

# **Values and Ethical Judgments: A Study of the Adequacy of Students as Surrogates for Practicing Accountants**

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### **Abstract**

Based on survey data of accounting practitioners and accounting majors, significant differences are revealed in both the structure of personal values and in ethical judgments between practitioners and students. Life-stage effects play an important role in explaining these differences. Hedonistic values are seen to become less salient through the maturation process, whereas others, such as security become increasingly important. Unexpectedly, values are found to have little direct impact on ethical judgments. The results suggest that where student surrogates are to be used, adequate attention be given to the close matching of ages between the students and the target professional population.

**Keywords:** Values, ethics, accountants, student surrogates

# **Values and Ethical Judgments: A Study of the Adequacy of Students as Surrogates for Practicing Accountants**

## **1. Introduction**

Due to their association with the notorious corporate collapses of the early part of this century, such as Enron and WorldCom, and the recent global financial crisis, serious questions have been raised concerning the professionalism, trustworthiness, and ethics of professional accountants. Internationally, regulatory responses have been swift and far-reaching. Public auditors have been subject to unprecedented changes to their regulatory frameworks in many jurisdictions, including the U.S., U.K., Canada, Australia and New Zealand.<sup>1</sup> Against this backdrop, there is an urgent need to advance ethics research in the accounting domain. However, a major obstacle to this goal is the availability of appropriate research participants. Many accounting ethics studies have addressed this issue by using accounting students as surrogates for practicing accountants (e.g., Wright, Cullinan & Bline, 1997; Falk, Lynn, Mestelman & Shehata, 1999; Abdolmohammadi & Baker, 2006; Curtis, 2006; Pflugrath, Martinov-Bennie, and Chen, 2007). The use of student samples is not exclusive to accounting research. In a review of the general business ethics literature since 1996, O'Fallon and Butterfield (2005) find 40% of empirical studies using student samples or a combination of students and other individuals. Despite the prevalence of student samples, the validity of their use remains widely debated among business ethics researchers (O'Fallon & Butterfield, 2005: 403). With the exception of Bean and D'Aquila (2003), few accounting ethics studies have considered the appropriateness of using accounting students as surrogates for accounting practitioners.

The use of students as substitutes for practicing accountants has been considered in the wider accounting literature (e.g., Mortensen, Fisher and Wines, 2011; Liyanarachchi, 2007; Walters-York & Curatola, 1998, 2000; and Ashton & Kramer, 1980). These studies conclude that the use of students as surrogates for practitioners may not be appropriate in all situations. Rather, their appropriateness is contingent on the aims of the research together with the nature of the research task. Relatively few studies consider the suitability of student surrogates in accounting ethics research. Two studies have examined the ethical judgments of students relative to accounting practitioners. Bean and D'Aquila

(2003) find significant differences between the two subject groups in relation to a range of accounting dilemmas, however Cohen, Pant, & Sharp (2001) find limited evidence of differences in ethical judgment in the context of general business scenarios. Further, Cohen et al. (2001) find only minor differences with respect to measures of the ethical awareness and orientation of students relative to practitioners. This result is consistent with Schaub (1994) who finds general similarities in the levels of moral reasoning between students and practicing accountants. Personal values are potentially significant determinants of ethical behaviour. The findings of Lan, Ma, Cao and Zhang (2009) highlight important similarities and differences in the values of Chinese accountants and students. However, no similar study appears to have been undertaken in the West.

The purpose of this study is to investigate the validity of using student surrogates in accounting ethics studies. Our study addresses a research gap left by those studies that have considered the surrogacy issue in an accounting ethics research context. No prior study has concurrently considered the interrelationships between personal values, ethical judgment, and subject type. Accordingly, we investigate (1) whether accounting students have values similar to practitioners, (2) whether students make similar ethical judgments to practitioners, (3) whether there is an association between values and ethical judgments; and last (4) whether the nature of any such association is dependent on whether the participant is a student or practitioner. We also supplement our analysis by considering the impact of life-stage effects.

In using students as proxies for practitioners, prior studies such as Wright et al. (1997) and Abdolmohammadi and Baker (2006) have *assumed* that values and ethical decision making are unchanging over the relevant age ranges and are unaffected by factors such as professional experience. For instance, Abdolmohammadi and Baker (2006: 24) conclude “[i]f values and moral reasoning are enduring then these subjects can be assumed to be good surrogates for professional accountants. However, we cannot be sure of that conclusion.” The current study makes a significant contribution to the literature by providing direct evidence relating to the underlying assumption of these prior studies. This study also extends prior research by considering a wider range of ethical scenarios than prior relevant research. In particular, it incorporates both general business and accounting-specific scenarios, thereby allowing us to evaluate Bean and D’Aquila’s (2003: 195)

contention that that while students may be “intellectually aware of the ethical dimensions of ... accounting dilemmas” they may be “emotionally distant from them” and, consequently, respond to them differently than practitioners. It can be argued that without the experience of working in practice, a true understanding of the dilemmas may not be possible.

A survey instrument was administered in the U.S. to a sample of Certified Public Accountants (CPAs) and two student groups (accounting sophomores and seniors). In addition to seven scenarios assessing ethical judgment, the instrument included questions regarding the value profile suggested by Rokeach (1973), which provides a framework for understanding differences between the two groups.

The research results indicate that significant differences exist between the ethical judgments of student surrogates and accounting professionals. The Rokeach values construct, in conjunction with an understanding of the maturational process, assist in explaining the underlying reasons for differences in ethical judgments between the two groups. These results contribute to the literature in at least three ways. Firstly, they can assist in improving future ethics research by providing a means of choosing when the use of student surrogates is appropriate in assessment of ethical judgment. Secondly, an increased comprehension of the role of life-stage effects on the ethical decision making process of accountants provides a means of evaluating the capabilities of employees and improving organisational systems. For example, what type of support should employers offer to accountants in ethical decision making, or conversely which accountants can offer support to other employees in the organisation and to the accounting profession? Lastly, an improved understanding of the ethical decision making process can result in improved ethical behaviour, accompanied by a lower rate of business failures.

The remainder of this paper is structured as follows. The next section presents a literature review, followed by hypothesis development and analysis. The final sections of the paper encompass a discussion and conclusion with provision of suggestions for future research.

## 2. Literature review

### 2.1. Student surrogation

Experimental and survey studies across a wide range of disciplines have drawn on student samples to substitute for various target populations. For example, students have been used to represent: housewives (Sheth, 1970; Park & Lessig, 1977); consumers (Wilson & Peterson, 1990); taxpayers (Trivedi, Shahata and Lynn, 2003; Alm, Jackson & McKee, 2009); clinical psychologists (Chapman & Chapman, 1969); software developers (Host, Regnell & Wohlin, 2000) and business practitioners (Khera & Benson, 1970; Ashton & Kramer, 1980). The primary advantages of student surrogation include their greater accessibility and lower cost, in addition to avoiding the overuse of certain 'valuable' subjects, such as practitioner subjects (Libby, Bloomfield & Nelson, 2002).

Despite the prevalence of student samples in business research, their use has been extensively debated by researchers in a wide range of disciplines, including those in the fields of accounting (e.g., Mortensen et al., 2012; Liyanarachchi, 2007; Walters-York & Curatola, 1998, 2000; Ashton & Kramer, 1980; Abdel Khalik, 1974), taxation (Marriot, 2014), management and psychology (Gordon, Slade & Schmitt, 1986; Sears, 1986) and business ethics research (e.g., O'Fallon & Butterfield, 2005; Weber 1992; Randall & Gibson, 1990). The primary concern with surrogation relates to presumed threats to external validity posed by the use of student samples. In particular, student surrogates may not be representative of the 'real world' actors for which they are meant to proxy, potentially differing across a range of demographic and psychological attributes.

