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ORIGINAL PAPER

Personal Values and Ethical Behavior in Accounting Students

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Abstract
This study develops and tests an integrated model that explains how Schwartz's higher order personal values of Openness to Change, Conservation, Self-Transcendence and Self-Enhancement influence the ethical behavior of accountants. The study further explores the influence of ethics training, gender and religiosity on ethical behavior. A survey instrument was administered to 252 accounting students and the findings reveal that some of the higher order personal values (Conservation, Self-Transcendence, Self-Enhancement) are significant in explaining the ethical behavior of accounting students. The findings also reveal that gender and ethical training influence ethical behavior, and that effect of the personal value Self-Transcendence differs depending on participant gender and also religiosity. The implications of the findings are discussed.

Keywords Personal values · Ethical behavior · Ethics training · Gender · Religiosity

Introduction

Ethical behavior is one of the key requirements of accounting professionals as demonstrated by all accounting professional associations' codes of conduct. For instance, the American Institute of Certified Public Accountants (AICPA) requires members to abide by the ethical guidelines laid out in their professional code of conduct. Appropriate ethical behavior is particularly important considering that the work of accountants plays a critical role in financial markets and they have an enormous responsibility to the investing public, which demands public trust (Fritzsche and Oz 2007; Shafer et al. 2001). Given the important role of ethical behavior in the accounting profession, it is worthwhile that researchers examine the factors that may influence the ethical behavior of accountants (Karacaer et al. 2009; Abdolmohammadi 2005).

Significant research efforts have been aimed at the subject of ethical behavior of people in general, and that of professional accountants in particular (Buchan 2005; Cohen et al. 2001; Alleyne et al. 2013). This stream of research identifies factors that influence ethical behavior including personal values. Some of these studies have shown a relationship between personal values and ethical behavior (Baird and Zelin 2007; Douglas and Schwartz 1999; Christensen et al. 2016; Fritzsche and Oz 2007). Researchers have developed different instruments to measure personal values as well as ethical behavior in individuals (Alleyne et al. 2013; Glover et al. 1997) and these instruments have been refined over time. One of the most recent and comprehensive instruments was developed by Schwartz (Schwartz 2017) and is based on Schwartz's value theory. The instrument is generally regarded as the most comprehensive cross-cultural metric (Oishi et al. 1999), hence is one of the most commonly used theories in value studies (Krogh 2011). It is for this reason that we adopt the Schwartz value theory in the present study.

The Schwartz's values instrument is based on 19 low order values (LOV), which are further categorized into four high order values (HOV) (Schwartz 2017). It is a modification of the original 1992 instrument, which was made up of

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10 LOVs (Schwartz 1992). No studies known to the authors have used Schwartz's recently modified instrument in exploring the relationship between personal values and ethical behavior despite the fact that this is a comprehensive and theory-driven instrument. Though many studies have examined different factors, only a few of them explore the effects of personal values and none uses Schwartz's updated instrument in the study of ethical behavior of accountants. The purpose of the present study is to examine the relationship between personal values and ethical behavior of accountants using the Schwartz's high order values (Schwartz 2017). A synopsis of the Schwartz value theory is presented later in this paper.

Existing literature has also examined the influence of gender (Fagenson 1993; Eaton and Giacomino 2001; Ismail 2015; O'Fallon and Butterfield 2005), religiosity (Khavari and Harmon 1982; Hood et al. 1996), and ethical training (Robin and Babin 1997; Luthar and Karri 2005) on ethical behavior, yielding mixed results. Studying the effect of gender and religiosity is important considering the diverse nature of today's workforce where men and women are almost equally represented, and the religious and non-religious alike are found in the workplace. Given that ethical behavior is a cornerstone of the accountant's work, ethics training is an important component in accounting education as well as professional training to ensure that accountants are aware of the high ethical standards they are expected to maintain. The fact that results of research have been mixed on these factors points to the need for more research to understand how these factors influence ethical behavior, and how they can be used in recruitment, training and staffing of assignments. Thus, similar to previous studies, the present study also examines the effect of personal values, gender, religiosity and ethical training on ethical behavior.

