honest* and by the Group 2 for the value of *responsible*. Therefore, the Wilcoxon signed-ranked test was used to determine the significance of the changes in the medians for *capable* and *honest* with Group 1 (4.2.2.1.2, Table 21) and for *responsible* with Group 2 (4.2.2.2.2, Table 25).

Since the distribution of median differences of the four values at Pretest and at each Posttest was generally not symmetrical, which was expected based on Rokeach's (1973) indication that the medians of the RVS values tend to be skewed, the paired-samples sign test was the primary statistic used to analyze the short-term median changes from Pretest to Posttest 1 (4.2.2.2.3, Table 26), and the long-term median changes from Pretest to Posttest 2, and from Pretest to Posttest 3 (4.2.3.3, Table 30). The paired-samples sign test was used to supplement the results found with Group 1 and Group 2 using the Wilcoxon signed-rank test. Long-term value change across the periods of Pretest to Posttest 1, to Posttest 2, to Posttest 3 was also tested with Friedman's test (4.2.3.2, Table 29).

### 5.2.1 Discussion

The following Value Change Study discussion is divided into two parts. First (5.2.1.1), the Curriculum Modification Intervention administered to both Group 1 and Group 2 is discussed. This discussion

includes the basis for the intervention, the research background (2.2.3.1) supporting the persuasive focus of the intervention, the ways the persuasive content was similar and different from that used in prior non-standard VSC interventions, the results that led to the acceptance of null Hypothesis 2, and the descriptive findings suggesting the need for future research.

Second (5.2.1.2), the VSC Intervention, which was only administered to Group 2, is discussed. This discussion begins with topical items summarized in Section 2.2.3: short-term value change (5.2.1.2.1), including the rejection of Hypothesis 3; and long-term valued change (5.2.1.2.1), including the rejection of Hypothesis 4. Third, the discussion is focused on comparing the results to the topical syntheses included in Section 2.2.4: value change success (5.2.1.2.3), research subjects (5.2.1.2.4), targeted values (5.2.1.2.5), modes of delivery (5.2.1.2.6), intervention variations (5.2.1.2.7), and attitude and behavior change (5.2.2.2.8). And, fourth, additional topics pertinent to the VSC Intervention results are discussed: sleeper effect (5.2.1.2.9), demand effect (5.2.1.2.10), fabricated data (5.2.1.2.11), and effect size (5.2.1.2.12).

#### 5.2.1.1 Curriculum Modification Intervention Discussion

In the Curriculum Modification Intervention (3.7.6) value change was promoted by the use of persuasive informational content. The augmentation of course content was informed by the accounting change methodology suggested by Akers et al. (2011). As previously detailed (3.7.6), content related to the value of *courageous* was consistently and persistently delivered throughout the eight weeks of the two classes. Thus, both Group 1 and Group 2 received a large amount of persuasive content focused on increasing the importance given to accountants being professionally *courageous*.

Persuasive content (2.2.4.1) was effectively used to change targeted values in the VSC studies by Hollen (1972), Hopkins (1973), and Arieli et al. (2014). While Hopkins (1973) replaced the value dissonance creating part of the standard VSC intervention (1.6.2.4) with a persuasive message (a modified VSC intervention), Hollen (1972) and Arieli et al. (2014) tested the effectiveness of using a

persuasive message instead of a standard VSC intervention (a non-standard VSC intervention). Hollen's (1972) 225 word persuasive message about the environment resulted in an increase in the long-term priority given to the value of *a world of beauty*. Arieli et al.'s (2014) persuasive content was directed at increasing the priority given to SVS/PVS values (1.6.2.1.2) in the *benevolence* domain. Focusing on self-persuasion, consistency maintenance, and priming, Arieli et al.'s (2014) value change procedures included subjects reading literature on the societal benefits of *benevolence*, indicating *benevolent* acts in which they had engaged, writing about how they had positively affected someone's life, and writing a persuasive essay on *benevolence*. Their results indicated that subjects who received the persuasive treatment increased the long-term priority given to values in the *benevolence* domain (Arieli et al., 2014).

The Curriculum Modification Intervention procedures (3.7.6) had some similarities with those used by Arieli et al. (2014). By reading relevant literature subjects gained accounting specific knowledge about the importance of being *courageous*; the ongoing focus throughout the course on moral *courage* was, perhaps, a form of priming (Macrae & Johnston, 1998; Bargh, Lee-Chai, Barndollar, Gollwitzer, & Trotschel, 2001); and self-persuasion was encouraged by subjects responding in writing to the content of moral *courage* videos, moral *courage* quotations, ethics cases, and the Milgram and Stanford Prison experiments, and by subjects receiving, when applicable, the present researcher's moral *courage* specific feedback.

However, the persuasion used in the Curriculum Modification Intervention differed in at least two ways from that used by Arieli et al. (2014). First, the persuasive message was consistently delivered over a relatively long period of time: over the eight-week-long class term instead of during a 30-minute laboratory session. Second, the persuasive message had more value specific content.

Given the value change results found by both Hollen (1972) and Arieli et al. (2014), it was expected that the persuasive content of the Curriculum Modification Intervention would result in the Group 1 significantly increasing the priority given to the value of *courageous*. The statistical analysis did not support this expectation. The paired-samples sign test results indicated that an equal number of

subjects ranked *courageous* higher and lower at Posttest 1 compared to at Pretest. The median of the paired differences (from Pretest to Posttest 1) in the rankings of *courageous* was not significantly different from zero (4.2.2.1.3, Table 22). Operationalized null Hypothesis 2 (2.2.3.2), in which it was posited that “for Group 1, there will be no difference in the priority given to the value of *courageous* from Pretest to Posttest 1,” was, therefore, not rejected.

Nonetheless, a descriptive analysis of Group 1’s change in rankings of *courageous* was encouraging. From Pretest to Posttest 1, subjects increased their rankings of *courageous* from eleventh place to fourth place (4.2.2.1.1, Table 19)—an increase of seven ranks. Thus, the priority given to the value of *courageous* moved in the desired direction of greater importance—from the second tercile to the first tercile of rankings. Additionally, subjects who ranked *courageous* higher at Posttest 1 than at Pretest had a mean increase of 6.833 medians, while subjects who ranked *courageous* lower at Posttest 1 than at Pretest had a mean decrease of 1.167 medians—almost seven medians higher versus about 1 median lower. Therefore, at least descriptively, the Curriculum Modification Intervention had a more positive than negative impact on the priority given to this targeted value.

#### 5.2.1.2 Value Self-Confrontation Intervention Discussion

Ball-Rokeach et al. (1984) posited that value change results when a subject is provided with knowledge that promotes value dissonance. They suggested that value dissonance may be produced when subjects receive information that “. . .appeals to the curiosity. . .,” that “. . .is potentially useful. . .,” that “. . .is unambiguous. . .,” that “appears credible and intuitively correct. . .,” that “. . .arouses a feeling of self-satisfaction . . . or, alternately, . . .arouses a feeling of self-dissatisfaction. . .,” and that “. . .is within the repertoire of the person to act upon. . .” (Ball-Rokeach et al, 1984, p. 35-46). These value dissonance criteria are operationalized in the standard VSC procedures.

Grube et al. (1977) and Greenstein (1982) found evidence to support changes in behaviour as more strongly related to the informational content—to self-knowledge that promoted value

dissonance—of the VSC intervention than to its value mediating effect. In addition, researchers have found persuasive content delivered in writing related to both value change (Hollen, 1972; Arieli et al., 2014) and subsequent changes in behaviour (Arieli et al., 2014). Thus, this researcher posited that increasing the written persuasive content of the standard VSC procedures would strengthen the intervention.

Consequently, the standard VSC procedures were augmented with two pages of written content (3.7.7, Exhibit 8) regarding suggested reasons for why the CPA referent group had given the targeted values of *capable*, *courageous*, *honest*, and *responsible* their highest priority. This persuasive content was focused on associating each of the four values with specific Articles of the Code of Professional Conduct and Bylaws (2012) of the AICPA. Additional parts of the written persuasion included selectively relating these values to ethics literature and other professional guidance: the accounting ethics textbook by Mintz and Morris (2011), which was required reading for the course; the accounting ethics textbook by Cheffers and Pakaluk (2007); the six pillars of ethics of the Josephine Institute (n.d.); moral reasoning research by Rest et al. (1999); ethical examples from the WorldCom fraud (Cooper, 2008); and the codes of ethics of the Institute of Management Accountants (n.d.) and the Institute of Internal Auditors (n.d.).

The present researcher argues that this additional informational content met the Ball-Rokeach et al.'s (1984) value change criteria. The added content was truthful, was supported by ethics literature, was credible, and was unambiguous. The suggested reasons for why the CPA referent group so highly prioritized the targeted values may have “appeal[ed] to the curiosity [subjects’] . . . have to understand themselves better” (Ball-Rokeach et al., 1984, p. 35). The information was potentially useful in that the targeted values related to self-knowledge about the subject’s competence (i.e., the values of *capable* and *courageous*) or morality (i.e., the values of *honest* and *responsible*). And, the information was actionable by the subjects. At each Posttest, subjects were able to eliminate their self-dissatisfaction by changing their value priorities, or were able to maintain their self-satisfaction by not changing their value priorities.

The post hoc paired-samples sign test (4.2.3.3, Table 30) indicated that the VSC Intervention resulted in long-term value change for the values of *capable* and *courageous*. Therefore, Hypothesis 4 (2.2.3.6), which stated that “the VSC Intervention will have no long-term effect on value change amongst accounting students,” was rejected. Of the targeted values of *capable* and *courageous*, *courageous* had the most long-term change in medians: the rankings of *courageous* increased 5.7778 medians (from 8.6667 at Pretest to 2.8889 at Posttest 3), while the rankings of *capable* increased 4.8500 medians (from 9.2500 at Pretest to 4.4000 at Posttest 3). The effect sizes for the long-term change in priority of both values from Pretest to Posttest 3 were similar—a medium effect sizes of .398 for *capable*, and a medium effect size of .365 for *courageous*.

Whether or not the persuasive content of the VSC Intervention had a positive impact on the value change results was not determined. In addition, it was not determined if Group 2 was impacted by also receiving the Curriculum Modification Intervention targeted at the value of *courageous*. For this value, Group 2 subjects were exposed to two layers of persuasive content: the persuasive content of the Curriculum Modification Intervention plus the persuasive content of the VSC Intervention. Design limitations prevented determination of the effect that the additional persuasion may have had on the Group 2. While from Pretest to Posttest 3, *courageous* moved somewhat more than *capable* up the ranks of importance, the increase in long-term importance of *courageous* may have been impacted by the standard VSC procedures alone, by the persuasive content of the VSC procedures alone, by the persuasive content of the Curriculum Modification Intervention alone, or by some combination of the three. Thus, Arieli et al.’s (2014) and Hollen’s (1972) findings of the standalone value change efficacy of persuasive content was neither supported nor refuted by the value change results.

#### 5.2.1.2.1 Short-Term Value Change

Prior VSC interventions were successful in 13 out of 14 studies in changing the priority given to one or more targeted values or value dimensions over the short-term. Short-term value change has generally

been defined as a change in value priorities that takes place within zero to four weeks of a VSC intervention (2.2.3.3). Only the non-standard VSC intervention by Sawa and Sawa (1988) did not result in a short-term value change (2.2.4.3).

The Pretest to Posttest 1 paired samples sign test (4.2.2.3, Table 26) indicated that Group 2 gave the targeted values of *capable*, *courageous*, and *honest* a higher priority at Posttest 1 compared to at Pretest; and the Wilcoxon signed-rank test (4.2.2.2, Table 25) indicated that Group 2 also gave the targeted value of *responsible* a higher priority at Posttest 1 compared to at Pretest. Thus, Operationalized Hypothesis 3 (2.2.3.4) was rejected. The VSC Intervention finding at Posttest 1 of an increased priority given to all four of the targeted values provides support for the short-term efficacy of the modified VSC methodology utilized in the present study.

#### 5.2.1.2.2 Long-Term Value Change

Value changes that persisted for a period longer than four weeks after a VSC intervention were reported in 21 of the 22 extant VSC studies. In these successful long-term value change studies, VSC induced changes were found at posttests conducted from five to 68 weeks after the VSC intervention (2.2.4.5). Only the non-standard VSC study by Pleban et al. (1983) failed to find an increase in the long-term priority given to at least one targeted value.

Friedman's test (4.2.3.2, Table 29) was used to compare the medians of the four targeted values across the periods from Pretest to Posttest 3. This statistic indicated that across these four testing periods a significant change had occurred in the medians of *capable* ( $p = .002$ ), *courageous* ( $p = .002$ ), and *honest* ( $p = .002$ ), but not in the medians of *responsible* ( $p = .208$ ). In order to pinpoint the value changes that took place at each Posttest, the paired-samples sign test was used post hoc.

In this analysis (4.2.3.3, Table 30) long-term value change was found at both Posttest 2 and at Posttest 3. These posttests were respectively conducted at 5-6 weeks and 15-16 weeks following the VSC intervention. The paired-samples sign test indicated that the short-term increased priority given to

the four targeted values found at Posttest 1 had persisted long-term for two of the targeted values: From Pretest to Posttest 2, the targeted value of *courageous* had maintained its increased priority; and from Pretest to Posttest 3, the targeted values of *capable* and *courageous* had both maintained their increased priority. Consequently, Hypotheses 4 was rejected. Thus, the present study's findings of long-term value change following a modified VSC intervention also provides support for the long-term effectiveness of the present study's VSC methodology.

#### 5.2.1.2.3 Value Change Success

The overall value change success of the VSC Intervention is consistent with the results found in 27 of the 29 extant VSC studies in which value change was tested (2.2.3.2). All of the previous standard or modified VSC interventions were successful at increasing the priority given to at least one targeted value. Only the two non-standard VSC interventions conducted by Pleban et al. (1983) and Sawa and Sawa (1988) did not result in a targeted value being given an increased priority. The present researcher suggests that the lack of a value change finding in these two studies was perhaps the results of flawed VSC methodologies. Pleban et al.'s (1983) intervention provided subjects with unclear feedback, one of three potential flaws acknowledged by these researchers. Sawa and Sawa's (1988) intervention was not directly focused on changing the priority of the targeted value of *health*, a non-standard RVS value, but on improving the consistency between subject value priorities and behaviors.

The results of the modified VSC intervention used in the present study, therefore, considered in conjunction with the results of prior VSC interventions, provides support for the efficacy of the VSC intervention methodology developed by Rokeach (1973). The standard VSC methodology, or methodologies in which the standard procedures are augmented, but not materially altered, appear to be most effective. The successes found with the non-standard interventions by Hollen (1972) and Arieli et al. (2014), in which persuasive content instead of a standard or modified Rokeach (1973) methodology,



are exceptions that informed the use of additional persuasive content in the VSC Intervention and the use of persuasive content alone in the Curriculum Modification Intervention.

#### 5.2.1.2.4 Research Subjects

The subjects utilized in 22 of the 34 prior VSC studies (Section 2.2.3.2) were non-randomly selected college students. The VSC Study also used a convenience sample of college students. Even so, unlike the students in prior studies (many of whom were enrolled in psychology classes), those in the present study were accounting majors. This research is believed to be the first VSC study to target a sample of college students majoring in a business discipline.