In the accounting domain, reviews of the literature have noted that students have made poor surrogates for non-students in studies examining respondents' *attitudes* or *attitudinal change* (Ashton & Kramer, 1980; Liyanarachchi, 2007; Mortensen, et al., 2012; Walters-York & Curatola, 2000). However, support for the use of student surrogates has been found in studies where *judgments* and other *decision making outcomes* have been the research focus (Abdel-Khalik, 1974; Dickhaut, 1973; Dyckman, 1966; Hofstede, 1972; Liyanarachchi & Milne, 2005; Mock, 1969; Mortensen, et al., 2012; Zimmer, 1980). Several researchers in this stream of literature have emphasised the importance of considering the degree to which individual-level differences interact with relationships of interest when designing studies that utilise student surrogates (for example, Ashton & Kramer, 1980 and

Mortensen, et al., 2012). In other words, to what extent are particular psychosocial and demographic differences between students and practitioners likely to be important in the context of a planned study? Key differences may include differences in age, wealth, professional experience and associated skills (Ashton & Kramer, 1980). Of these, age and professional experience differences are likely to be particularly important in the context of ethical decision making scenarios (Abdolmohammadi & Baker, 2006).

## *2.2. Consideration of Student Surrogation Issues in Accounting Ethics Research*

A relatively modest number of studies have directly (or indirectly) considered student surrogation issues in accounting ethics research utilising both student and practitioner samples. In one such study, Bean and D'Aquila (2003) found significant (and unexpected) differences between the responses of experienced accounting practitioners and accounting students to six financial reporting dilemmas. However, the authors suggest that differences arose not due to differences in technical knowledge, but rather due to students viewing the ethical issues more superficially than practicing accountants. In other words, the dilemmas were seen as more powerful and real by practicing accountants. This suggests that examining a wider range of dilemmas would be useful in future studies. Their sample included 169 experienced CPAs engaged in financial reporting (obtained from an AICPA membership roster) and 110 junior and senior students from three eastern U.S. universities.

In contrast to the preceding study, relatively few differences in the ethical judgments of students and practitioners were revealed in a study by Cohen et al. (2001). The subjects in this Canadian study included two student groups (consisting of entry-level and senior business and accounting students, respectively) and one group of accounting practitioners with three to five years of experience. Significant differences between the three groups' willingness to engage in questionable acts were only found in relation to three out of eight (non-accounting) general business dilemmas. Further, practitioners were least willing to engage in such acts in all but one of the eight scenarios. Two other determinants of ethical decision making (ethical awareness and orientation) were examined in the study and few differences were found between the three groups in relation to these variables.

Whereas Cohen et al. (2001) examined ethical awareness and ethical orientation, Shaub (1994) focussed on the complementary construct of moral reasoning. He found that the level of moral reasoning (as measured by scores on Rest's (1986) Defining Issues Test (DIT)) of U.S. auditors and auditing students is the same, and is influenced by the same set of demographic variables (academic performance, gender, and completion of an ethics course). Interestingly, age and education were not significantly associated with level of moral reasoning for either auditors or auditing students. The sample consisted of 207 auditors (all levels) from four offices of a single Big-Six accounting firm and 91 senior auditing students from a mid-western university.

Personal values represent a potentially significant antecedent of ethical decision making. Lan, Gowing, McMahon, Rieger and King (2008) examined the personal value orientations (measured using Schwartz's (1992) 56 item Schwartz Value Questionnaire) of accounting practitioners and accounting students in China. Their sample included 454 accounting practitioners from six large cities in China and 126 students who were enrolled in a graduate accounting programme from a large university in central China. Both practitioners and students ranked Family Security, Self-Respect, Healthy and Honoring of Parents and Elders among their top four values, and Respect for Tradition, Authority, Detachment, Social Power, An Exciting Life, Devout, and Accepting My Portion in Live among the lowest seven values (although there were differences in the relative rankings of these individual values between the accountants and students). While there were similarities in values, the researchers also found 18 values that differed significantly between the two groups.

In this study, we seek to extend our understanding of the circumstances in which it is appropriate to use student surrogates in accounting ethics studies by addressing several research gaps left by earlier studies. Specifically, no prior study has concurrently considered the interrelationships between personal values, ethical judgment, and subject type and none, to our knowledge, has considered the personal values of both accounting professionals and students in a Western context.

### **3. Hypothesis development**

In this section we develop the study's hypotheses. The purpose is to examine whether differences exist between accounting students and professional accountants in order to both

understand and inform student surrogation in accounting research. Specifically, the hypotheses focus on the interrelationships between personal values, ethical decision making, and subject type – that is, accounting student vs. accounting practitioner.

### 3.1. Values

Values provide a basis for understanding the ethical decision making process. Rokeach (1973: 16) defined basic human values “as enduring beliefs regarding personally and socially preferable specific modes of conduct or ends states of existence.” As an example, an individual who values equality will generally prefer equal rights to negative discrimination. Rokeach (1973) further argued that values guide attitudes and act as imperatives to action. Values are to be distinguished from attitudes, with the latter relating to positive or negative evaluations of an object (Eagly & Chaiken, 1993). Values, on the other hand, are said to transcend specific situations, potentially influencing a wide range of human behaviours, including motivating action and aiding in “the selection or evaluation of actions, policies, people, and events” (Schwartz, 2007: 1).

It is perhaps not surprising, then, that values are seen as being inextricably linked to ethical decision making processes. Kohlberg’s (1976) cognitive development model, for example, conceptualises values as a basis for ethical behaviour. Similarly, Ferrell and Gresham’s (1985) contingency model of ethical decision making includes individual values as an important antecedent of ethical behaviour.

Several background demographic and socioeconomic variables are likely to have important roles in shaping individuals’ value structures, including age, gender, education, parenting received, temperaments and abilities, friendships, and cultural, political and economic environments experienced (Schwartz, 2007). Of these, age is likely to vary systematically between accounting students and practitioners. Age is posited to influence value structures through two principle means: through *life-stage* and through *cohort* (generation) influences (Rokeach, 1973, 1974; Inglehart, 1997; Egri & Ralston, 2004; Schwartz, 2007; Schwartz & Bardi, 1997).

*Life-stage effects:* Value structures are most apt to change during adolescence, such as the college student stage. At that point “value priorities are less crystalized and less anchored in a large

number of past experiences to which people have adapted over time” (Schwartz & Bardi, 1997: 407). Post-adolescent changes are more gradual, reflecting opportunities, demands, and constraints of the particular life-stage of the individual (Rokeach, 1973, 1974; Schwartz, 2007; Schwartz & Bardi, 1997). In other words, particular values will change in their relative importance depending on whether an individual is in, for instance, adolescence, early adulthood, midlife, or retirement. Accordingly, a professional starting a family in young adulthood is likely to increase the salience of ‘family security’ compared to a single college student in late adolescence who may prefer other values, such as ‘an exciting life.’

*Cohort effects:* In finding significant intergenerational shifts in values in the U.S. and in China, studies by Inglehart (1997) and Egri and Ralston (2004) demonstrate the potential for generation cohorts to explain systematic differences in value orientation. Generation cohorts are those whose value systems reflect the “significant cultural, political, and economic developments that occurred during a generation’s pre-adult years” (Egri & Ralston, 2004: 211).

On the basis of differences in age profiles between accounting students and practitioners, the following hypothesis is proposed in relation to values (in alternate form):

*Hypothesis 1:* The personal values of accounting students differ from those of professional accountants.