The objective of the study is twofold: to (1) to fill the gap in the literature by using a proposed model to explain ethical behavior of accountants; and (2) to explore the effects of gender and religiosity on ethical behavior using Schwartz's HOVs. By adopting Schwartz's updated instrument (Schwartz 2017), this research first proposes a model that can be used to better explain the effect of personal values and ethical training on ethical behavior, thereby addressing the first research objective. The second objective is then achieved by attempting to answer the specific research question: is there any significant difference in ethical behavior based on gender and religion?

Data for this study was collected by conducting an online survey of undergraduate accounting students from a four-year university in the United States. Results show that the HOVs conservation, Self-Enhancement and self-transcendence are associated with ethical behavior. Further, significant differences in the personal value 'Self-Transcendence' were found between males and females and also between religious and non-religious participants. The results of this study provide a new empirical understanding of factors influencing ethical behavior of accountants.

This study contributes to existing literature in two ways. First, it specifically focuses on how personal values affect ethical behavior based on the updated Schwartz personal value scale (Schwartz 2017). Previous research has focused on different scales but none has focused on the 2017 Schwartz's HOV scale. The study also provides further evidence on how gender, religiosity, and ethics training relate to personal values.

The remainder of this paper is grouped into the following sections: (2) Theory and hypothesis development; (3) research methodology; (4) analysis and results; (5) discussion; and (6) conclusion.

Theory and Hypotheses Development

Ethical Behavior in Accounting Students

Proper ethical conduct is at the heart of the accounting profession, with practitioners expected to uphold the appropriate codes of conduct. Ethical behavior is a well-researched topic, hence there could be nuances to how it is defined in various contexts. For the purposes of this study however, we adopt a simple dictionary definition and we define ethics as; 'conforming to accepted standards of conduct' (Merriam-Webster n.d.). In the USA, accountants use the AICPA code of conduct which states that an ethical conflict exists when there are 'Obstacles to following an appropriate course of action due to internal or external pressures' (AICPA 2019). The code further implies that the desired ethical behavior is for accountants to 'take steps to best achieve compliance with the rules and law……'. A significant amount of research has been dedicated to the study of factors that influence ethical behavior in individuals, and even more specifically, in accountants. To measure ethical behavior, researchers have used scales like one developed by Akaah and Lund (1994), that has been demonstrated to be a reliable measurement of ethical behavior, the same instrument used in this study.

Research findings are many and varied. For instance, Buchan (2005) demonstrates a significant, direct relationship between attitudes and ethical intentions of professional accountants, thereby confirming that professional accountants' attitudes towards issues of ethical behavior influence their intentions. His study uses the theory of planned behavior to highlight the factors that affect behavior to include: antecedents to attitudes, subjective norms, and behavioral control. In their meta-analysis study, Christensen et al. (2016) identify several studies that focus on diverse factors affecting ethical behavior of both accounting practitioners

and students, including ethical choice, ethical instruction, political ideology, gender, GPA, and education level. Other studies in the likes of Armstrong (1987) and Ponemon (1990) investigate different levels of moral reasoning by professional accountants and accounting students based on the concern that these groups seem to have a lower level of ethical judgment compared to some other groups. Sheehan and Schmidt (2015) explore the impact of personal values on ethical behavior of accounting students and conclude that values indeed influence ethical decision making. The study identifies personal values from previous studies and include participants' own values using a five-step exercise.

For the purposes of our study we focus on three factors that potentially influence ethical behavior. These factors are personal values, gender and religiosity.

Personal Values and Schwartz's Individual Value Theory

Personal values can be defined as 'desirable trans-situational goals, varying in importance, that serve as guiding principles in people's lives' (Schwartz and Bardi 2001, p. 269). Over the last several decades, research has examined personal values in the context of topics such as culture, politics, and organizational behavior among others. For instance, Finegan (1994) examined how personal values influence judgment of the morality of some workplace behaviors using Rokeach's value system (Rokeach 1973). She found that people with different value hierarchies perceived the targeted behaviors differently. Studies like Roig and Ballew (1994) argue that an individual's choice to engage in academic dishonesty depends on his personal value system while Hemingway and Maclagan (2004) suggest that personal values influence corporate social responsibility practices adopted by managers. Fritzsche and Oz (2007) also study managers and find that personal values influence managers' decisions when faced with ethical dilemmas, and Akaah and Lund (1994) focus on marketing professionals, finding that personal and organizational values significantly influence their ethical behavior.