The values data collected in the P-O Fit Study was obtained from accounting majors at the junior, senior, and graduate levels of their business education. For the Value Change Study, only graduate level students were selected. Those selected, the majority of whom aspired to earn the 30 semester hours in upper level accounting courses required of Georgia CPA applicants (NASBA, Georgia, n.d.), were enrolled in either of two MSA courses taught during the same semester. Moreover, since the courses in professional judgment were scheduled in the last rotation of MSA courses, a number of these students were nearing graduation. The selected subjects were, therefore, at the cusp of entering the accounting profession.

The selection of a sample of subjects from a population of graduate level accounting students is a suggested strength of the Value Change Study. Of the delineated three upper levels of accounting education, students at the graduate level may be the closest to becoming entry level professionals. Therefore, graduate level accounting students are perhaps most critically in need of pedagogies aimed at improving P-O fit.

#### 5.2.1.2.5 Targeted Values

The four values targeted for change in the Value Change Study were primarily selected based on the ranking differences found in the P-O Fit Study. The Mann-Whitney U test results (4.1.4.1, Table 14) indicated that while these four instrumental values were given the highest priority (lower medians) by CPAs, each of these values was given a significantly lower priority (higher medians) by students: *capable* with medians of 6.7586 for CPAs and 8.3846 for students ( $p = .003$ ); *courageous* with medians of 7.8889 for CPAs and 10.1333 for students ( $p < .001$ ); *honest* with medians of 1.7656 for CPAs and 2.7721 for students ( $p = .001$ ); and *responsible* with medians of 3.5965 for CPAs and 5.8478 for students ( $p < .001$ ).

The lack of P-O fit of students with the four instrumental values deemed most important by the referent group of CPAs also has ethical implications. Each of these four values is related to specific Articles of the Code of Professional Conduct and Bylaws (2012) of the AICPA. The CPAs (Causey at Enron; Sullivan, Meyers, Yates, Vinson, and Norman at WorldCom; Duncan at Arthur Andersen; and Friehling at BMIS) who were complicit in each of the accounting scandals summarized in Chapter 1 (1.2.2), violated one or more of the Articles of the AICPA Code of Professional Conduct and Bylaws (2012) in which these four professional values are embedded (1.2.2.1). These Articles (emphasis added) call for CPAs to “. . . maintain the public’s confidence . . .” (Article I, ET Section 52, p. 2813, which includes acting *responsibly*); to practice with integrity (Articles II & III, which includes being *honest*); to practice with due care (Article V, which includes being *capable*); to practice without subordinating their professional judgment (Article IV, which demands moral *courage*); and to practice with the public’s best interest always at the forefront (Article II, which also involves being *responsible*).

Prior VSC studies (2.2.3.3) with the RVS have targeted for change one to three values. Only three prior studies (Rokeach, 1975; Pleban et al., 1983; Ball-Rokeach et al., 1984) targeted three values; and the three values targeted in each of these studies were terminal values. The VSC Intervention

focused on increasing the priority given to four instrumental values. The present study is believed to be the first VSC intervention to attempt to change the priority given to more than three of the RVS values.

While each of the four targeted values can be considered ethical values of the CPA profession, the value of *courageous* may have practical ramifications for the activation of the other three targeted values. The novelist, philosopher (Giokaris, n.d.), and Christian apologist C. S. Lewis emphasized in *The Screwtape Papers* the salient role that the value of *courage* can play:

. . . Courage is not simply one of the virtues, but the form of every virtue at the testing point, which means, at the point of highest reality. A chastity or honesty, or mercy, which yields to danger will be chaste or honest or merciful only on conditions. Pilate was merciful till it became risky. (Lewis, 1942/2001, p. 161)

Extending Lewis' observation to the RVS paradigm, giving a value a high position in one's value system is only as important as the *courage* one has to hold to that value when it becomes inconvenient or risky to do so—the point at which that value is tested (Lewis, 1942/2001). In the present context, being *capable*, being *honest*, and being *responsible* can each be mitigated by one not being *courageous*.

The value of *courageous* is particularly important to the ethics of accounting practitioners (e.g., Ariail, 2009b; Ariail et al., 2012). The AICPA's Code of Professional Conduct and Bylaws (2012) specifies that CPAs should not subordinate their professional judgment. In practice, being *courageous* can be difficult for all accountants, but especially for entry level accountants. Pressure exerted by a superior (e.g., the audit supervisor in a CPA firm or the controller in industry) can result in an accountant agreeing to “bend the rules”—an unethical request by a superior that is often initially couched as a onetime necessity which later mushrooms into an ongoing expectation (e.g., Cooper, 2008; Beam & Warner, 2009).

The pressure exerted by superiors on subordinates to act unethically can also be related to the obedience paradigm developed by Stanley Milgram (1963). Milgram's experiment was partly conducted to determine why some Germans during the Second World War were willing to comply with the illegal demands of their superiors—demands that resulted in concentration camp atrocities and in the gas chamber death of millions. Milgram's (1963; *The Milgram Experiment*, n.d.) results indicated that a majority (65%) of the subjects were willing, under instructions to do so by a superior who

accepted responsibility for the subject's actions, to administer to others subjects electrical shocks that could have (if the electrical shocks had been real) resulted in injury or death. Replications of Milgram's experiment have also found high levels of subject obedience (e.g., ABC, 2007; BBC, 2009; Discovery Channel, 2011). A recent Milgram-like study conducted in Poland (Dolinski et al., 2017), an area where many of the atrocities of the Holocaust took place, including mass killing of Jews in death camps and by firing squads (e.g., Republic of Poland, 1942; Stola, 1997; Lifton, 2000; Webber, 2016), found almost unanimous obedience to the authority figure. Milgram's experiment and the subsequent replications help, at least partially, explain the psychology of the mass murderers of the Holocaust. Following an interview with a death camp survivor, Lifton (2000) made the following observation:

What my survivor friend was struggling with . . . is the disturbing psychological truth that participation in mass murder need not require emotions as extreme or demonic as would seem appropriate for such a malignant project. Or to put it another way, ordinary people can commit demonic acts. (Lifton, 2000, p. 5).

While not necessarily a demonic act, unethical acts by CPAs, including accounting fraud, has resulted in egregious financial harm to both employees and the investing public (e.g., Enron, WorldCom, BMIS). The suggested salience of the value of *courageous* resulted in this value being the focus of the Curriculum Modification Intervention tested with Hypothesis 2.

#### 5.2.1.2.6 Modes of Delivery

Prior research (2.2.3.4) has generally found the effectiveness of VSC interventions not dependent on the mode of delivery. In prior studies, value change resulted from VSC interventions delivered to groups in college classrooms (e.g., Rokeach, 1968a; Rokeach, 1971a; Campbell & Hannah, 1976; Maio et al., 2009; Arieli et al., 2014), in one-on-one sessions (e.g., Rokeach & Cochrane, 1972; Sanders & Atwood, 1979), by print only, by video tape (Sanders & Atwood, 1979), by a mass media television broadcast (Ball-Rokeach et al., 1984), in clinical sessions (Conroy et al., as cited in Rokeach, 1973; DeSeve, 1975; Conroy, 1979), and by computer (Rokeach, 1975).

The computer delivery of the VSC by Rokeach (1975) was performed in a class setting on a “. . . terminal keyboard connected to a PDP-12 computer . . .” (Rokeach, 1975, p. 469). In that study, the subjects in the experimental group received a non-standard VSC intervention in which specific values were not targeted, and the computer feedback merely provided a comparison of subject rankings with the rankings of a demographically similar national sample of subjects.

The VSC Intervention is believed to be the first to be delivered by internet. The findings of long-term value change for two of the four targeted values provides support for the efficacy of the Rokeach’s (1973) VSC methodology regardless of its mode of delivery. Moreover, the success of the present study in inducing long-term value change when the intervention was anonymously delivered by internet has important implications for the online delivery of values content.

#### 5.2.1.2.7 Intervention Variations

As previously detailed (2.2.4.5), most VSC researchers have utilized the standard VSC intervention procedures (1.6.2.4) delineated by Rokeach (1973) or a modified version of his procedures—a modified VSC intervention. The procedures (3.7.7) utilized in the present study constituted a modified VSC intervention. The 12-steps of Rokeach’s (1973) standard VSC procedures (1.6.2.4) included subjects comparing the rankings of the targeted values of the referent group to related attitudes and behaviors (Step 5), and included subjects indicating their satisfaction at posttest with their pretest rankings (Step 12). These two steps were the only standard VSC intervention procedures not utilized in the present study. The remaining steps of Rokeach’s standard VSC intervention procedures were further modified by the inclusion of additional persuasive content—an augmentation that produced, as defined in the present study (2.2.1), a modified VSC intervention.

#### 5.2.1.2.8 Attitude and Behavior Change

Previous VSC studies with the RVS have targeted for change values related to various social attitudes and behaviors such as those towards civil rights/race relations (e.g., Spillman, 1979; Grube, 1982; Waller, 1994), the Vietnam War (Rokeach, 1968a), and the environment (e.g. Hollen, 1972; Grube, 1979; Ball-Rokeach et al., 1984), or values related to personal behaviors such as cigarette smoking (DeSeve, 1975; Conroy, 1979), weight loss (Schwartz & Inbar-Saban, 1988), and exercise hours (Sawa & Sawa, 1988). VSC studies that have attempted to change attitudes and behaviors by changing the importance given to targeted values have generally been successful: attitude change (2.2.3.6) followed VSC interventions in eight out of ten (86%) studies; and behavioral change (2.2.3.7) followed VSC interventions in 12 of the 15 (86.7%) studies. A unique contribution of the present study is the targeting for change values related to one of the important ethical codes of the accounting profession. The hope is that, as in prior research, change in the priority given to Code related values will have a positive impact on future ethical behavior—a posited values-to-behavior relation (Rokeach, 1973) not tested in the present study. In regards to the relation between values and behavior, Rokeach wrote the following:

If it is indeed the case that terminal and instrumental values are standards that guide actions as well as attitudes, then knowing a person's values should enable us to predict how he will behave in various experimental and real-life situations. Again, it is possible to specify in advance not all the values that will be predictably related to a given behavior, but only the main ones. Those that are the most substantially or logically related to a given behavior should be the ones that will best predict it. Thus, religious values should predict differences in religious behavior, political values should best predict differences in political behavior, and so on. (Rokeach, 1973, p. 122)

Hence, if value change proceeds and predicts changes in attitudes and behaviors, the long-term (15-16 week) value change success found in the present study for the two targeted values of *capable* and *courageous* suggests that Rokeach's VSC methodology may be an effective way to augment the curriculum of college courses in accounting ethics, and may also be a desirable adjunct to the ethics content included in continuing professional education courses for practicing CPAs.

Three of the four previous uses of VSC interventions in clinical settings (2.2.3.7) were successful in changing values related behaviors: two studies with smoking reduction (Conroy et al., as

cited in Rokeach, 1973; Conroy, 1979), and one study with weight loss (Schwartz & Inbar-Saban, 1988). In the smoking studies the values of *self-disciplined/self-controlled* were targeted, while in the weight loss study the values of *wisdom* and *happiness* were targeted.

In addition to these three successful behavioral change studies, a number of researchers have suggested that a VSC interventions might effectively be used in other clinical settings. For example, Rokeach (1983) proposed the VSC technique as a feasible clinical method for preventing or reducing drug abuse. Kristiansen (1985) suggested that a VSC intervention targeted at increasing the priority given to the values of *health* and *a world at peace* and decreasing the priority given to the values of *an exciting life*, *happiness*, *mature love*, and *pleasure* might be effective in preventive health education, especially for direct-risk behaviors. Goff and Goddard (1999) posited that a VSC intervention targeted at decreasing the priority given to the values of *fun*, *enjoyment*, and *security* and increasing the priority given to the values of *self-respect* and *a sense of accomplishment* might be beneficial in treating juveniles with problem behaviors such as delinquency, substance abuse, and sexual activity. Chernoff and Davison (1999) suggested that a VSC intervention that targeted the instrumental values of *an exciting life* and *self-controlled*, which differentiated between the high risk group (higher priority for an *exciting life*) and the low risk group (higher priority for *self-controlled*), might be implemented as one component of a comprehensive program aimed at risk reduction. More recently, Lee, Low, and Ng (2013) identified personal values as important non-medical drivers of insulin treatment decisions. They proposed that future research might focus on determining if patients who need insulin, but resisted it, might benefit from a VSC intervention.

Based on the successes found in the three prior clinical applications along with the posited benefits to be derived from VSC interventions in a variety of behavioral areas, the present researcher suggests that a methodology similar to that utilized in the VSC Intervention may have clinical-like relevance for accounting practice. One potential use of such an intervention might be in remediation efforts with CPAs who have violated the AICPA's Code of Professional Conduct and Bylaws (2012). The AICPA and/or the violator's state board of accountancy could include a VSC intervention along

with other required remediation, such as completing a continuing education course/class in ethics. The addition of a VSC intervention would be both cost and time efficient, especially given the present results that suggest a long-term effect for online delivery.

A VSC intervention could perhaps also be useful in reducing firm turnover—as a P-O fit intervention for staff who are perceived as having difficulties in socializing into the firm culture, or as a generalized intervention for improving firm socialization. Targeted values could include not only the values of the profession but also firm specific values (Cory et al., 2007; Hecht, as cited in Vien, 2017). Such an intervention might be used in conjunction with other firm socialization efforts such as mentoring (e.g., Chatman, 1991) and employee “bonding” type activities (Cory et al., 2007; MacLean, 2013; Jankowski, 2016).

#### 5.2.1.2.9 Sleeper Effect

In his seminal VSC studies, Rokeach (1968a; 1971a) found both changes in values and attitudes. However, the changed attitudes were delayed. That is, while no change in attitudes were found at posttest 1, changes in attitudes were noted at subsequent posttests. Instead of finding a delayed change in attitudes, Sawa and Sawa (1988) reported a lagged behavioral change. Rokeach (1968a) referred to delayed VSC induced changes as a “sleeper effect.”

In Rokeach’s (1968a) first VSC study, subjects who received the VSC intervention and ranked *equality* low at pretest, significantly increased their rankings of this value at each of two posttests. In conjunction with testing the effect of the VSC intervention on value change, the effect that increasing the priority given to *equality* had on three attitudes was also tested: attitudes towards civil rights for Negroes, equal rights for others, and American’s involvement in the Vietnam War. Rokeach (1968a) found a delayed change for two of these three attitudes. While attitudes towards civil rights for Negroes did not increase from pretest through the two posttests, attitudes towards equal rights for others and towards American’s involvement in the Vietnam War changed at posttest 2, but not at posttest 1. At



posttest 2 subjects became more pro civil rights for others and more opposed in their attitudes towards the Vietnam War (Rokeach, 1968a).

In his second VSC study, Rokeach (1971a) found both *equality* and *freedom* ranked higher at each of three posttests. Again, there was a delayed reaction related to attitude change. Attitudes towards civil rights did not change at posttest 1, but became more favorable at both posttest 2 and posttest 3 (Rokeach, 1971a).