### *3.2. Ethical decision making*

Ethical decision making is informed in part by moral reasoning. Moral reasoning is a cognitive process which, according to Kohlberg (1981), depends on the level of one’s moral development. Drawing on the field of cognitive development, Kohlberg (1981) conceptualised moral development as a three-stage sequence model consisting (in ascending order) of the pre-conventional level, conventional level, and last, the post-conventional level. Kohlberg (1981) further subdivided each of the three broad levels into two developmental stages, resulting in a model consisting of six stages in total. Stage one (Obedience & Punishment) forms the first stage of the pre-conventional level and represents the earliest and most basic level of moral development. Individuals at this level (usually children) unquestioningly follow rules largely to avoid punishment.

In contrast, stage six (Universal Principles) is the last stage of the post-conventional level and is associated with the highest levels of moral reasoning. Here individuals have internalised self-selected universal ethical principles, such as those relating to justice, equality of human rights, reciprocity and beneficence. Individuals operating at this level will comply with laws only to the extent that they do not conflict with their internalised principles. Individuals are expected to move unidirectionally through the sequential stages over time (i.e., without regression). However, only a minority of individuals are believed to reach stages consistent with the post-conventional level (Kohlberg, 1976).

Poneman (1992: 242-3) notes that despite the model proposed by Kohlberg being subject to criticism in the literature (concerns have related to the developmental hierarchy, the stability of moral reasoning stages, potential gender/cultural biases created by related measures of moral reasoning, and the linkage between moral reasoning and ethical action), the theory of ethical reasoning and development has been shown to be of consequence in a wide range of discipline areas, including the study of behaviour in accounting and auditing.

According to Kohlberg's (1976) theory, moral reasoning presupposes cognitive development. For that reason, Shaub (1994) argues that moral reasoning ought to progress with chronological age and with increasing levels of education. However, his study of 91 students and 207 accounting practitioners failed to find empirical support for these relationships. Notwithstanding these results, strong support for the role of age and education is provided by Rest (1986), who notes that the findings of two meta-analyses of approximately 10,000 subjects suggest that age/education accounts for 30-50 percent of the variation in moral reasoning (based on the Defining Issues Test (DIT) measure of moral reasoning). These findings have important implications for the current study as the two focal populations, accounting students and practitioners, differ systematically with respect to age and education.

The effects of experience may also differentiate ethical decision making of students and practicing accountants. Cohen et al. (2001) describe the process by which students enter and become assimilated into the profession. Selection typically involves consideration of candidates' prospective ethical behaviour. Subsequently, newly employed accountants undertake formal and on-the-job

training and structured experience which, among other things, “exposes them to some of the ethical dilemmas encountered in the profession” (Cohen et al., 2001: 322). Drawing on Rest (1986), Shaub (1994) argued that such stimulating, challenging and fulfilling environments are likely to facilitate the development of moral reasoning. Early empirical research in public accounting, however, suggested that through a process of selection-socialisation, moral reasoning increased through early ranks within accounting firms but surprisingly declined, becoming increasingly homogenous at manager and partner level (Ponemon, 1990; 1992; Shaub, 1994). Ponemon (1992) believed this reflected the promotion of individuals to senior ranks based on shared (and relatively low) levels of ethical reasoning.

More recent studies, however, have failed to replicate this inverse relationship (Cohen et al., 2001; Conroy, Emerson & Pons, 2009). Conroy et al. (2009) believed that the counter-intuitive phenomenon observed by Ponemon (1990, 1992) and Shaub (1994) could have been attributable to narrow samples (e.g., small samples obtained from relatively few firms) and artefacts of the measurement of moral reasoning. With regards the latter, Conroy et al. (2009) suggest that the instruments used by Ponemon (1990) (the moral judgment interview (MJI)) and by both Ponemon (1992) and Shaub (1994) (the DIT) incorporated a relatively narrow range and number of ethical dilemma scenarios, and, in the case of DIT, is potentially subject to gender/political ideology biases.

To summarise, differences in age and experience profiles of students relative to professional accountants are likely to have an impact on ethical decision making. On the basis of the preceding discussion, then, we submit the following hypothesis:

*Hypothesis 2: Professional accountants assess questionable actions as being less acceptable than accounting students.*

### *3.3. Values and ethical decision making*

Personal values are believed to influence a wide array of human behaviours (Rokeach, 1973) including ethical decision making (Weber, 1990; Feather, 1994). It is not surprising, then, that values have been incorporated into theoretical models of the ethical decision making process (e.g., Hunt & Vitell, 1986; Ferrell & Gresham, 1985).

In the accounting domain, the relationship between personal values and the ethical decision making process has been investigated in a number of studies. In one of the earliest of such studies, Brief, Dukerich, Brown and Brett (1996) noted a link between personal values (based on Rokeach's (1973) terminal values, i.e., beliefs about desirable end states of existence) and fraudulent financial reporting. Specifically, the researchers found that the personal values of Comfortable life, Pleasure, and Self-respect were all linked to fraudulent financial reporting decisions of a sample of top executives. However, this finding was not consistently supported in two related follow-up studies (one of which drew its sample from a population of controllers).

Wright et al. (1997) examined the relationship between a moral agent's values system and their perceptions of the moral intensity of several generic ethical dilemmas - that is, their perception of the issue-related moral imperative associated with ethical dilemmas (Jones, 1991). Moral intensity is considered a critical determinant of ethical decision making (Jones, 1991). The values examined in the study were based on Rokeach's (1973) terminal and instrumental values – the latter relating to desirable modes of conduct. Using a sample of senior undergraduate accounting students, the researchers found a negative relationship between moral intensity and person-centred terminal values, and positive relationships between moral intensity and both society-centred terminal values and moral instrumental values. However, these relationships were only observed for issues of lower moral intensity.

In contrast to Wright et al. (1997), Shafer, Morris, and Ketchand (2001) found that personal values (both terminal and instrumental) did not influence the perceptions of a sample of practicing auditors concerning the moral intensity of an ethical dilemma relating to client pressure for aggressive financial reporting. However, moral intensity was found to be associated with ethical judgments. The researchers suggested that one explanation for the lack of influence of personal values could be that contextual variables, such as organisational and professional norms, may override the effects of general personality traits such as values. Accordingly, in an audit firm context, professional norms may standardise behaviour among auditors.

Last, Abdolmohammadi and Baker (2006) examined the relationship between the terminal and instrumental values of senior undergraduate accounting students and principled moral reasoning.

As hypothesised, they find that the “Conformity” values factor (a subset of instrumental values), relating to values such as Obedient and Responsible, was inversely related to moral reasoning. However, the researchers note that Conformity values were ranked lowest in students’ value preferences. Although not hypothesised, Self-actualisation and Idealism factors were also found to be positively related to moral reasoning.

In summary, studies in accounting generally support the influence of personal values on aspects of ethical decision making, particularly for undergraduate accounting students. However, the results of Shafer et al. (2001) suggest that contextual factors, such as organisational and professional norms, may dominate the effects of values on ethical decision making for accountants in practice. Consequently, the relationship between values and ethical decision making is anticipated to be moderated by subject type (i.e., student vs. practitioner). Accordingly, the following two hypotheses are proposed:

*Hypothesis 3:* The *personal* values of accounting students and professional accountants are associated with their assessments of the acceptability of questionable actions.

*Hypothesis 4:* The relationships between *personal* values and assessments of the acceptability of questionable actions for accounting students differ from those of professional accountants.

#### **4. Method**

Data for the study were collected using a survey instrument that encompassed questions relating to both values and ethical judgments. The first section of the survey presented a list of Rokeach’s (1973) 18 terminal values, which have been widely used in the prior literature. Brief et al. (1996) notes that prior research supports terminal values as being relevant in an ethical judgment context. Respondents were requested to rank these values according to their level of importance as a guiding principle in life. The ranking approach is suggested by Rokeach (1973) and used widely in the literature (e.g., Brief et al., 1996; Krishnan, 2007). However, one limitation of this method is that it yields ipsative data, which are not amenable to sophisticated forms of statistical analyses, such as factor analysis and structural equation modelling. Each value in the

instrument was accompanied by a brief description to facilitate a common understanding of each value among the respondents.