Researchers typically use scales to measure personal values, of which one of the better known is one originally developed by Schwartz (1992). Schwartz's value instrument is based on Schwartz's value theory which comprises 10 distinct human values. The theory is very rich because it integrates at least five proven theories. These theories include: (1) trait theory, which posits that individual behavior is driven by traits (habitual patterns of behavior, thought, and emotion) (Kassin 2003), (2) values orientation theory which proposes that different human societies are faced with common human problems for which they have to come up with a solution out of a common pool of limited potential solutions, and different cultures will tend to differentially prefer those solutions (Kluckhohn and Strodtbeck 1961), (3) the nature of human values, which identifies enduring human values and beliefs that supposedly transcend situations (Rokeach 1973), (4) the theory of post-materialism that proposes that the values of individuals have changed from being primarily materialistic to focusing more on non-materialistic life goals such as autonomy and self-expression (Inglehart 1981) and (5) Hofstede's cultural dimensions' theory which is a framework for cross-cultural communication which shows how five work-related cultural values (power distance, uncertainty avoidance, masculinity-femininity, individualism-collectivism) affect a society's culture, and how these values relate to behavior (Hofstede 2001).

The Schwartz value theory identifies 19 individual LOVs that are recognized by all major cultures. Schwartz and his colleagues used multidimensional scaling on 15 samples from 10 countries ($N = 6059$) (Schwartz 2017) and were able to discern 19 motivationally distinct LOVs in which individuals differ, with the values being 'grounded in one or more of the three universal requirements of human existence: the needs of individuals as biological organisms, requisites of coordinated social interaction, and survival and welfare needs of groups' (Schwartz 1994).

Schwartz maintains that each of the LOVs is associated with other LOVs, and these can be joined to create four high order values (HOVs). Each LOV has both related and opposing value types, a notion similar to Hofstede's (2001) conceptualization of contrasting cultural values (e.g., individualism versus collectivism). For example, benevolence-caring, which emphasizes devotion to the welfare of in-group member is closely related to universalism-tolerance, which emphasizes acceptance and understanding of those who are different from oneself. Similarly, the values of power (i.e., control or dominance over people, material and social resources) and achievement (i.e., success according to social standards) are also closely related.

Schwartz later combined the LOVs to form four individual HOVs, each of which can either be related to, or are in direct contrast with other HOVs (see Appendix 1). As shown in Fig. 1, arranging the LOVs in a circular order, the individual values can be ordered into the HOVs: Self-Enhancement (which combines achievement and power-dominance and power-resources), Openness to Change (which combines stimulation and self-direction of thought, self-direction of action, hedonism), conservation (which includes security-personal, security-societal, tradition, conformity-rules, conformity-interpersonal, and self-transcendence (universalism-concern, universalism-tolerance and benevolence-care and benevolence-dependability) (Schwartz and Butenko 2014). These four HOVs form two sets of contrasting HOV types: Self-Enhancement versus Self-Transcendence, and Openness to Change versus Conservation. These dichotomies are derived based on strong negative correlations with values on the opposing side of the circle and positive correlations