Sawa and Sawa (1988) investigated value and behavior change following a non-standard VSC intervention with the targeted value of *health*. While no change in the priority given to *health* was found at either posttest, behavior changes were found at posttest 2 but not at posttest 1. Subjects who at posttest 2 gave a higher priority to *health* spent more time exercising.

In the VSC Intervention, the long-term value change in the priority given to *capable* presented a pattern suggestive of a “sleeper effect.” The post hoc analysis (4.2.3.3) indicated that at Posttest 1 *capable* was ranked significantly higher than it had been at Pretest ( $Z = -3.250$ ,  $r = -.575$ ,  $p = .001$ ). At Posttest 2, while *capable* was still ranked higher than it had been at Pretest, the median differences (Pretest-Posttest 2) were no longer significant ( $Z = -1.871$ ,  $r = -.331$ ,  $p = .057$ ). Then, at Posttest 3, *capable* was again ranked significantly higher than at Pretest ( $Z = -2.250$ ,  $r = -.398$ ,  $p = .021$ ). Therefore, the Pretest-Posttest pattern of value change was from more important (Pretest to Posttest 1), to no change (Pretest to Posttest 2), to more important (Pretest to Posttest 3).

The seminal VSC studies by Rokeach (1968a, 1971a) and the study by Sawa and Sawa (1988) are the only instances of a “sleeper effect” being reported; and the “sleeper effects” found by these researchers were not for value change. Since no extant VSC study previously reported a “sleeper effect” for value change, the present study is believed to be the first to find such an effect. However, at least one factor may lessen the importance of this finding. The median change in *courageous* at Posttest 2 was at a significance of  $p = .057$ , which was close to reaching the adopted significance level of  $p \leq .05$  (Section 3.4.1.1). More research is needed to determine if the finding of delayed value change was an artifact of the present study.

The finding of a potential “sleeper effect” for value change with Group 2, suggests that such an effect might have taken place with the value of *courageous* which was tested with Group 1. However, since Group 1 was retested only once, at Posttest 1, any subsequent value change could not be investigated. Considering that Group 1 was also an experimental group for the Curriculum Modification Intervention part of the Value Change Study, this design limitation may have impacted the results reported for Hypothesis 2 (4.2.2.1.4), which could have been reformulated to cover subsequent posttests. Perhaps the importance given to *courageous*, which was not higher at Posttest 1, would have been, if again tested, found significantly higher at a later time period.

#### 5.2.1.2.10 Demand Effect

Rokeach’s (1973) value change theory posits that VSC causes value dissonance (a form of Festinger’s (1957) cognitive dissonance) which results in value change. Other researchers (e.g., Spillman, 1979; Campbell & Hannah, 1976) have suggested that value change following VSC interventions are not the result of value dissonance but are caused by the experimental artifact of demand. According to Zizzo (2010) “experimenter demand effects . . . refer to changes in behavior by experimental subjects due to cues about what constitutes appropriate behavior (behavior ‘demanded’ of them)” (Zizzo, 2010, p. 2). A classic example of the demand effect (Zizzo, 2010) is Milgram’s (1963) experiment on obedience.

In discussing demand effects, Weber and Cook (1972) identified four roles that subjects may take in an experiment. They “. . . designate[d] . . . [these] roles as the good subject, the faithful subject, the negativistic subject, and the apprehensive subject” (Weber & Cook, 1972, p. 274). The last role, that of the apprehensive subject, is described by Rosenberg (1965) as a “. . . subject’s suspicion that he may be exposing himself to evaluation . . .” [by the experimenter] which results in “. . . an active, anxiety-toned concern that . . . [he] win a positive evaluation from the experimenter, or at least that he provide no grounds for a negative one” (Rosenberg, 1965, p. 29).

The results of Spillman's (1979) non-standard VSC study suggest that value change may be more related to challenges to self-esteem than to value dissonance. Six weeks after the interventions, subjects with low self-esteem, who were given a persuasive message that threatened self-esteem, but whom did not receive a VSC intervention, ranked *equality* higher than two other VSC intervention groups, and were less inconsistent than the VSC groups in their rankings of the targeted values of *equality* and *freedom*. The two experimental groups that received a VSC intervention, with and without receiving a self-esteem threatening message, however, also significantly increased the priority given to *equality*. Spillman's finding, which argues against the primacy of value dissonance, nevertheless, appears consistent with a theorized "driver" of value dissonance and value change. According to Rokeach (1973), one reason that subjects change their values is in order to ". . . maintain and enhance their self-esteem" (Rokeach, 1973, p. 13).

Campbell and Hannah's (1976) non-standard VSC intervention found support for an evaluation apprehension effect. Subjects were placed in either a high or a low state of apprehension and were given either a high or a low cue for the value of *a world of beauty*. The results indicated a short-term effect for high apprehension. Subjects placed in the high apprehension state with a high cue, ranked *a world of beauty* higher than did subjects placed in the low apprehension state who also received a high cue.

The methodology employed by Campbell and Hannah (1976) appears similar to research with the priming of values (e.g., Macrae & Johnston, 1998; Bargh, Lee-Chai, Barndollar, Gollwitzer, & Trotschel, 2001; Maio et al., 2009; MacMillan, 2012; Arieli et al., 2014) in which a value or word stimuli subconsciously effects later behavior (Macrae & Johnston, 1998; Bargh et al., 2001). Antithetically, the VSC methodology is theorized to change values through value dissonance which is a conscious cognitive activity (Rokeach, 1973).

As suggested by the findings of Spillman (1979) and Campbell and Hannah (1976) the increase in the priority given in the present study to the targeted values of *capable* and *courageous* may have been impacted by a demand effect. The VSC subjects may have ranked the targeted values in accordance with the expectations of the course and/or the perceived demands of the experimenter. The

following aspects of the VSC Intervention procedures suggest that a demand effect may have affected the results.

The VSC intervention was delivered in a course on professional judgment, the focus of which was personal and professional values related to ethical behavior. In this regard, the syllabus (Appendix I) stated the following:

Throughout this course, we will explore ethics from a professional decision making viewpoint: that is, the professional judgment needed to practice as an ethical accountant. The personal and professional values that are activated in ethical situations have been suggested as “drivers” of ethical behavior. . . . For the remainder of the course (as you analyze the 13 assigned ethics cases) you should think about the values that are important to you (in your life) and the values that are important to the accounting profession. You should continually ask yourself if there are instances where your personal values and the values of the profession are in conflict; and how you would resolve any such conflict?

Therefore, the VSC Intervention, which provided students with the rankings of a referent group of CPA leaders and presented a persuasive message regarding the Code related relevance of the four values given the highest priority by the referent group, could have caused evaluation apprehension. In ranking their values subsequent to the intervention, subjects may have perceived the CPA value rankings as the appropriate (e.g., Zizzo, 2010) professional ordering of the RVS values and as drivers of ethical behavior and, therefore, felt pressured to rank their values similarly in order to receive a positive evaluation (e.g., Campbell & Hannah, 1976). Additionally, the present researcher, as the professor teaching the course and as a CPA with extensive practical experience in public accounting, was probably perceived of as an authority figure (e.g., Milgram, 1963). VSC subjects, hence, may have ranked their values in conformity with the referent group due to the need to be obedient to the perceived demands of the present researcher.

On the other hand, elements of the VSC Intervention methodology perhaps worked to mitigate a demand effect. Subjects were promised anonymity, were informed that there were no right or wrong orderings of one’s value priorities, and were told that the data collected by the SurveyMonkey administrator would be aggregated so that the data was not identifiable to specific individuals. These procedures were aimed at reducing subject concerns about being evaluated and/or about needing to follow the perceived demands of the researcher. The minimization of subject contact with the present

researcher, experimental realism, and the time lag to Posttest 3 may also have contributed to lessening any potential demand effect.

Weber and Cook (1972) suggested that “experimenters should . . . aim, whenever possible, to have subjects perform experimental tasks in settings where they cannot look to the experimenter for performance feedback” (Weber & Cook, 1972, p. 293). The setting of the present experiment was online—the professional judgement course was taught online and the VSC Intervention was delivered online. The lack of face-to-face contact between the present researcher and the subjects negated the risk of subjects receiving experimenter provided cues during the VSC Intervention.

As previously indicated (5.2.1.2), Rokeach’s (1973) standard VSC methodology was expanded in the VSC Intervention to include an additional element of persuasion in the form of relating the four targeted values to specific Articles of the Code of Professional Conduct and Bylaws (2012) of the AICPA. Since ethics is tested in one part (auditing and attestation) of the four part CPA exam, and with many of the subjects presumably desiring to pass this exam and become licensed CPAs, the targeted Code related values are argued to have had marked salience. Therefore, the relevance to accounting practice of the Code and its related value content may have provided a measure of experimental realism. Experimental realism is defined in the *Encyclopaedia of Social Psychology* as “. . . the extent to which situations created in social psychology experiments are real and impactful to participants” (Vohs & Baumeister 2007, p. 329). One aim of “. . . experimental realism is,” according to Weber and Cook (1972), “to bring into experiments a motivational force that overrides any other force” (Weber & Cook, 1972, p. 292). The present researcher suggests that the Code specific persuasion included in the VSC Intervention was impactful and created a motivational force (i.e., a strong desire to become a successful accounting professional) that perhaps overrode the potential negative effects of demand.

The long-term nature of the VSC Intervention may have also contributed to mitigating a demand effect. Posttests 3 was conducted 15-16 weeks after the intervention. It perhaps can be supposed that demand effects, including evaluation apprehension (e.g., Campbell & Hannah, 1976) and challenges to self-esteem/ego defense (e.g., Spillman, 1979), are most impactful in the short term: for example, at

Posttest 1, which took place immediately after the VSC Intervention but before the end of the course, and, importantly, before subjects had received a grade for the VSC assignment and for the course. The present researcher suggests that any demand effect caused by evaluation apprehension, ego defense, or desire to be obedient, which might have been operative at Posttest 1, may have been less impactful at Posttest 3, which took place almost four months after the intervention when many of the subjects in Group 2 had graduated from the MSA program.

That a demand effect may have played a role in the VSC Intervention results, nonetheless, cannot be ruled out. The methodology employed to assure subjects of confidentiality and reduce evaluation apprehension, the lack of face-to-face contact between the researcher and subjects, the experimental realism and motivational force of the persuasion used, and the lag in time between the VSC intervention and Posttest 3 may not have eliminated the confounding effects of demand.

#### 5.2.1.2.11 Fabricated Data

Of the 34 extant VSC interventions summarized in Table 1 (2.2.2), researchers in 31 of them used actual rather than fabricated data. In defending the ethicality of their mass media delivered VSC intervention, Ball-Rokeach et al. (1984) argued that the use of truthful input, though selectively chosen, is one aspect of the non-manipulative use of the VSC methodology. Nevertheless, Spillman (1979), Maio et al. (2009), and McClure et al. (2012) effectively used fabricated data.

In testing for the effect of negative self-esteem, rather than value dissonance, being the cause of VSC induced value change, Spillman (1979) targeted the values of *equality* and *freedom* using RVS rankings from two referent groups: rankings from a pilot study, and the fictitious rankings of average Americans. The two targeted values were shown as ranked higher by average Americans than by the pilot study group. The results indicated that at posttest the VSC groups and the negative self-esteem group all gave *equality* a higher ranking than at pretest. However, the negative self-esteem group had the least discrepancy in their rankings of the targeted values.

Maio et al. (2009) tested the motivational interconnections of the 16 values in Schwartz's (e.g., 1992, 1994, 2012) circular model. These researchers manipulated the fictitious priority given to four values in each of Schwartz's four value dimensions and provided false explanations of why the bogus referent group had prioritized the four values. The findings showed that the VSC interventions resulted in the targeted dimension being given a higher priority than the other three dimensions.

Finally, also using the SVS, McClure et al. (2012) manipulated the referent group's fictitious rankings of values in two dimensions: *self-transcendence*, which includes values such as *equality* and *a world at peace*, and *self-enhancement*, which includes values such as *ambitious* and *successful*. These researchers related the *self-transcendence* values to environmental intentions. Their results indicated that the priority given to *self-transcendence* type values increased while the priority given to *self-enhancement* type values decreased.

The results in all three of these VSC studies (i.e., Spillman, 1979; Maio et al., 2009; McClure et al., 2012) indicated that the use of fictitious data was effective in inducing value change: long-term value change in the study by Spillman (1979), and short-term value change in the studies by Maio et al. (2009) and McClure et al. (2012). In each instance, the use of fictitious data, a form of deception, was used. Addressing the need for debriefing subjects following experimental treatments, Hooks and Schultz, Jr. (1996) wrote that "debriefing is considered mandatory to mitigate any negative impacts on participants, and is especially important when participants were deceived. . . ." (Hooks & Schultz, Jr, 1996, p. 41).

The debriefing of subjects was not mentioned as a procedure used by Spillman (1979). Maio et al. (2009) stated that at the end of the experiment "participants were . . . probed for suspicion with a funnel-style debriefing and thanked for their participation" (Maio et al., 2009, p. 703). Their debriefing appears to have been directed at investigating the potential for a demand effect rather than at explaining the researcher's use of bogus referent group data. In the method section of their paper, McClure et al. (2012) wrote that "after finishing the experiment participants . . . [were] introduced to the debriefing session" (McClure et al., 2012, para. 15). No indication was made regarding the content of the

debriefing. Whether or not subjects were told about the researcher's use of fictitious information, therefore, cannot be determined.

Hooks and Schultz, Jr. (1996) wrote the following concerning the use of deception in ethics research: "For those who do not take a moral position condemning deception in research, satisfying the necessary conditions of a sufficiently important subject; lack of effective, feasible nondeceptive designs; care for the participants; and proper procedures should be paramount" (Hooks & Schultz, Jr., 1996, p. 44). Without taking a moral position on the use of deceptive VSC methodologies and arguing that nondeceptive design alternatives are usually available, the present researcher suggests that future VSC investigators should avoid using false information: for example, fictitious information regarding value rankings by the referent group, fictitious explanations of why the referent group supposedly ranked the false data as indicated, or fictitious persuasive messages regarding targeted values. If the research objectives call for the use of false information (as was the case in the value manipulation in the study by Maio et al. (2009), subjects should be made aware in a debriefing of exactly how they were manipulated; including, when possible, the communication of truthful information to replace the false information that was imparted. This informative type of briefing is important due to the indications from prior research that VSC interventions can change short- and long-term attitudes and behaviors and that values have religious and political implications. Research has found the VSC methodology related to changes in both attitudes (e.g., Rokeach, 1968a; Hollen, 1972; Gray & Ashmore, 1975; McClure et al., 2012) and behaviors (e.g., Penner, 1971; Hopkins, 1973; Conroy, 1979; Ball-Rokeach, 1984; Arieli et al., 2014). In addition, personal values have been shown to have both political (e.g., Rokeach, 1973, 1979; Cochrane, Billig, & Hogg, 1979; Schwartz, Caprara, & Vecchione, 2010; Ariail et al., 2013) and religious (e.g., Rokeach, 1973, 1979; Glaz, 2015a, 2015b; Ittzes, Sipos-Bielochradszky, Beres, & Pilinszki, 2017) implications. Consequently, not debriefing subjects about false data used in a VSC intervention could be harmful—perhaps considered an unethical meddling with the value systems of subjects.