The second section of the survey presented seven scenarios involving an ethical dilemma. Each required the respondents to indicate their level of acceptance of the action taken in the scenario on a five-point Likert scale ('1' = acceptable action and '5' = unacceptable action). Five of the scenarios addressed general business situations relating to the production of substandard products, padding a time report, the provision of information about a competitor to a new employer and the copying of software offered by a friend. All five scenarios were selected from the prior studies of Loeb (1971), Fritzsche and Becker (1984) and Swindle, Phelps, and Broussard (1987).

The two remaining scenarios focus on accounting-specific dilemmas and were developed for this study to reflect audit situations from practice. The first entailed a restriction in the scope of an audit such that special purpose entities, which had material financing transactions involving potential violations of accounting regulations, were excluded from audit consideration. The second dilemma relates to unusual transactions uncovered in an audit, whereby potentially fraudulent acts of a client were only reported to the auditee's audit committee with no recommendation for any adjustments to the financial statements. These two dilemmas underwent pre-testing. Based on feedback received from five accounting academics (four of whom were CPAs) and one practitioner, a number of minor revisions were made to ensure clarity and realism.<sup>2</sup> All seven scenarios are presented in Appendix 1.

Student data were collected by administering the survey instrument during classroom visits to three universities on the east coast of the U.S.. Two groups of accounting majors were targeted: sophomores and seniors, with all data being collected close to the end of the university year. The survey was completed by all 265 students (93 sophomores and 162 seniors) attending the accounting classes in which the surveys were administered. After allowing for incomplete responses, the final usable student sample was 255, representing a 96 percent usable response rate. The survey instrument was handed out to the students at the end of the class session with students taking approximately 20-25 minutes for completion.

Data from CPA respondents were obtained from a mailed survey. The survey consisted of a random sample of 810 CPAs selected from the American Institute of Certified Public Accountants (AICPA) member population. The CPAs received a mailed survey and a follow-up survey. Responses were received from 179 CPAs representing a 22% response rate. Tests for non-response bias revealed no significant differences between the responses of respondents to the first and second mailings across the study's major variables, including responses to ethical scenarios. Table 1 summarises demographic information for the samples.

[Insert Table 1 here]

## **5. Results**

### *5.1. Values*

The first hypothesis considers whether personal values of accounting students differ from those of professional accountants. This is examined by comparing the mean ranks of the values of CPAs and the two student groups using Kruskal-Wallis one-way analysis of variances and follow-up post-hoc tests. Non-parametric tests were used for this part of the analysis due to the ipsative nature of the ranked values data. As noted previously, ipsative data imposes limitations on the nature of data analysis that may be performed. Table 2 presents the median rank scores for each group. To aid in interpretation, individual values have been grouped according to the four category classification scheme developed by Crosby, Bitner and Gill (1990) and subsequently verified in several accounting studies (Shafer et al., 2001; Abdolmohammadi & Baker, 2006), that is, *Hedonism, Self-actualisation, Security, and Idealism*.

[Insert Table 2 here]

The Kruskal-Wallis tests identify significant differences between all three groups of respondents in 12 out of 18 terminal values, including, notably, all of those within the Hedonism category. Looking firstly at CPAs and accounting sophomores, it is apparent that both groups rank

‘family security’ and ‘happiness’ as their two most important values (although their order of importance differed for each group). Despite these similarities, however, there are 10 significant differences in the individual rankings of values between the two groups. Specifically, accounting sophomores appear more hedonistic than CPAs, with all five hedonistic-related values (‘comfortable life’, ‘exciting life’, ‘happiness’, ‘pleasure’, and ‘social recognition’) ranking significantly higher for sophomores than CPAs. This is important, as prior research of both students and CPAs have found that Hedonism values may be significant determinants of ethical judgments (Feather, 1990; Shafer et al., 2001). Consistent with the notion that students are more idealistic than other groups in society, sophomores also rank ‘equality’ higher than CPAs. CPAs, however, rank two out of three Security values higher than sophomores (‘family security’ and ‘national security’) reflecting their greater likelihood of having family responsibilities. Overall, accounting sophomores appear to attach less significance to Self-actualisation than CPAs, with two out of the seven related values (‘salvation’ ( $p < 0.01$ ) and wisdom ( $p < 0.01$ )) being ranked lower relative to CPAs.

Overall, fewer differences are observable between the value rankings of CPAs and accounting seniors relative to CPAs and sophomores. In total, there are seven significant differences in value rankings, six of which are also significant between CPAs and sophomores (the exception being ‘inner harmony’). For 14 of the 18 values, seniors’ median personal value rankings lie within the range of those expressed by CPAs and sophomores. The general pattern of differences is suggestive of a gradual convergence in the values of students towards those of CPAs as students approach graduation. However, significant differences are still apparent for the senior student body.

Given the difference in gender balance between the two samples (refer to Table 1), further analysis (not reported here to conserve space) was undertaken to control for the potential effects of gender. Prior research has found that females’ values differ to males’ (Giacomino & Akers, 1998; Schwartz & Rubel, 2005; Ballantine & McCourt, 2011; Krambia-Kapardis & Zopiatis, 2011). Respondent type (CPA vs accounting student group) and gender dichotomous variables were regressed on each of the terminal values using ordinal probit regression analysis.

With respect to the CPAs and sophomores, all 10 values previously found to be significantly different between the two groups were also significant under ordinal probit regression analysis. In

addition, however, two further values (both relating to Self-actualisation) were significant: 'sense of accomplishment' ( $p < 0.05$ ) and 'self-respect' ( $p < 0.10$ ). Gender was significant for five personal values. Females ranked 'exciting life' ( $p < 0.05$ ), 'salvation' ( $p < 0.05$ ), and 'self-respect' ( $p < 0.10$ ) as lower in importance than males, while ranking 'sense of accomplishment' ( $p < 0.10$ ) and 'world of beauty' ( $p < 0.05$ ) higher.

For CPAs and seniors, all seven values previously found to be significantly different were also found to be significantly different using the ordinal probit method with gender included as a control variable. Additionally, two further values were found to be significantly different, namely, 'social recognition' ( $p < 0.05$ ) and 'freedom' ( $p < 0.10$ ). With respect to gender, only two values were found to differ significantly for males and females in the CPAs-seniors subsample. Females were found to rank 'exciting life' ( $p < 0.05$ ) and 'freedom' ( $p < 0.10$ ) as lower in importance than males.

In general, then, the results appear consistent with Hypothesis 1. That is, the personal values of accounting students differ to those of professional accountants

## 5.2. Ethical judgment

To assess whether CPAs assess questionable acts as being less acceptable than students (Hypothesis 2), the mean ethical judgments for CPAs and the two student groups are compared across seven scenarios. The ANOVA test results exhibited in Table 3 confirm that significant differences exist between the judgments of the three groups for six of the seven scenarios. Focusing firstly on CPAs and sophomores, six significant differences are apparent. The scenarios exhibiting differences include both generic business cases (including 'substandard work', 'compensation for referral', 'padding a time report', and 'software copying') and the two accounting specific scenarios ('audit restriction' and 'unusual transactions'). Arguably, the time-padding scenario could also be considered accounting specific given it was framed in the context of an accounting firm. For each case for which a significant difference is observed, the mean score of CPAs is higher than that of students, indicating a propensity on the part of CPAs to find the situations less ethically acceptable than students. These results were confirmed in an untabulated MANOVA, which showed a significant multivariate effect for the seven scenarios in relation to subject type (CPA vs student) ( $F(7,255) = 38.49$ ,  $p < 0.01$ ; Wilks'

$\Lambda = 0.486$ , partial  $\eta^2 = 0.514$ ), and follow-up univariate ANOVAs (the first six scenarios were all significant at the 0.01 level, with the exception of ‘compensation for referral’ which was significant at the 0.05 level).