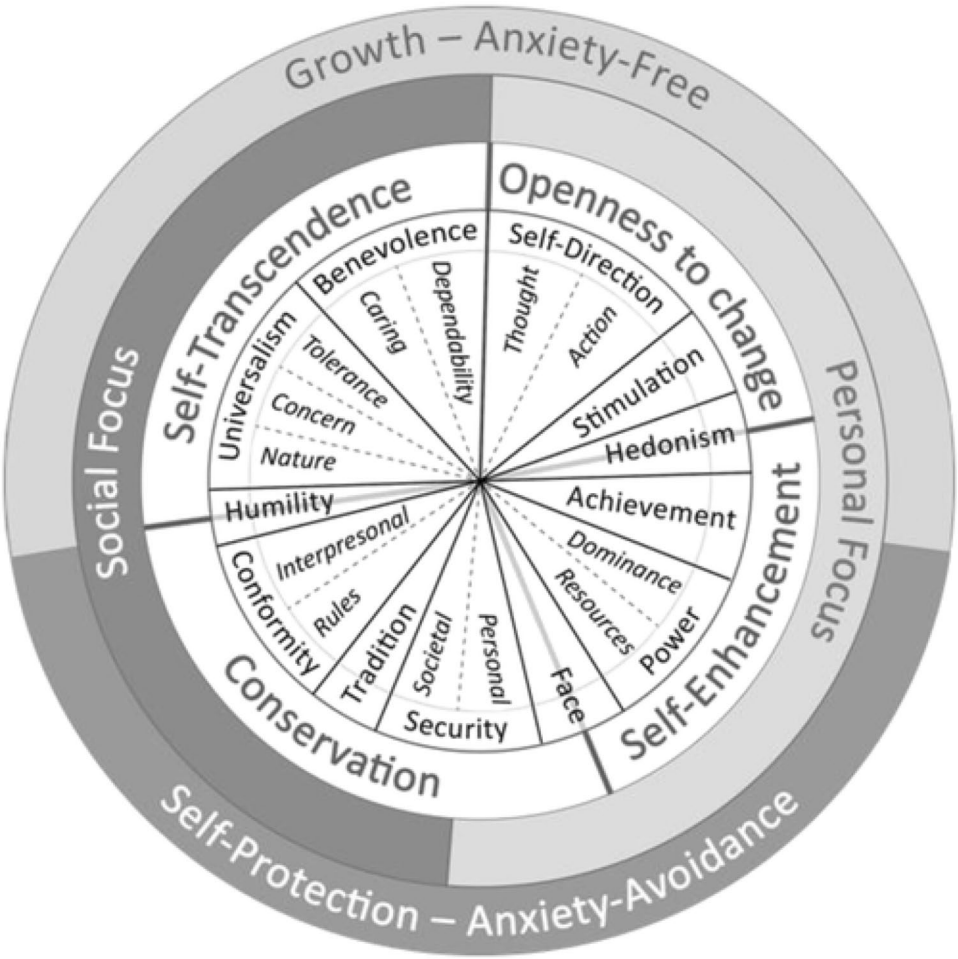

Fig. 1 Schwartz's model. Adapted from Schwartz (2017)

with nearby values. For example, individuals who assign high ratings to the Self-Enhancement quadrant are likely to assign low values to the Self-Transcendence quadrant, while individuals rating conservation are also likely to regard Self-Transcendence highly. These constructs are presented in Table 1.

Researchers have used scales based on the Schwartz Value Theory to measure and study ethical values in diverse settings. For instance, Roccas (2005) examined the relationship between religiosity and values, and Rosario et al (2014) examined how values influenced attitudes towards social initiatives of organizations using the Schwartz Value Theory. However, considering that the latest personal value scale is relatively new, there is little research that has been carried out using this scale and none with accountants as subjects. Using other value measurements, studies like Akaah and Lund (1994), Hemingway and Mclagan (2004), Fritzsche and Oz (2007) Glover et al. (1997) show associations between personal values and ethical behavior. We expect that Schwartz's scale will further explain the associations between personal values and ethical behavior. Thus, based on the findings of previous studies, our first hypothesis that corresponds to Schwartz's four HOVs (Openness to Change, Self-Enhancement, Conservation, and Self-Transcendence) is as follows:

H1a Openness to Change influences ethical behavior.

H1b Self-Enhancement influences ethical behavior.

H1c Conservation influences ethical behavior.

H1d Conservation influences ethical behavior.

Gender and Ethical Behavior

A considerable amount of research has been done on the influence of gender on ethical behavior but the research findings are mixed. For instance, Smith and Oakley III (1997) study gender-related differences in ethical attitudes of 318 graduate and undergraduate business students and observe significant differences between male and female responses to questions concerning ethics in social and personal relationships. Loe et al. (2000) and O'Fallon and Butterfield (2005)

Table 1 The 19 values in Schwartz's refined theory

Value	Conceptual definitions in terms of motivational goals
Self-direction—thought	Freedom to cultivate one's own ideas and abilities
Self-direction—action	Freedom to determine one's own actions
Stimulation	Excitement, novelty, and change
Hedonism	Pleasure and sensuous gratification
Achievement	Success according to social standards
Power—dominance	Power through exercising control over people
Power—resources	Power through control of material and social resources
Face	Maintaining one's public image and avoiding humiliation
Security—personal	Safety in one's immediate environment
Security—societal	Safety and stability in the wider society
Tradition	Maintaining and preserving cultural, family or religious traditions
Conformity—rules	Compliance with rules, laws, and formal obligations
Conformity—interpersonal	Avoidance of upsetting or harming other people
Humility	Recognizing one's insignificance in the larger scheme of things
Universalism—nature	Preservation of the natural environment
Universalism—concern	Commitment to equality, justice and protection for all people
Universalism—tolerance	Acceptance and understanding of those who are different from oneself
Benevolence—caring	Devotion to the welfare of in-group members
Benevolence—dependability	Being a reliable and trustworthy member of the in-group