Only factual information was used in the VSC Intervention. The rankings of the CPA leaders were actual, as was the information regarding the relationship between the four targeted values and the AICPA's Code of Professional Conduct and Bylaws (2012). In applied usage, the inclusion of any false information in a VSC methodology is, in the present researcher's opinion, unacceptable. In order to positively impact both accountants and the accounting profession, subjects must perceive that the VSC intervention is truthful. A perception of truthfulness might be enhanced if subjects are able to subsequently verify the validity of the VSC input; perhaps, for example, by being presented at debriefing with relevant information published in peer reviewed research.

As indicated by Hooks and Schultz, Jr. (1996) educators have a magnified duty to be truthful and "behave with integrity" (Hooks & Schultz, Jr., 1996, 25). The present researcher suggests that this magnified duty can only be discharged by the use of ethical pedagogies. In an educational environment students have to trust their teachers to tell them the truth; and teachers have a duty and obligation to do just that.

#### 5.2.1.2.12 Effect Size: Practical Significance

Carson (2012) indicated that effect size can be indicative of practical significance. Coe (2002) cited the 1981 work by Glass, McGaw, and Smith (1981) as

. . . arguing that the effectiveness of a particular intervention can only be interpreted in relation to other interventions that seek to produce the same effect. They also point out that the practical importance of an effect depends entirely on its relative cost and benefits. In education, if it could be shown that making a small and inexpensive change would raise academic achievement by an effect size of even as little as 0.1, then this could be a very significant improvement. . . . (Coe, 2002, para. 19)

Coe (2002) also indicated that "it seems to be a feature of educational interventions that very few of them have effects that would be described in Cohen's classification as anything other than 'small'" (Coe, 2002, para. 23). Using the effect size criterion established for the present study (3.4.12), the 17 educational interventions included in the study by Coe (2002) included four studies with large ( $\geq .50$ ) effect sizes, six

with medium to large ( $\geq .30$  and  $< .50$ ) effect sizes, four with small to medium ( $> .10$  and  $< .30$ ) effect sizes, and three with small ( $\leq .10$ ) effect sizes.

Most prior VSC researchers have not reported effect sizes. The few that have done so have provided this statistic for behavioral changes: e.g., Pleban et al. (1983) reported effect sizes of .19 and .14 for performance measures, and Sawa and Sawa (1988) reported effect sizes of .22 and .45 for exercise hours. Grube et al. (1994) reported effect sizes of .28 and .37 regarding the relation between value self-dissatisfaction and value change.

The study by Arieli et al. (2014), that targeted changing the priority given to *benevolence* type values, provides a relevant comparison to the effect sizes found in the present study. These researchers reported a large effect size of .53 in their first experiment; a medium to large effect size of .37 in their second experiment; and a small to medium effect size of .27 in their third experiment. In discussing the results, Arieli et al. (2014) stated the following regarding the practical significance of their effect sizes:

. . . Spending 30 min [sic] reflecting on and advocating the importance of helping others led participants to endorse benevolence values as more important. . . . These effects can be practically important because they are caused by a minimal intervention and are observed for a dependent variable that is difficult to influence. . . . Thus, we show how a minimal intervention in terms of time, effort, and external pressure can modify a deep-seated psychological construct such as values. . . . (Arieli et al., 2014, p. 19 & 21)

Schwartz and Inbar-Saban (1988) made a similar observation concerning the practical significance of the clinical use of VSC interventions: “Given the small time demands and the fact that the method requires no elaborate skills to administer, it can easily be combined with other approaches” (Schwartz & Inbar-Saban, 1988, p. 404).

In the VSC Intervention, the changes in medians from Pretest to Posttest 1 (short-term value change) were significant for all four of the targeted values. The effect sizes were large for *capable* ( $r = .575$ ) and medium to large for *courageous* ( $r = .486$ ), *honest* ( $r = .471$ ), and *responsible* ( $r = .346$ ). The changes in medians from Pretest to Posttest 3 (long-term value change), which took place 15-16 weeks after the intervention, were significant for the two targeted values of *capable* and *courageous*. The effect sizes were medium to large for both *capable* ( $r = .398$ ) and *courageous* ( $r = .365$ ). Based on the average effect sizes reported in prior educational interventions (Coe, 2002), and based on the

comparable effect sizes found by Arieli et al. (2014), the effect sizes found in the present study appear to be acceptable and indicative of practical significance.

### 5.2.2 Contributions to New Knowledge

The present researcher believes that the Value Change Study (5.2) provides a number of contributions to new knowledge. First, it is the first extant study to utilize persistently applied persuasion in the form of a course-long curriculum modification (5.2.1.1). Over the eight-week duration of the course in professional judgment (accounting ethics), subjects in Group 1 and in Group 2 consistently received persuasive input aimed at increasing the priority given to the value of *courageous*. The persuasion applied in prior studies (e.g., Hollen, 1972; Hopkins, 1973; Arieli et al., 2012) was relatively short and was administered near the date of the first posttest.

Second, the Value Change Study is the first extant VSC study conducted with students in a business discipline (5.2.1.2.4). Subjects in the present study were graduate accounting students, while students who participated in many of the prior VSC studies were predominately psychology majors (Table 1). Thus, the present findings provide new knowledge regarding the impact of a VSC intervention on the value priorities of students in a business discipline—specifically, upper level accounting students nearing entry into the accounting profession.

Third, the four RVS instrumental values of *capable*, *courageous*, *honest*, and *responsible* were uniquely targeted for change (5.2.1.2.5). Prior VSC studies have targeted one to three RVS values. The values targeted in prior VSC studies were most often terminal values: for example, many prior studies investigated the effect of a VSC intervention on the RVS terminal values of *freedom* and *equality* (Table 1). The present study is also distinctive in that the targeted values were all values embedded in a professional code of ethics. Therefore, both the number of values targeted and the Code specific nature of the values targeted provide a significant contribution to the VSC literature, business ethics literature, and accounting ethics literature.

Fourth, VSC literature (Table 1) suggests that the VSC methodology is effective at changing both short-term (5.2.1.2.1) and long-term value (5.2.1.2.2) priorities. The present study findings support the previously found efficacy of VSC interventions in promoting value change that not only provides an immediate effect, a value change that perhaps may be more prone to being influenced by a demand effect (5.2.1.2.10), but also provides a lasting impact—changes in value priorities in the present study persisted for 15-16 weeks.

Fifth, the mode of delivery (5.2.1.2.6) utilized in the present study contributes to the VSC literature. The results indicated that the VSC Intervention was effective at changing values despite not being delivered in a face-to-face setting. Both the Curriculum Modification Intervention and the VSC Intervention were delivered by internet to fully online, distance education, students. With this study being the first to use an internet mode of delivery, the findings of the effectiveness of the intervention provides a significant contribution to VSC and ethics literature and to distance education literature. Moreover, the effectiveness of the VSC Intervention has practical implications for accounting leaders in both academia and practice.

Sixth, the present study is believed to be only the second extant VSC study to report effect sizes for changes in value priorities (5.2.1.2.12). However, the present study reports effect sizes for value changes using the RVS, while the prior VSC study that reported effect sizes (Arieli et al., 2012) did so for value changes using the SVS. Consistent with the results of that prior study, the present study found medium to large effect sizes. The finding of significant changes in the short-term priorities given to the values of *capable*, *courageous*, *honest*, and *responsible* and of significant long-term changes in the priorities given to the values of *capable* and *courageous* are, therefore, also indicative of practical significance.

Seventh, the overall significance of the present study is that the P-O Fit Study (4.1) findings suggests that the lack of P-O fit of accounting students with the accounting profession provides a possible driver of undesired staff turnover in public accounting and of the unethical behavior of some CPAs. Then, the Value Change Study identifies a VSC intervention (4.2) as a potentially effective tool

that leaders in accounting academia and leaders in accounting firms can use to address these problems. Academic leaders can possibly use a VSC intervention to augment other curriculum content in an effort to better inculcate accounting students with the values of the profession. Accounting leaders in practice can potentially utilize a VSC intervention as an adjunct to current methods being used to better select new hires in accounting and being used to improve the socialization of current employees. In addition, leaders in accounting practice can potentially use a VSC intervention to augment remediation efforts employed with CPAs who have violated the Code of Professional Judgment and Bylaws (2012) of the AICPA. Thus, a significant contribution of the present study is a finding suggesting that the VSC methodology may be an effective, but low cost (Arieli et al., 2012) way for accounting leaders to focus on improving both staff retention and ethical behavior.

### 5.2.3 Limitations

No effort was made to randomize the selection of the subjects in Group 1 and Group 2. The two classes of MSA students were not necessarily representative of MSA students at SPSU, of graduate accounting students in Georgia, nor of graduate accounting students in the U.S.A. Therefore, the Value Change Study results cannot be generalized.

The number of subjects in Group 1 and Group 2 were limited by the number of students who registered for the professional judgment course ( $N = 32$ ). At the present researcher's request, an SPSU administrator divided these students into two classes of 16 students, each balanced for gender. These two classes were randomly designated as Group 1 or Group 2. By Posttest 1, three students in the Group 1 had dropped out of the course, which reduced the number of Group 1 subjects to 13. With 13 subjects in Group 1 and 16 subjects in Group 2, the value change of 29 students were analyzed at Posttest 1, while the value change of the 16 subjects in Group 2 were analyzed at Posttest 2 and Posttest 3. Thus, the range of scores at Posttest 1 of the experiment were narrowed. This limitation is acknowledged and

all efforts were made to limit this incidental range restriction. Survival analysis statistics is, however, beyond the scope of this research.

This study had at least three design limitations. First, since the statistical analysis (4.2.2.1.3, Table 22) indicated no change at Posttest 1 in the priority given by the Control Group to the value of *courageous*, there were no subsequent posttests. Additional posttests might have detected a “sleeper effect.” Second, Group 1 was used as an experimental group for the Curriculum Modification Intervention. Third, Group 2 received two interventions: the Curriculum Modification Intervention and the VSC Intervention. The fact that the VSC Intervention group also received the Curriculum Modification Intervention clouded the analysis of the effectiveness of the VSC Intervention results for the value of *courageous*. Moreover, the study design did not allow for a determination to be made of the effectiveness of the persuasive content that was added to the standard VSC procedures.

Despite measures designed to minimize a demand effect, the study results may have been influenced by such an effect. Subjects may have ranked the values based on the perceived demands of the course in professional judgment and/or based on the perceived demands of the present researcher, who was also their instructor.

Value change was self-reported. Studies (e.g., Podsakoff, MacKensie, Lee, & Podsakoff, 2003) have indicated that single-source common method bias arising from self-reporting can pose a problem in behavioral research. According to Yannakakis and Hallam (2011) potential problems relating to self-reporting include “. . . self-deception, intrusiveness and subjectiveness” (Yannakakis & Hallam, 2011, para. 2). Conway and Lance (2010) argue that there are misconceptions regarding “. . . relationships between self-reported variables [being] . . . necessarily and routinely upwardly bias[ed]” (Conway & Lance, 2010, p. 332).

Self-reporting is valuable and has been the standard methodology used for gathering values data. In addition, the RVS instrument (Rokeach, 1973), which was used to measure value priorities at four testing dates, has been used in the majority of prior VSC studies (Table 1); other studies have used the SVS (Schwartz, 1992, 1994, 2012), which is also a self-reported instrument. The RVS instrument has

been found to have acceptable validity and reliability (3.3.1.3). Gathering data from other sources (multiple source data), however, could have been valuable. Nevertheless, it must be remembered that the VSC Intervention was conducted in an entirely online course.

The value self-confrontation methodology developed by Rokeach's (1973), which is posited as promoting value change by causing value dissonance—a purported form of Festinger's (1957) cognitive dissonance, was utilized in the VSC Intervention. In this intervention, attempts were made to introduce affective elements and behavioral aspects. The inclusion of additional elements of cognitive dissonance theory aimed at changing behavior, which was not addressed in the present study, may have been useful.

#### 5.2.4 Recommendations for Future Research

Recommendations for future research are divided into two parts. Suggestions for future curriculum modification interventions (5.2.3.1) are followed by suggestions for future VSC interventions (5.2.3.2).

##### 5.2.4.1 Curriculum Modification Intervention Recommendations

Can values that are important to the accounting profession be changed by the value specific content of a college accounting course, especially the values content of a course devoted to the study of professional judgment/ethics? Even though the results did not find a significant change in Group 1's median rankings of *courageous* from Pretest to Posttest 1, the descriptive analysis suggested that a curriculum modification intervention may have merit. Therefore, the present researcher calls for additional research. Suggestions for future research include replication of the methodology with the value of *courageous* and/or with other values, mirror image post testing of the control and experimental group(s), the elimination of any experimental procedures with the control group, and investigation of

how currently formulated accounting ethics education curricula effects value priorities. Elaborations of these recommendations follow:

- Replication of the present study is needed with the value of *courageous*, with one or more of the three remaining targeted values (*capable, honest, responsible*), or with other values identified as important to the accounting profession.
- It is recommended that future value change studies be designed so that the number and the timing of posttests are the same for both the control and the experimental groups. Additional posttests of Group 1 in the Curriculum Modification Intervention might have detected a delayed change in the priority given to *courageous*—a “sleeper effect” where no value change at posttest 1 was following by value change at subsequent posttests, as was found in the VSC Intervention with Group 2 for the value of *capable* (4.2.3.3, Table 30).
- Optimally, the curriculum modification and VSC intervention procedures should not overlap. If value change is investigated using both a VSC methodology and a curriculum modification methodology, three separate groups of subjects are recommended: a control group and two experimental groups. Alternately, researchers can separately test the impact of a curriculum modification intervention, or of a VSC intervention, which will require use of only two subject groups: a control group and an experimental group.
- A contribution to the literature on accounting ethics education might be made with an investigation of how current ethics course curriculum, without a curriculum modification intervention or a VSC intervention, effects the RVS or SVS value priorities of accounting students. That is, are the current pedagogies positively impacting accounting student’s ethical values, which have been theorized (Rest et al., 1999) as a “driver” of ethical behavior? A properly designed control group, one that received only the regular course content, could provide this input as part of an investigation of either a curriculum modification intervention or a VSC intervention.