Similar results (with the exceptions of ‘compensation for referral’ and ‘unusual transaction’) were obtained when comparing the judgments of CPAs and accounting seniors. Table 3 reveals that CPAs assessed four of the scenarios significantly less acceptable than seniors. As with personal values, the general trend is suggestive of the ethical judgments of students converging towards those of practicing accountants as students move closer to graduation. However, a degree of caution is required as the study was not longitudinal in nature. Untabulated MANOVA confirmed a significant multivariate effect for the seven scenarios in relation to subject type (CPA vs accounting senior) ( $F(7,323) = 24.26$ ,  $p < 0.01$ ; Wilks’  $\Lambda = 0.655$ , partial  $\eta^2 = 0.345$ ), and follow-up univariate ANOVAs were significant for ‘substandard work’, ‘padding a time report’, ‘software copying’, and ‘audit restriction.’

[Insert Table 3 here]

As for the analysis of personal values, further testing (untabulated) was undertaken to control for the potential effects of gender, which has also been found to influence ethical judgments in the prior literature (Cohen, Pant, & Sharp, 1998, 2001). A MANOVA was calculated with the seven scenarios as dependent variables, and both subject type and gender specified as independent variables. This analysis was conducted for both CPAs-sophomores and CPAs-seniors subsamples. Looking firstly at CPAs and sophomores, subject type was significant ( $F(7,253) = 34.86$ ,  $p < 0.01$ ; Wilks’  $\Lambda = 0.486$ , partial  $\eta^2 = 0.514$ ), while gender was not ( $F(7,253) = 1.523$ ,  $p = 0.16$ ; Wilks’  $\Lambda = 0.960$ , partial  $\eta^2 = 0.040$ ). Follow-up ANOVAs reveal that subject type (CPAs vs. sophomores) was significantly associated with judgments corresponding with the same six scenarios as in Table 3 at the 0.01 level. With respect to CPAs and seniors, both subject type ( $F(7,321) = 20.70$ ,  $p < 0.01$ ; Wilks’  $\Lambda = 0.689$ , partial  $\eta^2 = 0.311$ ) and gender ( $F(7,321) = 2.00$ ,  $p < 0.10$ ; Wilks’  $\Lambda = 0.958$ , partial  $\eta^2 = 0.042$ ) were

significant determinants. For subject type, the same four scenarios as for the univariate analysis were significant (all at the 0.01 level). For gender, post-hoc analysis indicated that it was a significant determinant of ‘compensation for referral’ ( $p < 0.01$ ) and ‘information about a competitor’ ( $p < 0.01$ ). Overall, these results support Hypothesis 2.

### *5.3. Values and ethical judgment*

Table 4 first presents Spearman correlations between each of the 18 personal values and seven scenarios for CPAs and both student groups. In total, 24 of the 126 correlations (18 values x 7 scenarios) for CPAs, 14 for seniors, and 19 for sophomores were statistically significant. Looking at the overall pattern of correlations, it appears that Hedonism values are associated (generally positively) with a number of the scenarios for both CPAs and students. Given that higher scores for Hedonism represent lower rankings for values in this category, positive correlations suggest that the less important hedonistic values are to individuals, the less acceptable are the actions outlined in the scenarios. Of the 24 significant correlations for CPAs, 10 (42%) involved hedonistic values. Of the 14 correlations for seniors and 19 for sophomores, 7 (50%) and 8 (42%) involved hedonistic values, respectively. To a somewhat lesser degree, Self-actualisation values were related to ethical judgments. Of the significant correlations for CPAs, 8 involved Self-actualisation values, while for seniors and sophomores, 3 and 6 involved this category of value, respectively.

Given the limited number of significant correlations for each of three subsamples (and their relatively small magnitude), the evidence in support of Hypothesis 3 (which posited that personal values would be related to ethical judgments) is, at best, equivocal. Consequently, we fail to reject the null hypothesis.

[Insert Table 4 here]

In order to test Hypothesis 4, differences in the relationships between values and ethical judgments for CPAs and student groups were examined by testing differences in corresponding correlation coefficients, firstly between CPAs and sophomores, and secondly between CPAs and

seniors. For this purpose, Fisher's Z-test was used (the results of which are not reported to conserve space). The Bonferroni adjustment was applied to correct for multiple testing across all of the 126 pairs of correlations for CPAs and seniors, and CPAs and sophomores, respectively. Overall, none of the pairwise tests were significant at the 0.10 level for either CPAs-seniors or for CPAs-sophomores. The less conservative Holm-Bonferroni was additionally employed but the results were the same, i.e., no significant differences were found. Accordingly, no support is found for Hypothesis 4.

#### *5.4. Supplementary analysis*

The analysis discussed above provides evidence of differences between the values and ethical judgments of CPAs and students. Understanding the underlying reasons for these differences will assist in informing researchers' decisions regarding the use of student surrogates in ethics research. Based on the prior literature, several potential factors were identified as potential candidates for further analysis. These included inter and intragenerational effects (a cohort factor) and age effects (a life-stage factor). However, a lack of spread in the generational distribution of students prevented meaningful statistical analysis of inter and intragenerational effects.<sup>3</sup> Consequently, supplementary analysis focuses solely on age effects.

Panel A of Table 5 presents the Spearman correlations between CPAs' and students' ages with the 18 values. Sophomores and seniors have been combined for the purposes of this analysis. For CPAs, age exhibits a relationship with 5 out of 18 values, while for students age is associated with 10 values, confirming the existence of 'life-stage effects'. Three values have a consistent relationship with age for both groups and these include 'happiness', 'pleasure' and 'freedom'. For students, age is positively related to four Hedonism values rankings, suggesting that such values decrease in importance with age. Age is also related to four Self-actualisation values. More specifically, 'mature love' and 'salvation' appear to increase in salience with age, whereas 'self-respect' and 'true friendship' appear to decline in importance for students.

[Insert Table 5 here]

To assist in exploring the relationship between age and each of the seven ethical judgments, Panel B of Table 5 presents the correlations between age and each judgment. Age is positively associated with five of the scenarios for CPAs and with four for students. The ethical scenarios statistically significantly associated with age included both generic business situations and those specific to the accounting profession. While the positive correlations suggest the ethicality is a positive function of age, they may also reflect the effects of experience, particularly among CPAs, as age and experience are close proxies in this study. The results are consistent with Kohlberg's cognitive moral development model, and models derived therefrom, such as Trevino's (1986) interactionist model that relates ethical development with education and work experiences.

## **6. Discussion**

As professionals, accountants are expected to possess strong personal values in order to withstand client pressure and deliver independent judgments (Abdolmohammadi & Baker, 2006). Several prior studies have examined accountants' values using student surrogates for practitioners on the assumption that values are 'enduring' beliefs and consequently one might expect limited differences in values between these participant types (Wright et al., 1997: 33; Abdolmohammadi & Baker, 2006: 24). However, the results of the current study point to significant differences between the terminal values of practitioners and students, bringing into question the appropriateness of this assumption. Indeed, differences were found in 10 out of 18 values between accounting sophomores and CPAs, and in 7 out of 18 values between seniors and CPAs. Tests of life-stage effects, revealed significant correlations between age and values across 10 of 18 values for students. In particular, Hedonistic values appear to become less important to students as they mature. Significant correlations with age were also shown to exist for accountants in relation to five values, suggesting that values continue to evolve in the work setting as family, work, and social relations become more established. Collectively, these findings suggest that researchers ought to consider the validity of students as surrogates for accountants when studying personal values. In particular, the results suggest that their use could be questionable unless there is a close concordance in age.