From Schwartz (2017)

all review multiple studies and find that either there are no gender differences or that females are more ethical than males, with more studies pointing to more ethical behavior in females. Glover et al. (1997) find that men were 1.5 to 2.3 times more likely than women to engage in economically unethical behaviors. Lua and Yuen (2013) investigate the influence of gender, religion, and parenting style on risky online behaviors of secondary school students and conclude that males seem to be involved in riskier online behaviors than females. Similarly, Jafarkarimi et al. (2016) identify the factors affecting ethical decision-making of social network users and find that gender has a significant effect on ethical decision making. Other researchers who found gender differences include Ameen et al. (1996) and Singhapakdi (1999). Some researchers have explained these differences using gender socialization theory, which suggests that males and females socialize differently and will allow the values from how they socialize to influence their work (Betz et al. 1989).

However, other studies like Jones and Kavanagh (1996), Roozen et al. (2001) and Razzaque and Hwee (2002) do not report gender differences in ethical behavior. One possible reason for the inconsistencies in these findings may very well have to do with the different situational contexts that the studies are conducted in (Luthar and Karri 2005). The mixed nature of the findings suggests that the question of the influence of gender on ethical behavior is still open to further research and the following hypothesis is proposed:

H2 Gender influences ethical behavior.

Religiosity and Ethical Behavior

Among the factors that influence ethical behavior, another that has yielded mixed results is religiosity. Different religions personify certain values that determine what is considered to be ethical behavior, therefore religiosity can influence ethical behavior. Studies like Keller et al. (2007) find that accounting students are more likely to make ethical decisions based on religious standards, and Bloodgood et al. (2008) find that religious undergraduate business students are less likely to cheat than the non-religious ones. Jafarkarimi et al.'s study (2016) identifies the influential factors affecting individuals' ethical decision-making of social network users and observe that religion has a positive effect on ethical decision making. Other studies like Longenecker et al. (2004), Conroy and Emerson (2004) and Lua and Yuen (2013) also find that religiosity influences ethical behavior. According to Conroy and Emerson, (2004), perhaps religious people are less willing to act unethically because they believe that the omniscient God may catch them in the act.

This is not always the case though with other studies' finding that religiosity does not affect ethical behavior. For instance, Oumlil and Balloun (2009) find that religiosity does not influence ethical intentions. Parboteeah et al. (2008) argue that conflicting findings may be due to methodological and conceptual limitations rather than any question on whether the factors are actually associated. Also, the effect of religiosity on ethical behavior can depend on the context of the behavior. For instance, Khavari and Harmon (1982)

find that religion influences behaviors like use of illicit substances, but other studies like Hood et al. (1996) find that religion does not influence unethical behaviors such as cheating or dishonesty.

Regardless of the inconsistency in research findings, there is enough evidence to suggest that religion plays an important role in ethical behavior. Given that individual business leaders are likely to be of different religious persuasions, it is important that we test whether religiosity influences their ethical behavior. This leads to the next hypothesis:

H3 Religiosity influences ethical behavior.

Ethics Training and Ethical Behavior

Ethics training is an important component in accounting education as well as professional training. Ethics training ensures that accountants are aware of the high ethical standards they are expected to maintain. A considerable stream of research demonstrates that ethical training can influence how individuals view and deal with ethical issues. Some researchers like Geiger and O'Connell (1998) and Stead et al. (1990) believe that ethics training for employees can improve ethical behavior. Luthar and Karri (2005) find that exposure to ethics in the curriculum courses had a positive effect on perceptions of an ideal ethical climate, and Cagle and Baucus (2006) find that studying ethics scandals positively impacts finance students' ethical decision-making. Abdolmohammadi (2005) find that using the case-based pedagogy to teach ethics to graduate students can increase performance in ethical reasoning.