#### 5.2.4.2 Value Self-Confrontation Intervention Recommendations

Recommendations for future VSC interventions include investigating the effectiveness of adding persuasive content to the standard VSC procedures, potentially adding or changing procedures to further minimize a demand effect, investigating the effect that a VSC intervention may have on future behavior, and using the SVS instead of the RVS to investigate VSC interventions with accountants. Details regarding these recommendations follow:

- Researchers may benefit from comparing the value change effectiveness of a VSC intervention that uses the standard procedures to a VSC intervention that uses more informational content. The element of persuasion that is a part of the standard VSC intervention was, in the VSC Intervention, augmented with two pages of persuasive message. The design of the study did not allow for a determination of whether or not this added persuasion effected the results.
- VSC studies should be designed to minimize the possibility of the results being confounded by evaluation apprehension, challenges to self-esteem, and perceived demands to comply with the wishes of the researcher. Additional measures that might help to lessen a demand effect include having the VSC intervention administered by an independent researcher (someone other than the professor teaching the course). Even though an outside administrator directly received the SurveyMonkey data and the subjects were told that this administrator would confidentially aggregate the results, the present researcher was obviously the investigator. In addition, a demand effect may be minimized by administering post-tests at periods longer than four months after the VSC intervention—for instance, a year or longer after the intervention
- Any research aimed at a practical application of the VSC methodology should only use factual information as intervention feedback. In an education intervention, the use of false information with the aim of changing values is considered by the present researcher as deception that constitutes unethical research and teaching behavior. If the objective of a study necessitates the use of fictitious information, subjects should receive a post-test debriefing that details the nature and extent of the falsifications. To

minimize harm to subjects, the debriefing should, when possible, communicate truthful information to replace the false information conveyed in the intervention.

- The potential clinical application of the VSC methodology in an accounting context may provide a fruitful avenue for research. That is, can a VSC intervention be used to change the behavior of accountants? Some of the many potential applications of the VSC methodology in an accounting context include the following: (1) remediation of ethical code violators, (2) improving staff retention by fostering better socialization, and (3) determining the effect of classroom administered VSC interventions on the future ethical behavior of accounting students.

- The present VSC research utilized Rokeach's (1973) RVS to operationalize personal values. As previously detailed (2.2.1), Maio et al. (2009), McClure et al. (2012), and Arieli et al. 2014), the most recent of the 34 VSC studies, operationalized personal values with the SVS developed by Shalom Schwartz (1992, 1994). The VSC interventions used in these three studies were successful. Thus, future VSC studies with accountants may benefit from using the SVS instead of the RVS. Three of the four RVS values argued in the present study as values of the CPA profession are included in SVS dimensions: *capable* in the dimension of *achievement*, *responsible* in the dimension of *conformity*, and *honest* in the dimension of *benevolence* (Schwartz, 2012). Instead of using the standard SVS, VSC research with accountants perhaps can also be extended by investigating these three dimensions with the 19 values (which include the values of *achievement*, *conformity*, and *benevolence*) that comprise Shalom Schwartz's refined theory of individual values (cf. Schwartz et al., 2012; Schwartz et al. 2017; Schwartz, 2017).

#### 5.2.5 Recommendations for Accounting Leaders

Accounting leaders in both academia and practice may benefit from employing a value change methodology similar to the one used in the present study. While more research is called for, the findings of the VSC Intervention along with prior research findings of the efficacy of such interventions, suggest

that the academy should consider using it in the teaching of accounting ethics. The implementation of a VSC intervention is cost effective. It takes little time and no special training (cf. Arieli et al., 2014). The present researcher recommends that academic leaders, for example accounting professors who are responsible for accounting program curricula, should encourage the use of this methodology to augment current curriculum.

Accounting leaders in practice can perhaps use the present study's VSC methodology in at least two ways: to promote firm socialization and as an educational remediation for CPAs who have violated the Code of Professional Conduct and Bylaws (2012) of the AICPA. Again, the present researcher recommends that a VSC intervention be used as an adjunct to other efforts or training. Firm socialization, which has been promoted by measures such as mentoring, sports teams, social activities, and civic activities, can perhaps be effectively augmented with a VSC intervention. Accounting leaders, including both CPAs who are responsible for the ethics of their firm members and CPAs who sit on ethics committees of state and national professional organizations, should consider using a VSC intervention to augment other remedial actions, such as requiring the violating CPA to take a number of hours of continuing education in ethics. The low cost (time and money) of utilizing the VSC methodology coupled with its suggested effectiveness recommend its use.

#### 5.2.6 Conclusions

Prior research (e.g., Ahadiat & Smith, 1994; Jackling & De Lange, 2009) has indicated that meeting the needs of the accounting profession includes academia addressing not only the technical competencies but also the "soft skill" competencies demanded by the profession—"soft skill" competencies that include ethical conduct (Ahadiat & Smith, 1994). In accord with this research, the Pathways Commission (2012) charged accounting academia with designing pedagogies that develop ". . . an understanding of and resonance with the profession's broad societal purposes" (Pathways Commission,

2012, pp. 23-24)—purposes that include values that contribute to accounting’s standing as a profession (Carey, 1969).

Fogarty (2000) suggested that the professional values needed by accounting students are being inadequately addressed in the classroom. The results of the P-O Fit Study indicate that this educational deficiency may be ongoing. Perhaps developing curriculum which provides students with a greater emphasis on the values of the profession is one way to address this problem. In this regard, researchers (Lan et al., 2009; Krambia-Kapardis & Zopiatis, 2011) who compared the values of accounting students to the values of accounting practitioners suggested that values content be included in accounting curriculums.

The International Accounting Education Standards Board (IAESB; 2008) also emphasized the need for accounting pedagogies to include a focus on the values of the profession—a focus that is importantly not perceived by students as secondary to the study of technical skills. The IAESB’s International Education Practice Statement 1 (IEPS, 2007) specified that ethics education should highlight the important role that ethical *courage* plays in accounting practice. More recently, International Education Standard 4 (IES 4; 2014) stated that “IFAC member bodies shall provide, through education programs, a framework of professional values, ethics, and professional judgment. . .” (IES 4, 2014, p. 5). A suggested application of this standard included “. . . a reflective activity that is formalized and documented” (IES 4, 2014, p. 6).

In a February 24, 2017 personal communication with the present researcher (Appendix J), Cynthia Cooper, the WorldCom (1.2.2.3) whistleblower and one of the three 2002 recipients of *Time Magazine*’s People of the Year Award, emphasized the important role that accounting professors can play in instilling students with the values of the profession (emphasis added):

By preparing students to make ethical decisions, professors have an opportunity to help shape the next generation and offer an incredibly valuable gift that may one day change the course of a student’s life. While many values are instilled during our youth, each of us can and will change throughout our lives. The years spent at a university are a critical time of growth and development. Professors can make a positive difference by discussing traits of strong ethical leaders, such as *honesty*, *accountability*, and *courage*, and by challenging students to define their own core values. (Cynthia Cooper, personal communication, February 24, 2017)

The two education interventions employed in the present study were both aimed at investigating potential pedagogies that accounting professors could use to improve student P-O fit. The focus of these pedagogies on Code related ethical values of the accounting profession may provide the secondary benefit of improving future ethical behavior. Presumably in agreement with the recommendations of IEPS 1 (2007), the Curriculum Modification Intervention used persuasive content to increase the priority given by students to the value of *courageous*. This intervention was also influenced by Akers et al.'s (2011) suggested pedagogy for identifying and addressing student value deficiencies. The Value Self-Confrontation Intervention, which was informed by the extensive body of VSC literature (2.2.2, Table 1), was a reflective activity consistent with IES 4 (2014). In this intervention, students reflected on their own values in comparison to the values of a referent group of CPAs leaders—an aspirational group of accountants.

Statistical analysis indicated that the Curriculum Modification Intervention was not successful at increasing the priority given to the value of *courageous*. This finding was unexpected. The present researcher fully expected that the course focus on the value of *courageous* would have the desired effect—that subjects in the control group would give a significantly higher priority to the value of *courageous* at Posttest 1 than they had a Pretest. Perhaps the failure of this pedagogy was influenced by some of the negative aspects of the demand effect described by Weber and Cook (1972). On the other hand, the persuasive content utilized may have just not been effective.

The median rankings of *courageous*, nonetheless, from Pretest to Posttest 1 (4.2.2.1.1, Table 19) moved in the desired direction of greater importance. Given these results and considering the importance attributed by international professional organizations (i.e., AICPA, IFAC), state boards of accounting (e.g., NASB CPE, n.d.; Bates et al., 2008; Huff et al., 2014), academic organizations (i.e., AAA), and academia to ethics training—an emphasis in business education on ethics can be traced back to the early 1900s (Abend, 2013)—more research is called for. Perhaps different methodologies than the one used can help educators “make a positive difference” (Cooper, personal communication, February 24, 2017) in the value priorities of their students. Educators, including the present researcher, would like

to think that the content of their courses, especially the content of their accounting ethics courses, has a positive impact on their students. However, the P-O Fit Study finding of ethics education not being related to the priority given to Code related values brings into question the effectiveness of currently employed ethics pedagogies. Since there are currently no best practices for teaching ethics (Drumwright, Prentice, & Biasucci, 2015), perhaps the use of methodologies found successful in other disciplines, like in the field of psychology, merit further exploration. The findings of the present study's VSC Intervention provides support for this suggestion.

The VSC Intervention was successful at changing both the short-term and long-term priority given to targeted values. Group 2 gave a higher priority to all four of the targeted values at Posttest 1 than at Pretest—resulting in a successful short-term value change intervention. And, at Posttest 3, which was 15-16 weeks after the VSC intervention, Group 2 still gave the values of *capable* and *courageous* a higher priority than they had a Pretest—resulting in a successful long-term value change intervention.

As measured by effect size, the VSC Intervention methodology had practical significance. Since the VSC methodology is not proprietary, there is no cost associated with its use; it can be delivered either in class or online. If delivered by the instructor in-class, the VSC intervention takes less than an hour to administer. With the present study's finding of the efficacy of delivering a VSC intervention online, the use of the VSC methodology does not necessitate interference with classroom instruction. The cost and time efficiency of the VSC methodology in changing the priority given to professionally important values, therefore, suggests that accounting educators can easily utilize the VSC methodology to augment the content of in-class, online, and hybrid delivered accounting courses; especially, but not limited to, the content of accounting ethics courses.

As a reflective activity on “. . . values, ethics, and attitudes. . .” (IES 4, 2014, p. 6), the inclusion in the accounting curriculum of either an online or in-class delivered VSC intervention may assist educators in complying with IES 4 (2014) of the International Accounting Standards Board. As called for by Akers et al. (2011), a VSC intervention may also help accounting educators address their student's professionally related value deficiencies.

Moreover, the use of a VSC intervention with pre-entry accountants perhaps may positively impact the future behavior of accountants and presumably lessen the reoccurrence of accounting scandals such as Enron (1.2.2.2), WorldCom (1.2.2.3), Andersen (1.2.2.4), and BMIS (1.2.2.6). While accounting scandals will never be eliminated (Woodcock, 2015), inculcating accounting students with values embedded in the Code of Professional Conduct and Bylaws (2012) of the AICPA will hopefully have a positive effect on their future ethical behaviors.

The present researcher does not necessarily promote a VSC interventions as a standalone method for improving P-O fit or for increasing the priority given to ethical values. Rather, the VSC methodology used in the present study may be a potential way to augment the content of college accounting courses, continuing professional training courses, and current CPA firm retention strategies, such as mentoring, aimed at improving employee socialization and thereby reducing staff turnover. Nevertheless, with the present study being the first VSC intervention used in an accounting context, and with it being the first such study to target code of ethics related values, the usefulness of VSC interventions for education is not settled. Further research is needed.

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## Appendix A

### Rokeach Value Survey Signature Page Research Conducted by Professor Ariail

Class: \_\_\_\_\_  
Title and Number

Student: \_\_\_\_\_  
Name

I have completed the attached demographic questionnaire and Rokeach Value Survey to the best of my ability.

This page will be separated from the Confidential Questionnaire and the Rokeach Survey and will be used only for recording the extra points earned for completing this survey. Please be sure NOT to include any form of personal identification on the other pages of this survey.

Your participation in this **confidential** survey is not mandatory.

Thank you for your participation!

Dr. Ariail

**Appendix B**  
**Rokeach Value Survey Cover Letter**

**Values Research**  
**Conducted by Dr. Donald L. Ariail, CPA, CFF, CGMA**

Dear SPSU Student:

Recent accounting failures have resulted in the promulgation of new laws and standards. However, many in the CPA profession agree with the prior AICPA Chair, Scott Voynich (Voynich, 2003), when he stated that the scandals were a “. . . failure of ethics, not of rules or laws . . .” and that “. . . our core values are actually the solution . . . to our crisis in confidence”.

I am extending my prior ethics research with this survey which is aimed at an investigating the personal values of accounting and business students. Your participation in this research will provide the business practitioners with a better understanding of the value priorities of students that will be soon entering the job market.

Please find the following documents:

1. A cover page on which you will record your name and the name and number of your class.  
**This page will be separated from the confidential questionnaire and survey so that your instructor will be able to award you with extra credit while keeping your input confidential.**
2. A confidential questionnaire. This form solicits various demographic information to include age, gender, work experience, educational level, major, etc.
3. The Rokeach Value Survey: This instrument is composed of 2 lists of 18 values.  
You are asked to rank order each of these values based on their importance to you. There are no right or wrong answers. Please take your time and give me your honest input!

The results will be aggregated using the survey number – thus, the results are in no way be identified with the respondent.

Your participation in this survey is greatly appreciated. **Confidentiality will be strictly maintained.** I hope that the careful consideration you give to your value priorities will prove to be a valuable learning experience.

Sincerely,

Dr. Donald L. Ariail, CPA, CFF, CGMA  
Associate Professor  
Master of Science in Accounting Program Coordinator  
Southern Polytechnic State University

## Appendix C Value Self-Confrontation Intervention

At the beginning of this course, you completed both parts of the Rokeach Value Survey: you rank ordered the 18 terminal values (end-state related values – goals in life - such as happiness, salvation, and freedom) and the 18 instrumental values (means related values – values used to achieve goals - such as ambitious, helpful, and intellectual). The initial instructions, which were included in the Survey Monkey letter, included the following request: For the remainder of the course (as you analyze the 14 assigned ethics cases) you should think about the values that are important to you (in your life) and the values that are important to the accounting profession. You should continually ask yourself if there are instances where your personal values and the values of the profession are in conflict and how you would resolve any such conflict?

You have now completed the study of *Ethical Obligations and Decision Making in Accounting: Text and Cases* by Steven M. Mintz and Roselyn E. Morris, written your input and received feedback on ethics cases, participated in online discussion of ethics cases, read supplemental ethics related material, and viewed ethics related videos.

The final course assignment (which was shown on the Assignment Schedule as a “to be announced assignment”) is **worth 30 points and is required for course completion**. This three-part assignment should be completed in the following order:

**Step 1:** Study the RVS Feedback provided below and complete Tasks 1 and 2.

**Step 2:** Take the RVS Feedback Quiz which is worth 16 points. Please follow the instructions located at the end of this text.

**Step 3:** Take an abbreviated version of the Rokeach Value Survey which is worth 14 points. Please follow the instructions located at the end of this text.

### Step 1, RVS Feedback:

#### a. Values of CPA Leaders:

The RVS was previously completed by 193 CPA leaders practicing in the state of Georgia; CPAs who could be your future employers. All of these CPAs held leadership positions in accounting: 119 in public accounting and 74 in industry (see **Figure 1, below**). It is suggested that the value priorities of these CPA leaders are indicative of the values of the accounting profession in Georgia. As indicated in **Table 1**, this group of CPAs ranked their most important personal values as *honest* (1), *responsible* (2), *capable* (3), *courageous* (4), *loving* (5), and *independent* (6).