Bean and D'Aquila (2003) found significant differences between the ethical judgments of accountants and students in relation to accounting dilemmas, which they attribute to students 'emotional distance' from such scenarios arising from their lack of relevant first-hand experience. The current study examined judgments across a range of generic business and accounting specific ethical scenarios. Accountants' judgments were found to differ to those of sophomores on six of the seven scenarios and to differ to those of seniors on four of the seven scenarios. In all cases practitioners were less tolerant of ethically questionable practices than students, irrespective of students' seniority. Age was found to be a possible explanatory factor for these results, being positively associated with ethicality on five of the scenarios for CPAs and four for students. This association was expected, being supported by models of moral development based on cognitive-development theory, such as Kohlberg's previously discussed model, and other theories of morality, including prosocial development, social domain theory, and evolutionary theories (for a review of these theories, see Killen & Smetana, 2015). The findings of this study indicate that where accounting student surrogates are deemed necessary in the study of ethical judgments, participants ought to be matched as closely as possible with their target population based on age. Practically speaking, this may limit surrogation in ethical judgment research in accounting to situations in which final year students are used as proxies for junior accountants or accounting interns.

Contrary to expectations, personal values were not found to widely influence the ethical judgments of accountants and students. Only 24 of the 126 correlations between values and scenarios for accountants were significant, while only 19 and 14 were significant for sophomores and seniors, respectively. A likely explanation for why a greater number of the correlations were not significant for both participant types is the diffuse influence of values on outcomes constructs, such as judgments and actions. That is, values may influence these variables indirectly through their impact on specific attitudes and beliefs and only in circumstances in which they are activated (Schwarz, 2007). No prior study has tested for differences in the relationships between values and ethical judgments in the accounting domain. Although this study finds differences, they are relatively modest in number.

To a large degree, the picture that emerges from this research regarding the differences in values and ethical judgments of accountants and accounting students accords closely with the prior

literature on student surrogates in the accounting domain more generally. As Ashton and Kramer (1980: 1) note, prior “[s]tudies which have examined *attitudes and attitude changes* have found sizable discrepancies between students and other subjects... .” The results of this study provide one explanation for why this may be the case. According to Schwartz (2007), values are abstract goals which exert influence over attitudes and actions. The fact that this study revealed differences in a majority of personal values raises the possibility that such differences have contributed to the attitudinal differences found in prior research. Future research focusing on these linkages would appear warranted.

The findings with respect to ethical judgments also resonate with the prior literature on surrogates in accounting, which suggests that the appropriate use of student surrogates is contingent on the level of task complexity. Abdolmohammadi and Wright (1987) and Mortensen et al. (2012) argue that the effects of professional experience are most marked in situations involving less structured decision tasks. Indeed, both studies question the use of students as surrogates for CPAs in complex accounting or audit decision settings. As ethical judgments are typically of an unstructured nature (that is, problems which have few or no guidelines, have infinite/undefined alternatives, and requiring considerable judgment and insight) the prior professional experience of CPAs is likely to lead to a differentiation between their ethical judgments and those of less experienced student. On this basis, it is perhaps not surprising that this study’s conclusions mirror those of the prior literature in unstructured decision settings.

## **7. Conclusion**

This research has examined the values and judgments of CPAs and students in order to understand the extent to which students represent appropriate surrogates for accounting practitioners in accounting-oriented ethics research. Accessibility, cost and overuse of practitioner subjects may all contribute to the attractiveness of using student surrogates. However, failure to thoroughly consider the issues and risks surrounding this practice at the time research plans are being formulated may lead to serious threats to research validity being overlooked.

This study found differences in both the personal values and ethical judgments of accounting practitioners and accounting students. The results suggest caution in using student surrogates in this research context. Further analysis highlighted the role of age leading to the conclusion that where student surrogates are to be used, adequate attention be given to the close matching of ages between the students and the target professional population.

The study also provides interesting insight into the findings of the wider student surrogate literature in accounting, which have typically found that students make poor surrogates for professional accountants when attitudes and attitudinal change are the foci. This paper suggests that differences in values which, in turn, act on attitudes and beliefs, may be a contributing factor in these results.

These findings ought to be tempered by consideration of a number of limitations of the study. Firstly, only one category of personal values were considered, i.e., terminal values. Future research is needed to generalise the findings of this study to other types of values, such as instrumental values. Secondly, as with Conroy et al. (2009), our attempt at selecting a nationally representative sample of accounting practitioners yielded a sample of less than 200. We would urge future researchers to consider addressing this through the use of more extensive samples. Lastly, the study employed a cross-sectional design, and as such, the impacts of maturation and experience can only be inferred. Longitudinal studies have been used previously in the accounting ethics literature (e.g., Ponemon, 1992) and are recommended in order to permit more definitive conclusions to be drawn concerning the underlying causal relationships between the variables examined in this study.

## **Notes**

1. The *Sarbanes-Oxley Act 2002* was the most significant regulatory reform in the U.S. directly resulting from the earlier corporate and accounting scandals. Among other things, the Act created a new accounting oversight regime applicable to auditors of public companies. Self-regulation of accountants was also curtailed in other jurisdictions, including the U.K. (with the establishment of the Financial Reporting Council), Canada (Canadian Public Accountability Board), Australia (Financial Reporting Council), and New Zealand (Financial Markets Authority and External Reporting Board).

2. For example, the percentage used to indicate the materiality of the clients in both scenarios was revised to 8% after initially being set at a higher amount.
3. Crowley and Florin (2011) identify four distinct generations in the U. S. population. Generation 1 (also known as the Millennial Generation or Gen Y); Generation 2 (also known as Generation X); Generation 3 (the Boomer Generation); and Generation 4 (the Silent Generation). The four generations correspond to those aged (in 2011) between 18-30, 31-46, 47-65, and 66-83, respectively. Of the CPA sample, 9, 34, 49 and 8 percent were Generation 1, 2, 3, and 4 respectively; while of the total student sample (i.e., seniors and sophomores combined), 96, 2, 2 percent were Generation 1, 2 and 3, respectively. The relatively small number of students who were other than generation 1 means that meaningful statistical analysis of generational effects is not feasible. We leave this as a potentially fruitful area for future research.

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**Table 1**  
Demographic data

|             | CPAs            | Accounting<br>Seniors | Accounting<br>Sophomores |
|-------------|-----------------|-----------------------|--------------------------|
| Sample size | 179             | 162                   | 93                       |
| Mean age    | 48.96           | 23.19                 | 19.95                    |
| Males       | 128<br>(71.51%) | 76<br>(46.91%)        | 42<br>(45.16%)           |
| Females     | 51<br>(28.49%)  | 86<br>(53.09%)        | 51<br>(54.84%)           |