It is important to note however, that most ethical training is based on the premise that ethical behavior is rooted in rationality, a view that is increasingly being challenged by new research which suggests that ethical decisions may be based on unconscious emotions (Weaver et al. 2014). It is clear that from the studies cited here, there are different methods of teaching ethics, and currently there is no consensus on the nature of ethics content delivered to students. Despite that, there appears to be convergence of the findings of the effect of ethics training on ethical behavior, hence, consistent with previous studies like Robin and Babin (1997) and Luthar and Karri (2005), the present study also examines the effect of ethics training on ethical behavior. It is expected that ethics training will positively affect ethical behavior. These studies form the basis for the next hypothesis:

H4 Ethics training influences ethical behavior.

The proposed research model is shown in Fig. 2.

To address the second research objective, we further explore the influence of gender and religiosity on ethical behavior. We postulate that the research model will not be the same for the male and female participants or when religiosity is used as a divider. Here, the sample is separated by gender (male and female) and then again by religion (religious and non-religious) and the same model is analyzed. Multi-group analysis is used for this purpose. The goal of the multi-group analysis is to assess whether the path coefficients differ significantly across groups. The two additional hypotheses for the multi-group comparison are as follows:

H5 The proposed research models will not be the same when gender is used as a divider.

H6 The proposed research models will not be the same when religiosity is used as a divider.

Research Methodology

To obtain data for this study, we administered an online survey to 318 accounting majors at a four-year university in the United States. The students were invited to participate in the survey via email. Participation was voluntary, with participating students receiving extra credit equivalent to about 0.5% of the final grade for the classes that they were enrolled in. Of the 318 potential participants the survey was

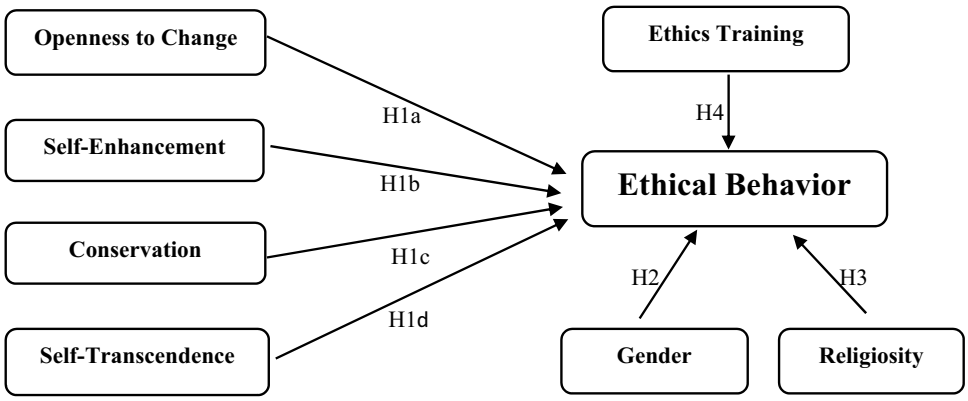

Fig. 2 Proposed research model

sent to, 262 completed the survey, an 82% response rate. Ten responses were eliminated from the analysis because they were incomplete and a total of 252 were considered suitable to use in the study.

Survey Instrument

The survey instrument comprised demographic questions and two measurement scales. The demographic questions solicited participants' information about age, gender, academic major, religiosity, and ethics classes taken. The first of the measurement scales which measured ethical behavior was adapted from Akaah and Lund (1994). The questions required participants to indicate how they were likely to act in given ethical situations. The second scale which measured personal values was based on Schwartz's value theory (Schwartz 2017) and required respondents to indicate how much they identified with different values in a hypothetical individual.

Dependent Variable—Ethical Behavior

To measure ethical behavior, the study used six measures; personal use, passing blame, bribery, falsification, padding expenses, and deception. These measures are adopted from the scale developed by Akaah and Lund (1994) based on an earlier version by Newstrom and Ruch (1975). The scale consists of 17 questions, which measure the likelihood of participants to engage in unethical behavior in an organizational setting. Participants provided their responses on a 7 point Likert scale where 1 represented 'extremely unlikely' and 7 represented 'extremely likely'. The 17 questions were aggregated into six composite measures, consistent with Akaah and Lund (1994), by calculating a mean response score for the questions in each separate measure (see Appendix 2). Previous studies that have used this scale to measure ethical behavior include Cardy and Selvarajan (2006) and Alleyne et al. (2013).