**Figure 1  
CPA Leaders in Georgia  
Demographics  
Practice Area & Level**

	No.	%
Public Accounting:		
Owner	70	36.3
Partner	49	25.4
Industry:		
Controller	34	17.6
Chief Financial Officer	40	20.7
Totals	193	100.0

**Appendix C (Continued)**  
**Value Self-Confrontation Intervention**

**Table 1**  
**Priority Assigned to Rokeach Value Survey Instrumental Values**  
**By CPA Leaders in Georgia**

Values	Priority (Rank Order)
<b>Most Important Values</b>	
Honest (i.e., sincere, truthful)	1
Responsible (i.e., dependable, reliable)	2
Capable (i.e., competent, effective)	3
Courageous (i.e., standing up for your beliefs)	4
Loving (i.e., affectionate, tender)	5
Independent (i.e., self-reliant, self-sufficient)	6
<b>Moderately Important Values</b>	
Forgiving (i.e., willing to pardon others)	7
Self-controlled (i.e., restrained, self-disciplined)	8
Ambitious (i.e., hardworking, aspiring)	9
Logical (i.e., consistent, rational)	10
Helpful (i.e., working for the welfare of others)	11
Intellectual (i.e., intelligent, reflective)	12
<b>Least Important Values</b>	
Polite (i.e., courteous, well-mannered)	13
Broadminded (i.e., open minded)	14
Cheerful (i.e., lighthearted, joyful)	15
Obedient (i.e., dutiful, respectful)	16
Clean (i.e., neat, tidy)	17

**Note: Lower ranks indicate higher importance**

**b. Value Ranking Comparison: CPAs & MSA Students**

The RVS has been previously completed by 97 Master of Science in Accounting (MSA) students at Southern Polytechnic State University. While MSA students and CPAs ranked 15 of the 18 instrumental values differently, the median test indicates that they significantly differed in their rankings of 8 values. In **Table 2**, the first two columns present the rankings of each group, the next two columns present the medians for each value by group, and the last column shows the results of the median test: 4 values were ranked significantly different at  $p \leq .05$  (\*) and 4 values (shown in bold) were ranked significantly different at  $p \leq .01$  (\*\*) (which indicates a highly significant difference).

**Appendix C (Continued)**  
**Value Self-Confrontation Intervention**

**Table 2**  
**Rokeach Value Survey: Instrumental Values**  
**Rankings and Significant Differences**  
**CPA Leaders & MSA Students**

Values	Rankings		Medians		Median Test p
	CPA (N = 193)	MSA (N = 97)	CPA	MSA	
Ambitious (i.e., hardworking, aspiring)	9	3	9.1	6.5	.023*
Broadminded (i.e., open minded)	14	14	11.4	11.3	.902
<b>Capable (i.e., competent, effective)</b>	<b>3</b>	<b>11</b>	<b>6.7</b>	<b>10.2</b>	<b>.000**</b>
Cheerful (i.e., lighthearted, joyful)	15	16	12.0	12.3	.834
Clean (i.e., neat, tidy)	17	13	14.7	13.5	.340
<b>Courageous (i.e., standing up for your beliefs)</b>	<b>4</b>	<b>17</b>	<b>7.9</b>	<b>11.1</b>	<b>.002**</b>
Forgiving (i.e., willing to pardon others)	7	5	8.9	6.9	.042*
Helpful (i.e., working for the welfare of others)	11	6	10.0	8.0	.034*
<b>Honest (i.e., sincere, truthful)</b>	<b>1</b>	<b>1</b>	<b>1.8</b>	<b>3.0</b>	<b>.000**</b>
Imaginative (i.e., daring, creative)	18	18	15.2	15.1	.965
Independent (i.e., self-reliant, self-sufficient)	6	7	8.4	8.8	.972
Intellectual (i.e., intelligent, reflective)	12	8	10.5	9.1	.027*
Logical (i.e., consistent, rational)	11	12	9.1	10.5	.192
Loving (i.e., affectionate, tender)	5	4	8.4	6.8	.171
Obedient (i.e., dutiful, respectful)	16	15	14.6	12.3	.089
Polite (i.e., courteous, well-mannered)	13	9	10.8	9.8	.300
<b>Responsible (i.e., dependable, reliable)</b>	<b>2</b>	<b>2</b>	<b>3.6</b>	<b>6.4</b>	<b>.000**</b>
Self-controlled (i.e., restrained, self-disciplined)	8	10	9.0	10.0	.228

\* = Significant @  $p \leq .05$  (difference is significant)

\*\* = Significant @  $p \leq .01$  (difference is highly significant)

**NOTE: Lower rankings indicate higher priorities**

**Task 1**

Please take a few minutes to compare your rankings of the instrumental value portion of the RVS (which you completed at the beginning of the course) to the above value rankings of CPA leaders in the state of Georgia. Part 2 of your previously completed RVS has been sent directly to you by the Survey Monkey Administrator.

**c. Highly Significant Value Rankings: CPA Leaders and MSA students:**

As previously indicated, the 4 values given the highest priority by this sample of CPA leaders are *honest* (1), *responsible* (2), *capable* (3), and *courageous* (4). The MSA students in this study gave a lower priority to each of these values; and the differences for all 4 values were highly significant (See **Table 2** medians and median test statistics). A comparison of the rankings of each of these 4 values along with an interpretation of each difference is presented below.

**Appendix C (Continued)**  
**Value Self-Confrontation Intervention**

**Table 3**  
**Rokeach Value Survey: Instrumental Values**  
**CPA Leaders & MSA Students**  
**Highly Significant Value Differences**

<b>Values</b>	<b>CPA Rank</b>	<b>MSA Rank</b>	<b>Median Test p*</b>	<b>Interpretation of Median Difference (See Table 1 above)</b>
Honest	1	1	.000	<b>Being sincere and truthful is significantly more important to CPA leaders than it is to MSA students.</b>
Responsible	2	2	.002	<b>Being dependable and reliable is significantly more important to CPA leaders than it is to MSA students</b>
Capable	3	11	.000	<b>Being competent and effective is significantly more important to CPA leaders than it is to MSA students.</b>
Courageous	4	17	.000	<b>Standing up for one's beliefs is significantly more important to CPA leaders than it is to MSA students.</b>

\* = Significant @  $p \leq .01$  (All are highly significant differences)

**NOTE: Lower rankings indicate higher priorities**

**d. Suggested reasons for these values being prioritized by CPA leaders:**

**Honest:**

The RVS defines the value of *honest* as *sincere, truthful*. The Josephine Institute of Ethics includes honesty as part of Trustworthiness, which is their first of Six Pillars of Character. Mintz and Morris (2011, 8) state that “honesty is the most basic ethical value and means that we should express the truth as we know it and without deception.” The Code of Professional Conduct and Bylaws (2012, ET Section 54, Article 3) states the following:

Integrity is an element of character fundamental to professional recognition. It is the quality from which the public trust derives and the benchmark against which a member must ultimately test all decisions. Integrity requires a member to be, among other things, honest and candid within the constraints of client confidentiality. Service and the public trust should not be subordinated to personal gain and advantage. Integrity can accommodate the inadvertent error and the honest difference of opinion; it cannot accommodate deceit or subordination of principle.

Truthfulness is basic to the concept of accounting and being accountable. In their book titled *Understanding Accounting Ethics*, Cheffers and Pakaluk (2007, 39) state that “the task of accounting is to declare the truth about the financial condition of an enterprise, thus to provide the conditions necessary for a market economy.” Robert Montgomery (1972-1953), a president of the AICPA and a partner in the international accounting firm that became Coopers & Lybrand, proclaimed the following (Cheffers & Pakaluk, 2007, 41):

In order to tell the truth there must be some detachment from one's immediate environment; from the opinions of neighbors; from ambition, money, power, fame, comfort, security and ease. Have we the courage to proclaim the truth, or do we shrink from the struggle?

## Appendix C (Continued) Value Self-Confrontation Intervention

### **Responsible:**

The Josephson Institute of Ethics includes Responsible as one of their Six Pillars of Character. According to Mintz and Morris (2011, 11) “a responsible person carefully reflects on alternative courses of action using ethical principles. A responsible person acts diligently and perseveres in carrying out moral action.”

ET Section 52, Article 1, of the Code of Professional Conduct and Bylaws (2012) of the AICPA directly addresses the responsibilities of CPAs:

As professionals, certified public accountants perform an essential role in society. Consistent with that role, members of the American Institute of Certified Public Accountants have responsibilities to all who use their professional services. Members also have a continuing responsibility to cooperate with each other to improve the art of accounting, maintain the public’s confidence, and carry out the profession’s special responsibilities for self-governance.

In addition, the Code of Professional Conduct and Bylaws (2012) of the AICPA (ET Section 56, Article 5) states that “members should be diligent in discharging responsibilities to clients, employees, and the public. Diligence imposes the responsibility to render services promptly and carefully, to be thorough, and to observe applicable technical and ethical standards.”

Being dependable and reliable are traits that epitomize a professional accountant. Clients depend on CPAs to accomplish their tasks with due professional care; and rely on them to possess technical competence.

### **Capable:**

The RVS defines the value of *capable* as *competent* or *effective*. The American Institute of Certified Public Accountants (AICPA) Code of Professional Conduct and Bylaws (2012, ET Section 56, Article 5) states the following:

A member should observe the profession’s technical and ethical standards, strive continually to improve competence and the quality of services, and discharge professional responsibility to the best of the member’s ability. ...Due care requires a member to discharge professional responsibilities with competence and diligence. ...The maintenance of competence requires the commitment to learning and professional improvement that must continue throughout a member’s professional life.

In addition, The Institute of Management Accountants (IMA) Statement on Ethical Professional Practice lists *competence* as the first Standard (see Mintz and Morris, page 24) and the Code of Ethics of the Institute of Internal Auditors (IIA) lists Competency as the fourth Principle (see Mintz and Morris, page 100).

As a professional, a CPA has only two things to sell: their time and knowledge (wisdom). In their book *Understanding Accounting Ethics*, Cheffers and Pakaluk (2007, 79) state the following:

Speculative wisdom in a human being involves a systematic understanding of fundamental realities. The analogue of speculative wisdom in an accountant is technical knowledge, competence and skill which are well grounded in a good grasp of accounting theory: to carry out his [or her] distinctive task well, an accountant needs a thorough grasp of relevant accounting principles, as well as a thorough understanding of the business ...[being] audited.



**Appendix C (Continued)**  
**Value Self-Confrontation Intervention**

Therefore, in order to abide by the various codes of ethics and serve the public’s best interest, CPAs must be capable. They must keep abreast of the ever changing accounting, auditing and tax standards, laws and regulations and discharge their duties with due professional care. “The quest for excellence is the essence of due care” (AICPA ET 56, Article 5).

**Courageous:**

Courage (fortitude) is one of the 4 virtues of classical antiquity (the other 3 are prudence, justice and temperance). For accountants, professional courage is a character trait that promotes honorable behavior. It takes courage to resist demands by peers, superiors or clients to subordinate one’s professional judgment. The Code of Professional Conduct and Bylaws (2012, ET Section 55, Article 5) of the AICPA states that “. . .members should protect the integrity of their work, maintain objectivity, and avoid any subordination of their judgment.”

James Rest’s Four-Component Model of Morality includes the elements of moral sensitivity (perception that an ethical situation exists), moral judgment (the cognitive ability to make judgments about right and wrong – see Kohlberg’s Six-Stage Model of moral judgment), moral motivation (the prioritizing of moral values over personal values), and moral character. In *Postconventional Moral Thinking: A Neo-Kohlbergian Approach*, Rest, Narvaez, Bebeau and Thoma (1999) definition of Moral Character includes “having courage.” Your instructor suggests that moral courage is the key factor that often determines whether or not the ethical act will be taken. It is not enough for an accountant to be morally sensitive, have good moral judgment and be morally motivated! Behavior is an act; and ethical behavior requires an act that is often fraught with risks such as loss of one’s job (or other employer retaliation) or loss of a lucrative client. In these stressful situations, it takes professional courage to do the right thing.

The WorldCom fraud provides us with examples of both a courageous CPA and of accountants who lacked this important character trait. Cynthia Cooper was a whistleblower who did the right thing despite unbelievable pressure to overlook unethical accounting practices. Her moral courage was exemplary. On the other hand, Betty Vinson and Troy Norman were “good soldiers” who protected their jobs by following the unjust orders of their superiors. Their unethical acts demonstrated a lack of moral courage, a failing that sent both of them to jail.

**Table 3**  
**Rokeach Value Survey: Instrumental Values**  
**CPA Leader Value Rankings Compared to My Value Rankings**

Values	CPA Leaders (A)	Me (B)	Difference (A – B)
Honest	1		
Responsible	2		
Capable	3		
Courageous	4		

## Appendix C (Continued) Value Self-Confrontation Intervention

### Task 2

In the spaces provided in **Table 3**, please insert in the “Me” column the rank you previously assigned to each of these four values. Next, compute and insert in the “Difference” column the difference between your ranking of each value and that of the CPA leaders. **Please reflect on these value differences!**

#### **Step 2 Instructions:**

The RVS Feedback Quiz is located under the **D2L Assessment Tab**. This 16 point quiz is composed of multiple choice questions which cover the content of the above Rokeach Value Survey Feedback. In taking this quiz you are encouraged to refer to the Rokeach Value Survey feedback provided above. You can retake this untimed quiz until you achieve the maximum score of 16 points. Once you submit the quiz, the Survey Monkey Administrator will provide you with a link to the RVS.

#### **Step 3 Instructions:**

Please use the link provided by the Survey Monkey Administrator (please see your SPSU email account) to access the instrumental value portion (Part 2) of the Rokeach Value Survey. In this last portion of this assignment, you will first rate (on a scale of 1-10) your level of satisfaction with your **previous rankings** (the priority you gave to each of these values at the beginning of the course) of the 4 values of *honest*, *responsible*, *capable* and *courageous*; and, second rank order the 18 instrumental type values. In completing the RVS, please carefully follow the following RVS Instructions:

Listed below are 18 values in alphabetical order. Your task is to arrange them in order of importance to **YOU** as guiding principles in **YOUR** life. Study the list very carefully and then rank all 18 in terms of their importance to you. Place a “1” next to the value that is the most important as a guiding principle in your life, a “2” next to the second most important value as a guiding principle in your life, a “3” next to the third most important value as a guiding principle in your life, **and so on**. Note: You can also **drag and drop** the values into the desired order. Again, it is important that you rank **all values from 1 to 18**. Work slowly and think carefully. If you change your mind, feel free to change your answers. The end result should truly show how you really feel. Note: There are no wrong value rankings!

#### **References:**

- Code of Professional Conduct and Bylaws as of June 1, 2012. American Institute of Certified Public Accountants, New York, NY.
- Cheffers, M & Pakaluk, M. (2007). *Understanding Accounting Ethics*, Second Edition. Allen David Press, Sutton, MA.
- Mintz, S.M. & Morris, R.E. (2011). *Ethical Obligations and Decision Making in Accounting: Text and Cases*. McGraw-Hill Irwin, New York, NY.
- Rest, J., Narvaez, D., & Bebeau, M.J. & Thoma, S.J. (1999). *Postconventional Moral Thinking: A Neo-Kohlbergian Approach*. Lawrence Erlbaum Associates, Mahwah, NJ.