**Table 2**  
Comparative analysis of mean rankings of personal values between CPAs and accounting students

| Values                    | CPAs<br>(1)     |      | Accounting<br>Seniors<br>(2) |      | Accounting<br>Sophomores<br>(3) |      | Kruskal<br>-Wallis<br><i>H</i> | Post hoc test results       |                                |                                   |
|---------------------------|-----------------|------|------------------------------|------|---------------------------------|------|--------------------------------|-----------------------------|--------------------------------|-----------------------------------|
|                           | Median          | Rank | Median                       | Rank | Median                          | Rank |                                | CPAs(1)<br>vs<br>Seniors(2) | CPAs(1)<br>vs<br>Sophomores(3) | Seniors(2)<br>vs<br>Sophomores(3) |
| <i>Hedonism</i>           |                 |      |                              |      |                                 |      |                                |                             |                                |                                   |
| Comfortable life          | 10 <sup>a</sup> | 9=   | 10                           | 9=   | 8.5                             | 6    | 5.99*                          |                             | 1>3*                           |                                   |
| Exciting life             | 13              | 15=  | 12                           | 15   | 10                              | 10=  | 10.06***                       | 1>2*                        | 1>3***                         |                                   |
| Happiness                 | 5               | 2    | 4                            | 1=   | 3                               | 1    | 17.66***                       | 1>2***                      | 1>3***                         |                                   |
| Pleasure                  | 13              | 15=  | 11                           | 12=  | 11                              | 13   | 9.67***                        | 1>2**                       | 1>3**                          |                                   |
| Social recognition        | 15              | 17=  | 14                           | 17   | 13                              | 15=  | 15.61***                       |                             | 1>3***                         | 2>3*                              |
| <i>Self-actualisation</i> |                 |      |                              |      |                                 |      |                                |                             |                                |                                   |
| Sense of accomplishment   | 8               | 6=   | 9                            | 7    | 10                              | 10=  | 3.99                           |                             |                                |                                   |
| Inner harmony             | 8               | 6=   | 10                           | 9=   | 9                               | 7=   | 5.95*                          | 1<2*                        |                                |                                   |
| Mature love               | 10              | 9=   | 9                            | 6=   | 10                              | 10=  | 3.82                           |                             |                                |                                   |
| Salvation                 | 10              | 9=   | 13                           | 16   | 16                              | 17=  | 23.99***                       |                             | 1<3***                         | 2<3***                            |
| Self-respect              | 7               | 4=   | 7                            | 4    | 5                               | 3    | 5.89*                          |                             |                                | 2>3**                             |
| True friendship           | 8               | 6=   | 8                            | 5    | 7                               | 4=   | 2.01                           |                             |                                |                                   |
| Wisdom                    | 7               | 4=   | 8.5                          | 6    | 9                               | 7=   | 14.55***                       | 1<2*                        | 1<3***                         |                                   |
| <i>Security</i>           |                 |      |                              |      |                                 |      |                                |                             |                                |                                   |
| World at peace            | 12              | 13=  | 11                           | 12=  | 12                              | 14   | 1.27                           |                             |                                |                                   |
| Family security           | 3               | 1    | 4                            | 1=   | 4                               | 2    | 7.47**                         | 1<2*                        | 1<3*                           |                                   |
| National security         | 11              | 12   | 11                           | 12=  | 13                              | 15=  | 5.20*                          |                             | 1<3*                           |                                   |
| <i>Idealism</i>           |                 |      |                              |      |                                 |      |                                |                             |                                |                                   |
| World of beauty           | 15              | 17=  | 16                           | 18   | 16                              | 17=  | 0.99                           |                             |                                |                                   |
| Equality                  | 12              | 13=  | 10                           | 9=   | 9                               | 7=   | 14.95***                       | 1>2**                       | 1>3**                          |                                   |
| Freedom                   | 6               | 3    | 5                            | 3    | 7                               | 4=   | 3.67                           |                             |                                |                                   |

<sup>a</sup> Lower numbers indicate greater importance

\* Significant at the 0.10 level; \*\*significant at the 0.05 level; \*\*\*significant at the 0.01 level

**Table 3**

Test of mean differences between ethical judgments of CPAs and student groups

| Scenario                       | CPAs<br>(1)       | Accounting<br>Seniors<br>(2) | Accounting<br>Sophomores<br>(3) | ANOVA<br><i>F</i> | Post hoc tests results      |                                |                                   |
|--------------------------------|-------------------|------------------------------|---------------------------------|-------------------|-----------------------------|--------------------------------|-----------------------------------|
|                                | Mean <sup>1</sup> | Mean <sup>1</sup>            | Mean <sup>1</sup>               |                   | CPAs(1)<br>vs<br>Seniors(2) | CPAs(1)<br>vs<br>Sophomores(3) | Seniors(2)<br>vs<br>Sophomores(3) |
| Substandard work               | 4.85              | 4.39                         | 4.22                            | 29.83***          | 1>2***                      | 1>3***                         |                                   |
| Compensation for referral      | 3.01              | 3.02                         | 2.67                            | 3.12**            |                             | 1>3*                           | 2>3*                              |
| Padding a time report          | 4.71              | 4.16                         | 4.15                            | 31.33***          | 1>2***                      | 1>3***                         |                                   |
| Software copying               | 4.11              | 3.01                         | 2.54                            | 75.95***          | 1>2***                      | 1>3***                         | 2>3***                            |
| Audit restriction              | 4.77              | 4.30                         | 3.61                            | 64.41***          | 1>2***                      | 1>3***                         | 2>3***                            |
| Unusual transactions           | 4.38              | 4.21                         | 3.67                            | 14.52***          |                             | 1>3***                         | 2>3***                            |
| Information about a competitor | 3.81              | 3.83                         | 3.72                            | 0.31              |                             |                                |                                   |

\* Significant at the 0.10 level; \*\*significant at the 0.05 level; \*\*\*significant at the 0.01 level

<sup>1</sup>Responses could range from 1 (acceptable action) to 5 (unacceptable action)

**Table 4**  
Spearman correlation coefficients between values and judgments for CPAs and students<sup>a</sup>

| Values                    | CPAs        |             |             |               |             |               |              | Accounting Seniors |             |             |               |             |               |              | Accounting Sophomores |             |             |               |             |               |              |         |
|---------------------------|-------------|-------------|-------------|---------------|-------------|---------------|--------------|--------------------|-------------|-------------|---------------|-------------|---------------|--------------|-----------------------|-------------|-------------|---------------|-------------|---------------|--------------|---------|
|                           | Subs<br>Wrk | Ref<br>Comp | Pad<br>Time | Copy<br>Softw | Aud<br>Rest | Unus<br>Trans | Comp<br>Info | Subs<br>Wrk        | Ref<br>Comp | Pad<br>Time | Copy<br>Softw | Aud<br>Rest | Unus<br>Trans | Comp<br>Info | Subs<br>Wrk           | Ref<br>Comp | Pad<br>Time | Copy<br>Softw | Aud<br>Rest | Unus<br>Trans | Comp<br>Info |         |
| <i>Hedonism</i>           |             |             |             |               |             |               |              |                    |             |             |               |             |               |              |                       |             |             |               |             |               |              |         |
| Comfortable life          |             | 0.16**      |             |               | 0.16**      |               |              |                    |             |             |               |             |               |              | 0.24**                |             | 0.22**      |               | 0.36***     | 0.18*         | 0.24**       |         |
| Exciting life             |             |             |             | 0.13*         |             |               |              |                    |             | 0.14*       |               | 0.16**      |               |              |                       |             |             |               |             | 0.24**        |              |         |
| Happiness                 |             |             | 0.18**      | 0.16**        |             |               |              | 0.22***            | -0.15*      | 0.15*       |               |             |               |              |                       |             |             |               |             |               |              | -0.22** |
| Pleasure                  |             | 0.14*       | 0.19**      | 0.20***       |             |               |              |                    |             | 0.20**      | 0.18**        |             |               |              |                       |             | 0.20*       |               |             |               |              |         |
| Social recognition        | 0.15**      |             |             |               | -0.13*      |               |              |                    |             |             |               |             |               |              |                       |             |             |               |             |               |              |         |
| <i>Self-actualisation</i> |             |             |             |               |             |               |              |                    |             |             |               |             |               |              |                       |             |             |               |             |               |              |         |
| Sense of accomp.          |             |             |             |               |             |               |              |                    |             |             |               |             |               |              |                       |             |             | 0.23**        |             |               |              |         |
| Inner harmony             |             |             |             |               |             | 0.22***       |              |                    |             |             |               |             |               |              | -0.26**               |             | -0.24**     |               |             |               |              |         |
| Mature love               |             |             | -0.18**     | -0.14*        |             |               |              |                    |             |             |               |             |               |              |                       |             |             |               |             |               |              |         |
| Salvation                 |             |             | -0.14*      | -0.25***      |             |               |              | -0.15*             |             | -0.27***    |               |             |               |              |                       |             |             |               |             |               |              |         |
| Self-respect              | 0.16**      |             |             |               |             |               |              |                    |             |             |               |             |               |              |                       |             |             | 0.20*         | 0.22**      |               |              |         |
| True friendship           |             |             | 0.14*       | 0.20***       |             |               |              |                    |             |             | 0.28***       |             |               |              |                       |             | 0.19*       |               |             |               |              |         |
| Wisdom                    |             |             |             |               |             |               |              |                    |             |             |               |             |               |              |                       |             |             |               |             |               |              |         |
| <i>Security</i>           |             |             |             |               |             |               |              |                    |             |             |               |             |               |              |                       |             |             |               |             |               |              |         |
| World at peace            |             |             |             |               |             |               |              |                    |             |             |               |             |               |              |                       |             |             |               |             |               |              |         |
| Family security           |             |             |             |               |             |               |              |                    |             |             |               |             |               |              |                       |             |             |               |             |               |              |         |
| National security         |             |             |             | -0.13*        | -0.16**     |               |              |                    |             |             |               |             |               |              |                       |             | -0.18*      | -0.19         |             |               |              |         |
| <i>Idealism</i>           |             |             |             |               |             |               |              |                    |             |             |               |             |               |              |                       |             |             |               |             |               |              |         |
| World of beauty           | -0.15*      |             |             | -0.14*        |             |               |              |                    |             |             |               |             |               |              |                       |             |             |               |             |               |              |         |
| Equality                  |             |             |             | -0.16**       |             |               |              |                    |             |             |               |             |               |              |                       |             |             |               |             |               |              |         |
| Freedom                   | -0.15*      |             |             |               |             |               |              |                    |             | -0.20**     |               |             |               |              |                       |             |             |               | -0.18*      |               |              | -0.22** |