Independent Variables

Personal Values: Personal values of the individual participants were measured using the Schwartz personal value scale (Schwartz 2017). This scale was selected because it is theory-driven and has been shown to have cross-culturally equivalent meanings at an individual level, the instrument is more exhaustive than any other metrics (Ng et al. 2007). The scale consists of 57 statements to which participants have to respond to the question 'how much like you is this person?' The following are examples of statements presented: 'Thinking up new ideas and being creative is important to him' and 'It is important to her to be rich.' Each construct represents a number of values, which can be combined into a joint 'idea.' For example, high scores in the achievement value indicate a desire for personal success and admiration from others. Responses are solicited on a 6-point Likert scale where 1 represents 'not like me at all' and 6 represents 'very much like me'. The Schwartz personal value scale identifies 19 low order values that are obtained by averaging the scores from three questions that align to each personal value. These LOVs were further reduced to four HOVs using PLS, in line with the approach in Schwartz (2017) and Schwartz and Butenko (2014) (See Appendix 1). Two of the 19 LOVs (face and humility) were ultimately dropped from the analysis due to collinearity issues. This is expected considering that these two values were not assigned to a specific HOV in the measurement scale.

Gender: Participants responded to the question, 'what is your gender?' The responses, male and female were coded as 1 and 2, respectively.

Religiosity: Participants responded to the question 'are you religious?' Participants' responses yes and no were coded as 1 and 2, respectively.

Ethics training: Participants were required to indicate, 'Number of courses done with an ethics component' and the responses were used to measure ethics education.

Data Analysis

Data for this study is analyzed using factor-based partial least squares structural equation modeling (SEM) techniques using WARP PLS software (Kock 2011). The main objective of the analysis is to test the influence of the four HOVs (Openness to Change, Conservation, Self-Transcendence and Self-Enhancement), gender, religiosity and ethics training on ethical behavior of accounting students. Multi- group analysis is used to examine differences between gender and religiosity.

Table 2 shows the demographics of participants and other statistics. Out of the total sample size of 252 participants, 39% (98) of them are male and 61% (154) female. Their average age is 25.7 with a range between 19 and 51. 71.4% (180) of the participants reported being religious and 28.6% (72) were not. The participants reported that they had been enrolled in between four and eight classes that had ethical components.

Model Validation

To assess the reliability of our measures we consider the Cronbach Alpha as well as the composite reliability coefficients. In SEM, a Cronbach Alpha of at least 0.6 and Composite Reliability of at least 0.7 indicates an acceptable reliability (Fornell and Larcker 1981). Table 3 shows that all Cronbach Alpha and Composite Reliability scores are well

Table 2 Participant descriptive statistics

	Frequency	Percentage
Gender		
Male	98	39
Female	154	61
Total	252	100
Religiosity		
Yes	180	71.4
No	72	28.6
Total	252	100
Ethics classes		
4	84	33.3
5	63	25
6	59	23.4
7	23	9.1
8	23	9.1
Total	252	100

above the recommended values, therefore establishing reliability of our measures.

We assess the convergent validity of the model by considering the factor cross loadings and the average variance extracted (AVE) for each latent variable. Hair et al. (2019) suggest that factor loadings as well as AVE should be above 0.5 to establish convergent validity. The results shown in Table 3 and Table 4 indicate that all measures exceed these thresholds indicating no problems with convergent validity.

We test discriminant validity by assessing Variance Inflation Factor (VIF) scores as well as considering the Fornell–Larcker criterion (Fornell and Larcker 1981). According to Hair et al. (2019), low correlation between items in different constructs indicated by low VIF measures suggest good discriminant validity. All VIF measures are well below 5 (see Table 3) as recommended so it can be concluded that there are no collinearity problems with the study constructs. The Fornell and Larcker criterion suggests that discriminant validity is indicated when the square roots of the AVE are greater than the correlations of a construct with all other constructs in the structural model. The AVE results from the model meet these specifications (see Table 3), therefore we conclude that the model has sufficient discriminant validity. Latent construct correlations (Table 5) also give acceptable validity of the model.

Structural Model Assessment

We use three measures to assess the model fit: average path coefficient and average block VIF (AVIF) (Kock 2011). Our results suggest a good model fit since the average *R*-squared and the average path coefficient are significant at the 0.05 level, and the AVIF is well below 5 (see Tables 3 and 6).