**Appendix D**  
**Value Self-Confrontation Quiz**

1. According to **Figure 1** how many (total number) CPA leaders completed the RVS?
- a. 205
  - b. 70
  - c. 193
  - d. 127

**Answer: c**

2. According to the last paragraph on **page 1**, how many CPA leaders in public practice completed the RVS?
- a. 70
  - b. 49
  - c. 74
  - d. 119

**Answer: d**

3. According to **Figure 1**, how many CPA leaders who completed the RVS were CFOs?
- a. 40
  - b. 49
  - c. 34
  - d. 70

**Answer: a**

4. The following 4 values were given the highest priority by the previously surveyed CPA leaders. They are shown below in alphabetical order. Please drag and drop them into their proper order as indicated in **Table 1**:
- a. Capable
  - b. Courageous
  - c. Honest
  - f. Responsible

**Answer:**

- 1. Honest
- 2. Responsible
- 3. Capable
- 4. Courageous

5. According to **Table 1**, CPA leaders ranked the value of **helpful** as one of the
- a. Most important values
  - b. Moderately important values
  - c. Least important values

**Answer: b**

**Appendix D (Continued)**  
**Value Self-Confrontation Quiz**

- 6.** According to **Table 2**, the median value rankings for the value of **courageous** were
- a. 12.0 by CPA leaders and 12.33 by MSA students
  - b. 7.9 by CPA leaders and 11.1 by MSA students.
  - c. 1.0 by CPA leaders and 8.8 by MSA students.
  - d. 8.4 by CPA leaders and 6.8 by MSA students.

**Answer: b**

- 7.** According to **Table 2**, the median value rankings for the value of **capable** were
- a. 6.7 by CPA leaders and 10.2 by MSA students.
  - b. 6.9 by CPA leaders and 6.0 by MSA students.
  - c. 10.5 by CPA leaders and 9.1 by MSA students.
  - d. 12.3 by CPA leaders and 14.1 by MSA students.

**Answer: a**

- 8.** According to **Table 2**, the median value rankings for the value of **honest** were
- a. 1.3 by CPA leaders and 1.2 by MSA students.
  - b. 2.0 by CPA leaders and 1.8 by MSA students.
  - c. 1.5 by CPA leaders and 1.1 by MSA students.
  - d. 1.8 by CPA leaders and 3.0 by MSA students.

**Answer: d**

- 9.** According to **Table 2**, the median value rankings for the value of **responsible** were
- a. 6.4 by CPA leaders and 3.6 by MSA students.
  - b. 3.6 by CPA leaders and 6.4 by MSA students.
  - c. 4.5 by CPA leaders and 2.6 by MSA students.
  - d. 7.2 by CPA leaders and 5.1 by MSA students.

**Answer: b**

- 10.** As stated on **page 4, ET Section 54, Article 3** specifically requires members of the AICPA to be
- a. "...honest in all dealings regarding both public and private matters."
  - b. "...honest and candid within the constraints of client confidentiality."
  - c. "...always honest in promoting the public's best interest."
  - d. "...honest in discharging their professional responsibilities."

**Answer: b**

**Appendix D (Continued)**  
**Value Self-Confrontation Quiz**

- 11.** As stated on **page 5, ET 56, Article 5** specifically requires members of the AICPA to be
- a. "...diligent in discharging responsibilities to clients, employees, and the public."
  - b. "...diligent in rendering services and in the observation of technical and ethical standards."
  - c. "...diligent in discharging responsibilities to the public, employees and all third party users of financial statements."
  - d. "...diligent in keeping current with advances in the art and science of accounting."

**Answer: a**

- 12.** Competence (a synonym for the value of capable) is a standard or principle included in which of the following pronouncements?
- a. The Code of Professional Conduct and Bylaws of the AICPA
  - b. IMA Statement on Ethical Professional Practice
  - c. IIA Code of Ethics
  - d. All of the above

**Answer: d**

**Now, please complete the instrumental value portion (Part 2) of the RVS which can be accessed in SurveyMonkey using the following link:**

**Appendix E**  
**Institutions of Georgia Professors Solicited by Email**

Name of Georgia Colleges/Universities &  
Number of Accounting Professors Per Institution

1. Mercer University (8)
2. University of Georgia (23)
3. Kennesaw State University (28)
4. Georgia State University (18)
5. Georgia Gwinnett College (4)
6. Clayton State University (5)
7. North Georgia College (5)
8. Georgia Southern University (22)
9. Valdosta State University (9)
10. Columbus State University (8)
11. Georgia College and State University (7)
12. West Georgia College and State University (9)
13. Georgia Institute of Technology (11)
14. Emory University (14)
15. Georgia Southwestern State University (4)
16. Shorter University (2)
17. Georgia Regents University (8)
18. Clark Atlanta University (7)
19. Albany State University (3)
20. Dalton State University (4)
21. Fort Valley State University (2)
22. Morehouse College (5)
23. Oglethorpe University (3)
24. Piedmont College (4)
25. Savannah State University (4)

(#) = Number of accounting professors per institution  
Total number of professors solicited = 217

**Appendix F**  
**Email Solicitation Sent to University/College Professors**

Dear Professor:

Please send the below survey link or the attached page to your accounting classes - students can win a Mini iPad!

I am conducting a survey on the personal values of accounting students. This survey is sponsored by the GSCPAs. Please send the attached page which includes the link to your upper level accounting students.

The Survey Monkey link is: [https://www.surveymonkey.com/s/rokeach\\_value\\_survey](https://www.surveymonkey.com/s/rokeach_value_survey)

By completing this survey in Survey Monkey, students will have the opportunity to **win a Mini iPad worth over \$300**. I need a large number of upper level accounting students to complete this survey and will greatly appreciate your help. I will also be glad to discuss the potential for future collaborations with you.

Best regards and thank you for your help with my research!

Don

**Appendix G**  
**Email Solicitation Sent to SPSU Accounting Students**

**Survey of Accounting Student Values! Win a Mini iPad!**

Please Help me with my research by completing this survey.

If you have not yet taken my Rokeach Value Survey, please complete the survey and enter the sweepstakes for a chance to win a mini iPad worth over \$300.

If you have previously taken this survey, you can take it again and enter the sweepstakes; however, please be sure to indicate that you have previously taken it so that I will not end up twice entering your survey data!

[https://www.surveymonkey.com/s/rokeach\\_value\\_survey](https://www.surveymonkey.com/s/rokeach_value_survey)

Please take your time and be sure to carefully rank the two lists of 18 values based on how important each value is to YOU.

In order to be considered for the prize, you must complete the demographic questionnaire and rank order both list of values!

This survey is totally confidential. I will only receive summary data and Survey Monkey will pick the winner. Thank you for you for taking part in my research! I hope that you win the iPad!

Best regards,

Dr. Donald L. Ariail, CPA, CGMA, CFF  
Member of the GSCPA's Professional Ethics Committee  
MSA Program Coordinator



## Appendix H

### Links to Milgram & Stanford Prison Experiments Online Discussion Required & Supplemental Video Viewing

#### Required Video Viewing:

1. [http://www.dailymotion.com/video/xlllu7\\_stranley-milgram-obedience\\_school](http://www.dailymotion.com/video/xlllu7_stranley-milgram-obedience_school)  
44:41 minutes: Original experiment in 1963–Presented by Daily Motion
2. [http://www.dailymotion.com/video/xvqbkv\\_curiosity-how-evil-are-you\\_lifestyle](http://www.dailymotion.com/video/xvqbkv_curiosity-how-evil-are-you_lifestyle)  
42:49 minutes: How Evil Are You? Presented by Discovery Channel–Daily Motion
3. <http://www.schooltube.com/video/237e7769aa970bcec446/>  
49:50 minutes: Stanford Prison Experiment – Presented by Zimbardo

#### Supplemental Video Viewing:

4. <http://video.about.com/psychology/What-Is-the-Milgram-Obedience-Experiment-.htm>  
2:58 minutes: About Psychology with Holly Hancock
5. <http://tv.naturalnews.com/v.asp?v=d5e69fe5819370faa8f0f2be36436ed4>  
59:41 minutes: How violent are you? BBC Horizon – Presented on YouTube  
(Note: The number 7 video below begins @ 42:37 minutes)
6. <http://vimeo.com/15348932>  
6:35 minutes: Class watching Milgram video with explanations – Presented on Vimeo
7. [http://www.youtube.com/watch?v=pdb20gcc\\_Ns](http://www.youtube.com/watch?v=pdb20gcc_Ns)  
15:52 minutes: BBC replication in 2009 – YouTube

## Appendix I

### Southern Polytechnic State University Syllabus Professional Judgment, ACCT 6021 - 900 & 901 Summer 2013

**Instructor:**

Dr. Donald L. Ariail, CPA, CFF, CGMA, CVA

Office phone: 678-915-7387 (Note: my office phone number rolls over to my cell phone so that I am available by phone at most any time)

E-mail: [dariail@spsu.edu](mailto:dariail@spsu.edu)

Please communicate with me through the class site e-mail in D2L.

Office: J-341

**Office Hours:**

Thursday 1:00 – 6:00 PM and by appointment

Available by phone on most weekends, nights, and holidays

**Textbook:**

Ethical Obligations and Decision Making in Accounting: Text and Cases

Steven M. Mintz, & Roselyn E. Morris

Second Edition

Published by McGraw-Hill Irwin, 2011

ISBN: 978-0-07-802528-0 or MHID 0-07-802528-1

**Course Meetings:**

This is an online course. There are no scheduled class meetings.

**Course Description:****Prerequisites:**

All transition courses: Intermediate Accounting 1, ACCT 5007; Intermediate Accounting II, ACCT 5009; Advanced Accounting, ACCT 5011; and Cost Accounting, ACCT 5013.

**Course Objectives:**

This course is about doing the right thing while practicing professional accounting. One part of doing the right thing is knowing what you are expected to do in various situations. Another part of doing the right thing involves persuasion when professionals disagree. The hardest part of doing the right thing is recognizing and avoiding ethical hazards with conflicting expectations. Accountants have special obligations beyond those of other business practitioners so this course develops the ethical analysis beyond philosophy ethics courses and beyond business ethics courses.

This course emphasizes critical thinking beyond memorizing vocabulary, facts, skills or procedures. There are three main types of learning this semester and different methods are appropriate for each:

## Appendix I (Continued) Syllabus

- **Ethical Decision Analysis** – being able to express reasoning for which alternatives are more or less ethical and for which arguments will be persuasive to other professional accountants, other business colleagues and to society as well. We will learn about corporate ethical decision making by reading, by thinking, by writing and through oral argument using logic and evidence rather than authority, intuition, or stubbornness.
- **Expectation Awareness** – being able to recognize the names and meanings of the society's and the profession's expectations for those authorized to practice the profession of accounting. We will rely heavily on independent reading to become familiar with what ought to be done and especially what might be difficult to do.
- **Rehearsal** – being able to recognize, avoid, and react to ethical decision situations is improved most effectively by experience. Since we cannot actually place ourselves in possible ethical trouble during the semester we will rely on case situations where students attempt to identify with characters and react to the situation as if it were theirs.

### **Personal Values:**

Throughout this course, we will explore ethics from a professional decision making viewpoint: that is, the professional judgment needed to practice as an ethical accountant. The personal and professional values that are activated in ethical situations have been suggested as “drivers” of ethical behavior.

Therefore, we will begin the course with you carefully considering the importance you place on the two sets of values contained in the Rokeach Value Survey. For the remainder of the course (as you analyze the 13 assigned ethics cases) you should think about the values that are important to you (in your life) and the values that are important to the accounting profession. You should continually ask yourself if there are instances where your personal values and the values of the profession are in conflict; and how you would resolve any such conflict?

The result of these self-assessment exercises will be kept totally confidential. I will collect your name merely for the purpose of assigning points. Note: there is no right or wrong set of values: As indicated by Milton Rokeach (1973), “...the values that [the Rokeach Value Survey] contains are virtually all socially desirable ones...”

The values data collected in this class will be aggregated with survey data collected from hundreds of students and Certified Public Accountants. This research has been approved by SPSU's Institutional Review Board.

If you have completed the Rokeach Value Survey in another course, please complete it again; just be sure to indicate in the space provided that you have previously taken it.

### **Course Methodology:**

This course covers all 8 chapters in the Mintz and Morris textbook.

The student will read the assigned chapters and supplemental material (relative to some chapters) and review the PowerPoint slides. One case is assigned per chapter for chapters 1-7

## Appendix I (Continued) Syllabus

(a case is not assigned for chapter 8). The student will upload a written response to all of the case questions. The following case writing guidance should be followed:

- Read the case a day or two early... to think about it. Your assignment is not an opinion survey; it is an argument of logic and evidence supporting that opinion. Your initial feelings are usually right but not easy to explain.
- Read the Questions closely; be sure you know what is being asked. Write a brief outline of what you want to fit into your one page. Don't waste your limited words repeating the case "facts."
- Start typing a day early so you can save your draft to edit the next day. Use Spell-checker carefully; it won't correct "wrong words."
- Have someone read your draft, to see if it really says what you meant to say. Ask what isn't clear, and what can be left out.
- Identify the dilemma: explain the ethical support for alternative choices. Contrast reasons using prepositions: "Respect-for," versus "Fairness-between," and versus "Consequences-of issues."
- Explain the Rights/Respect issues of who ought to have which rights based on promises, expectations, autonomy and dignity, not just laws. Use the phrase: "Respect for" with our very limited sets of rights & duties: truth, promises, privacy, property, & health/body.
- Explain the Fairness/Justice issues in terms of treating equals the same and treating people with different of needs and earned differences, differently. Use the phrase: "Fair between."
- Explain the Benefits/Consequences in terms of who, when, size, and certainty of positive and negative consequences. Consider Long Run versus Short Run and use the phrase: "Consequences of."
- Choose one position and explain **WHY** it is **MORE** ethical than the alternatives, refuting your support for the other positions. Where there is a dilemma, explain why ethical support for one choice is better than support for the other choices. Explain what about this case makes these ethical reasons more important.

There are six On-line Discussions of Chapter Cases (Chapters 1-7). Each student must post their discussion of the Case questions and then respond to the postings of at least two classmates. (Note: all classmate postings should be read – points may be subtracted for not reading all of the postings). While the Case Discussion postings should follow the above Case writing guidance, the student will need to make their responses even more concise (less than half a page) – in order to keep the postings manageable, the instructor may specify that responses are required to only a limited number of the questions.

The On-line Discussions will be graded using a grading rubric. Feedback will be provided by your instructor.

There are 13 chapter cases assigned (7 submitted to the Drop Box and 6 submitted as Discussions). You will submit a one page answer to the questions specified. Please follow the above case writing guidelines. Your submission will be uploaded to the appropriate Drop Box. Feedback will be provided by your instructor.

Two Exams will be taken online. Each exam covers only the material indicated for that module and will include questions related to not only the textbook material but also to any

## Appendix I (Continued) Syllabus

assigned supplemental material. There is no comprehensive exam. The Exams are computer graded. Feedback will be provided once the deadlines for taking the Exams have passed.