\* Significant at the 0.10 level; \*\*significant at the 0.05 level; \*\*\*significant at the 0.01 level

<sup>a</sup> Non-significant correlations are suppressed.

**Table 5**

Spearman correlations between age and both personal values and ethical judgments

|                                   | Correlation coefficient |                     |
|-----------------------------------|-------------------------|---------------------|
|                                   | CPAs                    | Accounting students |
| <i>Panel A: Values</i>            |                         |                     |
| <i>Hedonism</i>                   |                         |                     |
| A comfortable life                | 0.10                    | 0.12**              |
| An exciting life                  | 0.09                    | 0.19***             |
| Happiness                         | 0.17**                  | 0.12*               |
| Pleasure                          | 0.21***                 | 0.13**              |
| Social recognition                | -0.02                   | 0.08                |
| <i>Self-actualisation</i>         |                         |                     |
| A sense of accomplishment         | -0.11                   | 0.07                |
| Inner harmony                     | -0.06                   | 0.02                |
| Mature love                       | 0.04                    | -0.12*              |
| Salvation                         | -0.01                   | -0.25***            |
| Self-respect                      | -0.10                   | 0.15**              |
| True friendship                   | 0.06                    | 0.13**              |
| Wisdom                            | -0.12                   | -0.01               |
| <i>Security</i>                   |                         |                     |
| A world at peace                  | -0.13*                  | 0.03                |
| Family security                   | 0.07                    | -0.08               |
| National security                 | -0.01                   | -0.14**             |
| <i>Idealism</i>                   |                         |                     |
| A world of beauty                 | -0.15*                  | 0.04                |
| Equality                          | 0.04                    | 0.05                |
| Freedom                           | -0.14*                  | -0.17***            |
| <i>Panel B: Ethical judgments</i> |                         |                     |
| Substandard work                  | 0.16**                  | 0.01                |
| Compensation for referral         | -0.03                   | 0.11*               |
| Padding a time report             | 0.22***                 | 0.02                |
| Software copying                  | 0.18**                  | 0.27***             |
| Audit restriction                 | 0.21***                 | 0.19***             |
| Unusual transactions              | 0.14*                   | 0.16***             |
| Information about a competitor    | 0.11                    | -0.07               |

\* Significant at the 0.10 level; \*\*significant at the 0.05 level; \*\*\*significant at the 0.01 level

## Appendix 1: Ethical Scenarios

### Scenario # 1: Substandard work

J. Ward's firm received a large contract to manufacture transaxles to be used in a new line of cars soon to be introduced. The contract is very important to the continued economic viability of Ward's firm. An examination of recently completed safety test reports showed that the transaxle tended to fail when loaded at more than 20% over capacity. The auto manufacturer's specifications called for a transaxle carrying 130% of rated capacity without failing. Given the likelihood of failure and lack of time to redesign the transaxle, Ward decided to go ahead with the delivery.

### Scenario # 2: Compensation for referral

K. Jackson is an executive in a non-accounting service profession. A customer, Mr Hyatt refers a new customer, Mr Watson to Mr Jackson. Mr Hyatt indicated that he expects some small compensation from Jackson for his "service". Compensation satisfactory to Mr Hyatt would be a dinner, a small gift, and a reduced fee for the remainder of the current year. Jackson compensated Hyatt accordingly.

### Scenario # 3: Padding a time report

All personnel, including the partners, of a large public accounting firm for which T. Bradley works, are required to complete weekly time reports. These reports indicate how many of the employees' hours were devoted to their various tasks. Bradley's firm traditionally has looked favorably on "billable hours" to clients and unfavorably on idle, unassigned, non-billable hours. Bradley is a CPA in this firm, above the lowest level of the organization, but not a partner. The weekly time report Bradley is filling out would indicate a fifth consecutive week with a large quantity of idle, rather than billable, time. Bradley is concerned that his/her next personnel report would likely be low if this situation continues. Based on this, Bradley decided to "pad" the billable hours and not report unassigned time in the weekly report.

### Scenario # 4: Software copying

The owner of a local small business, which is currently in financial difficulty, approaches a long-time friend to borrow and copy a proprietary database software package, which will be of great help in generating future business. The software package retails for \$500. The friend loans the software package.

### Scenario #5: Audit restriction

As partners of a large CPA firm, John and Joan oversee a senior in the audit of ABC, a major client of their firm (8% of revenues). Management of ABC approaches the senior to ask for a scope restriction. The restriction relates to special purpose entities encompassing significant financing transactions, which at a glance include related party transactions and may hold violations of certain accounting rules. John and Joan agree to allow the senior to accept the restriction as they feel certain ABC's earnings will increase in the future allowing the debt to be paid off. They don't want to lose this major client, especially when analysts' reports for ABC indicate future positive prospects appear certain.

### Scenario #6: Unusual transactions

CPA partners, Ted and Marsha, had a challenging year. An audit of a major client (8% of revenue) revealed several unusual transactions and potentially fraudulent acts, which if material would require restatement of earnings. They decide to report the items to the audit committee, which reviewed the accounting transactions but made no suggestions to change them. Ted and Marsha accept the audit committee's conclusions and in the end the client receives a "clean" audit report.

### Scenario #7: Information about a competitor

Bill Smith has recently accepted a job with a relatively new microcomputer manufacturer. The microcomputer industry is engaged in intense competition as several software companies are attempting to become the first on the market with a new software package more user friendly and innovative for the average customer. Smith's former employer is rumored to be the leader in this software development. When Smith was hired it was understood to be based upon Smith's management potential. The morning beginning the third week on the new job, Smith received the following memo from the president: "Please meet me tomorrow at 8:15 for the purpose of discussing the developments your former employer has made in the new software". Smith provided the new employer with the software information.