One Case is assigned as an end of class project. While following the above case writing guidance, each student will provide a **more complete, fully researched and referenced answer to each of the Case questions**. The submission is not limited in page length but should not contain superfluous material and should not be redundant. Additional guidance will be provided by your instructor.

### Evaluation

	<u>Points</u>	<u>%</u>
Self-Assessment of Personal Values	20	2%
On-line Discussions (6 @ 20 points)	120	12%
Case Assignments (7 @ 30 points)	210	21%
Exams (2 @ 250 points)	500	50%
Individual case study	120	12%
To be determined	<u>30</u>	<u>3%</u>
Total points	1,000	100%

### Grade Scale:

- A 90% of Total Points and Above
  - B 80 – 89% of Total Points
  - C 70 – 79% of Total Points
  - F Below 70% of Total Points
- (Note: Ds are not given in MSA classes)

### Assignment Schedule:

Please see the Assignment Schedule for all due dates regarding all assignments and assessments: e.g., Self-Assessment of Personal Values, Case submissions, On-line Discussions, Exams and the end of class Case Project. Please pay careful attention to the deadline dates for all activities.

**Note:** if you should find a discrepancy between the details in D2L and the Assignment Schedule, the Assignment Schedule should be followed and you should immediately contact me by email and telephone.

### Course Expectations and D2L:

In this online class you will spend a number of hours each week in reading the assigned Chapters, participating in the On-line Discussions, and answering Case questions. This course involves a lot of writing. Please do not underestimate the time required to successfully complete this course. Schedule your time carefully and work ahead of the schedule as much as possible. Logging in at least three times a week is minimally necessary to be productive and to interact with your peers. My role will be one of facilitator for this interaction, so I will not be responding to every comment. However, I will be looking in frequently during the week. Posting to the discussion forums at the last hour of the deadline does not give your classmates ample time to respond. The more effort exerted by all to complete readings, meet the due dates and participate in the On-line Discussions, the more meaningful and dynamic the learning experience for all.

## Appendix I (Continued) Syllabus

### **Late Assignments:**

All written case assignments must be timely submitted to the appropriate Drop Box in D2L. **Please do not submit any work via email.** All due dates for activities are in Eastern Standard Time. **Late assignments will not be accepted.**

### **Student Responsibility:**

Distance learning requires more individual discipline than traditional classes, and requires that you have at least some control over your time and schedule. It is not easier or less time consuming than face-to-face courses.

### **Contacts for Help:**

For Vista Technical Support, go to <http://help8.view.usg.edu> or call 678-915-HELP

For Wimba Technical Support, go to <http://www.wimba.com/services/support/>

In addition, you can always **reach me by phone at 678-915-7387.** When I am away from the office, calls are transferred to my mobile phone.

### **Resources:**

Remote access to Library Resources <http://www.spsu.edu/library/Dl/dl.html>

Business Department Resources <http://www.spsu.edu/business/webx/rc.htm>

### **Academic Honesty:**

“A faculty member reserves the right to remove any student from his or her course if the student’s behavior is of a disruptive nature or if there is evidence of academic dishonesty.” (*SPSU Catalog*)

**Incidents of academic dishonesty may result in a grade penalty of at least a zero being received on the assignment or removal from the course with an assigned grade of “F”.** Academic dishonesty includes but is not limited to giving or **receiving** unauthorized assistance with an assignment, quiz or exam. Unauthorized assistance includes **goggling quiz or exam questions** and (unless differently specified) the completing of assessments or assignments with **group input**. **DO YOUR OWN WORK!**

I have observed the results of students being caught cheating. It alters many things: a person’s self-perception, others perception of one’s character and ethics, a person’s reputation, and relationships that one values with the instructor, fellow students, and other faculty. Do not become involved in actions of academic dishonesty - it is not worth it. Instead, study effectively, submit assignments and exams on time, ask for help in a timely and approved manner. **CHEATING WILL NOT BE TOLLERATED! AGAIN, DO YOUR OWN WORK!**

### **Disability Statement:**

“A student at Southern Polytechnic State University who has a disabling condition and needs academic accommodations has a responsibility to voluntarily identify him/herself as having a disability by scheduling an appointment with the Disability Services Coordinator as soon as possible.” (*SPSU Catalog*).

## Appendix I (Continued) Syllabus

### Tips for Success:

1. **Carefully read/study the text.** Please plan on slowly reading the textbook material and on having to re-read sections that at first seem confusing. It is important that you work read and understand the examples presented in each chapter.
2. **Timely submit all assignments.** Note: you can always submit work early. Please don't wait until the last minute to get started. Whenever possible, work ahead of the schedule - don't get behind.
3. If you don't understand any of the assigned material, please send me an email and/or give me a call.
4. Pay attention to the deadline dates noted on the Assignment Schedule.
5. Regularly monitor your D2L **e-mail**.
6. Waiting until the last few days to enter a discussion will not allow you to adequately participate in the discussion and will result in lost points! Please enter the discussion as early as possible and fully participate!

### Biographical Sketch of Dr. Donald L. Ariail, CPA, CFF, CGMA, CVA

#### Education:

- D.B.L.** (Accounting, Candidate) University of South Africa  
**D.B.A.** (Accounting) Nova Southeastern University  
**M.P.A.** (Accounting) Georgia State University  
**B.B.A.** (Finance) Georgia State University

#### Academic Experience:

- 2008-Current Southern Polytechnic State University,  
Associate Professor  
2006-2008 Texas A&M University, Kingsville – System Center San  
Antonio (now Texas A&M San Antonio),  
Assistant Professor  
2005-2006 Strayer University, Adjunct Professor  
2006 Shorter College, Adjunct Professor

#### CPA Firm Experience:

##### Owner/Partner

- 2003- 2005, Partner, Ariail, Catrakilis & Company, P.C., CPAs.  
1992-2003, Owner, Ariail & Company, P.C., CPAs.  
1990-1992, Partner, Berman, Mills & company, P.C., CPAs  
1981-1990, Owner/Partner, Ariail & Company, P.C., CPAs and Ariail,  
Berman & Company, P.C., CPAs.

##### Staff

- 1979-1981, Senior Auditor, Landers, Turner & Company, P.C., CPAs.  
1976-1978, Staff Accountant, Berman, Mills & company, P.C., CPAs.  
1973-1976, Staff Accountant, Kanen, Benator & Emerson, P.C., CPAs.  
1972-1973, Staff Accountant, Hirsch, Babush, Neiman, Kornman, P.C., CPAs

**Appendix I (Continued)**  
**Syllabus**

**Licenses and Certifications:**

**CPA**, Certified Public Accountant (Active license in Georgia).

**CFF**, Certified in Financial Forensics (AICPA).

**CGMA**, Chartered Global Management Accountant (AICPA)

**CVA**, Certified Valuation Analyst (NACVA).

**DABFA**, Diplomat American Board of Forensic Accountants (ACFEI).

**FACFE**, Fellow American College of Forensic Examiners (ACFE).

**Inactive Licenses:**

Real Estate Salesperson, Georgia.

National Association of Security Dealers, Series 6 & 63



## **Appendix J**

**Cynthia Cooper**  
**Personal Communication**  
**February 24, 2017**

Each of us will face ethical dilemmas and defining moments in our personal and professional lives. It is important to prepare students to become not only technically competent but ethically fit. The more we bring values and ethics to the forefront of a student's thinking in the classroom, the more likely he or she will be to stand up to pressure and make the right choices.

People don't wake up and say 'I think I'll become a criminal today.' It is a slippery slope and we lose our footing one step at a time. Our character is not forged at the crossroads of a major event. The foundation of our character is laid brick by brick, decision by decision throughout our lives.

To build a strong ethical foundation, we must practice applying our values and finding our courage in the smaller matters each day. We will then stand a better chance of keeping the courage of conviction when we come to the crossroads of more critical decisions. It is important to think about what we want our lives to stand for. Write a personal mission statement. Know what you believe is right and wrong. Write down the values you will live by and what you will do if your values collide.

By preparing students to make ethical decisions, professors have an opportunity to help shape the next generation and offer an incredibly valuable gift that may one day change the course of a student's life. While many values are instilled during our youth, each of us can and will change throughout our lives. The years spent at a university are a critical time of growth and development. Professors can make a positive difference by discussing traits of strong ethical leaders, such as honesty, accountability, and courage, and by challenging students to define their own core values.

In the safety of a classroom, students can build their ethical muscle by applying values and decision-making models to real-life ethical scenarios, thinking through their decisions, and evaluating how their choices might impact their life as well as the lives of others. Students will be better prepared to recognize an ethical dilemma, stop, step back, think it through and make the right choices. They will become more aware of ethical blind spots as well as the drivers that can cause people to lose their way and make unethical choices, like pressure to meet goals, greed, fear, pride or misguided loyalty.

Students can sort through ethical dilemmas they may face and think about how their core values will impact their decisions. Professors can help students understand why people make unethical choices, what pressures they may face during their careers, and how core values such as courage and honesty will impact the choices that they make.

**Appendix K**  
**Institutional Review Board Authorization**

2/23/12

Dr. Donald Arial  
Department of Business Administration  
Southern Polytechnic State University  
Marietta, GA 30060

RE: IRB Application: Rokeach Value Survey

Dr. Ariail,


The purpose of this letter is to inform you that I have reviewed your IRB application regarding the above referenced study and have determined that it is exempt from IRB approval. This determination is based on your description of the activities and my interpretation of the following pertinent section of the DHHS regulation CFR 45 Part 46.

Section 101 (b) Unless otherwise required by department or agency heads, research activities in which the only involvement of human subjects will be in one or more of the following categories are exempt from this policy:

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

The designation of this research as exempt means that there will be no further involvement or oversight, by the IRB, of this work.

Regards,

A handwritten signature in black ink, appearing to read 'Ruston M. Hunt', written over a faint, illegible background.

Ruston M. Hunt, PhD  
Chair, Institutional Review Board

**Appendix K (Continued)**  
**Institutional Review Board Authorization**

6/1/13

Dr. Donald Arial  
Department of Business Administration  
Southern Polytechnic State University  
Marietta, GA 30060

RE: IRB Application: Impact on Curriculum Modifications on Priorities of Values as Measured by the Rokeach Value Survey

Dr. Arial,

The purpose of this letter is to inform you that I have reviewed your IRB application regarding the above referenced study and have determined that it is exempt from IRB approval. This determination is based on your description of the activities and my interpretation of the following pertinent section of the DHHS regulation CFR 45 Part 46.

Section 101 (b) Unless otherwise required by department or agency heads, research activities in which the only involvement of human subjects will be in one or more of the following categories are exempt from this policy:

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

The designation of this research as exempt means that there will be no further involvement or oversight, by the IRB, of this work.

Regards,



Ruston M. Hunt, PhD  
Chair, Institutional Review Board

**Appendix K (Continued)**  
**Department of Health and Human Services Policy 46.101**

**§46.101 To what does this policy apply?**

(a) Except as provided in paragraph (b) of this section, this policy applies to all research involving human subjects conducted, supported or otherwise subject to regulation by any federal department or agency which takes appropriate administrative action to make the policy applicable to such research. This includes research conducted by federal civilian employees or military personnel, except that each department or agency head may adopt such procedural modifications as may be appropriate from an administrative standpoint. It also includes research conducted, supported, or otherwise subject to regulation by the federal government outside the United States.

(1) Research that is conducted or supported by a federal department or agency, whether or not it is regulated as defined in [§46.102](#), must comply with all sections of this policy.

(2) Research that is neither conducted nor supported by a federal department or agency but is subject to regulation as defined in [§46.102\(e\)](#) must be reviewed and approved, in compliance with [§46.101](#), [§46.102](#), and [§46.107](#) through [§46.117](#) of this policy, by an institutional review board (IRB) that operates in accordance with the pertinent requirements of this policy.

(b) Unless otherwise required by department or agency heads, research activities in which the only involvement of human subjects will be in one or more of the following categories are exempt from this policy:

(1) Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:

(i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

(3) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (b)(2) of this section, if:

(i) the human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

(4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

(5) Research and demonstration projects which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine:

(i) Public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.

**Appendix K (Continued)**  
**Department of Health and Human Services Policy 46.101**

(6) Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

(c) Department or agency heads retain final judgment as to whether a particular activity is covered by this policy.

(d) Department or agency heads may require that specific research activities or classes of research activities conducted, supported, or otherwise subject to regulation by the department or agency but not otherwise covered by this policy, comply with some or all of the requirements of this policy.

(e) Compliance with this policy requires compliance with pertinent federal laws or regulations which provide additional protections for human subjects.

(f) This policy does not affect any state or local laws or regulations which may otherwise be applicable and which provide additional protections for human subjects.

(g) This policy does not affect any foreign laws or regulations which may otherwise be applicable and which provide additional protections to human subjects of research.

(h) When research covered by this policy takes place in foreign countries, procedures normally followed in the foreign countries to protect human subjects may differ from those set forth in this policy. [An example is a foreign institution which complies with guidelines consistent with the World Medical Assembly Declaration (Declaration of Helsinki amended 1989) issued either by sovereign states or by an organization whose function for the protection of human research subjects is internationally recognized.] In these circumstances, if a department or agency head determines that the procedures prescribed by the institution afford protections that are at least equivalent to those provided in this policy, the department or agency head may approve the substitution of the foreign procedures in lieu of the procedural requirements provided in this policy. Except when otherwise required by statute, Executive Order, or the department or agency head, notices of these actions as they occur will be published in the FEDERAL REGISTER or will be otherwise published as provided in department or agency procedures.

(i) Unless otherwise required by law, department or agency heads may waive the applicability of some or all of the provisions of this policy to specific research activities or classes or research activities otherwise covered by this policy. Except when otherwise required by statute or Executive Order, the department or agency head shall forward advance notices of these actions to the Office for Human Research Protections, Department of Health and Human Services (HHS), or any successor office, and shall also publish them in the FEDERAL REGISTER or in such other manner as provided in department or agency procedures.<sup>1</sup>

<sup>1</sup> Institutions with HHS-approved assurances on file will abide by provisions of Title 45 CFR part 46 subparts [A-D](#). Some of the other departments and agencies have incorporated all provisions of Title 45 CFR part 46 into their policies and procedures as well. However, the exemptions at [45 CFR 46.101\(b\)](#) do not apply to research involving prisoners, [subpart C](#). The exemption at [45 CFR 46.101\(b\)\(2\)](#), for research involving survey or interview procedures or observation of public behavior, does not apply to research with children, [subpart D](#), except for research involving observations of public behavior when the investigator(s) do not participate in the activities being observed.

[56 FR 28012, 28022, June 18, 1991; 56 FR 29756, June 28, 1991, as amended at [70 FR 36328](#), June 23, 2005]

R 29757, June 28, 1991.]

## **APPENDIX L**

### **Editor's Certificate**

I have read and edited the dissertation titled "The Person-Organization Fit of Accounting Students: Long-Term Value Change Following and Education Intervention" which is authored by Dr. Donald L. Ariail. This work conforms to standard English grammar and usage.

Gregory Scott Ariail

BA, summa cum laude (English), University of Georgia, USA

MS, with distinction (English Studies), Lincoln College, Oxford University, UK

PhD (ABD) (English Literature), University of Michigan, USA