Results and Hypothesis Testing

The tested structural model from PLS is as shown in Fig. 3. Path coefficients and their p-values (see Table 6) are used to interpret the results of the tests of H1a–H1d, H2, H3, and H4. It is worth noting that the scale adopted from Akaah and Lund (1994) used here is reverse coded in such a way that 1 represents 'Extremely unlikely to engage in unethical behavior' (i.e. the participant is an ethical person) while 7 represents 'Extremely likely to be engaged in unethical behavior' (i.e. the participant is an unethical person). In other words, a negative path coefficient suggests that a high score in the independent variable is associated with more ethical behavior and vice versa. For example, Ethics Training has a negative path coefficient in this study meaning the more ethics training a person has, the less likely the person would be engaged in unethical behavior. It is with this ethical behavior scale in mind that we can correctly interpret the results.

H1 posits that personal values influence ethical behavior. To test this, the four HOVs are regressed on ethical behavior. A positive relationship between a personal value and ethical behavior would indicate that an individual possessing high levels of the personal value is more likely to engage in unethical behavior. Self-Enhancement

Table 3 Reliability and validity tests

	Convergent validity		Internal consistency reliability		Discriminant validity	
	Cross loading > 0.5	AVE > 0.5	$\alpha > 0.6$	CR > 0.7	VIF < 0.5	F&L $\sqrt{\text{AVE}}$ > correlation
Ethical behavior	0.6–0.83	0.527	0.816	0.868	1.012	Yes
Openness to change	0.73–0.826	0.613	0.788	0.863	1.686	Yes
Self-enhancement	0.739–0.87	0.678	0.759	0.862	1.012	Yes
Conservation	0.587–0.808	0.538	0.782	0.852	1.957	Yes
Self-transcendence	0.639–0.856	0.63	0.85	0.894	2.154	Yes

Table 4 Factor loadings

	Ethical behavior	Openness to change	Self-enhancement	Conservation	Self-transcendence	Standard error	*p* value
Personal use	**0.635**	0.109	−0.086	−0.024	0.132	0.057	< 0.001
Passing blame	**0.785**	−0.162	0.03	0.295	−0.079	0.055	< 0.001
Bribery	**0.686**	0.327	−0.036	0.067	−0.309	0.056	< 0.001
Falsification	**0.83**	0.132	−0.099	−0.23	0.109	0.055	< 0.001
Padding expenses	**0.6**	−0.428	0.277	−0.04	0.06	0.057	< 0.001
Deception	**0.789**	−0.025	−0.036	−0.061	0.081	0.055	< 0.001
PV1	−0.09	**0.754**	−0.108	−0.268	0.356	0.055	< 0.001
PV2	−0.03	**0.826**	0.006	−0.15	0.077	0.055	< 0.001
PV3	−0.03	**0.816**	0.083	0.023	−0.025	0.055	< 0.001
PV4	0.16	**0.73**	0.012	0.422	−0.426	0.056	< 0.001
PV5	−0.036	0.32	**0.739**	0.026	0.156	0.056	< 0.001
PV6	0.012	−0.178	**0.854**	−0.03	0.04	0.054	< 0.001
PV7	0.02	−0.097	**0.87**	0.007	−0.171	0.054	< 0.001
PV9	0.065	0.15	0.047	**0.792**	0.084	0.055	< 0.001
PV10	0.081	0.306	−0.088	**0.712**	0.168	0.056	< 0.001
PV11	−0.042	−0.141	0.021	**0.748**	−0.283	0.055	< 0.001
PV12	−0.185	−0.049	−0.047	**0.808**	0.195	0.055	< 0.001
PV13	0.124	−0.326	0.081	**0.587**	−0.225	0.057	< 0.001
PV15	−0.067	0.041	0.084	0.064	**0.639**	0.056	< 0.001
PV16	−0.077	−0.197	−0.079	0.068	**0.833**	0.055	< 0.001
PV17	−0.062	−0.134	0.024	−0.207	**0.856**	0.054	< 0.001
PV18	0.043	0.23	−0.055	0.04	**0.817**	0.055	< 0.001
PV19	0.155	0.08	0.046	0.058	**0.803**	0.055	< 0.001

Factor loadings for each latent variable shown in bold

Table 5 Latent construct correlations

	EthBhvr	Opennes	SelfEnh	Conserv	SelfTra
EthBhvr	**0.726**				
Opennes	−0.249	**0.783**			
SelfEnh	0.014	0.505	**0.823**		
Conserv	−0.443	0.536	0.312	**0.734**	
SelfTra	−0.404	0.637	0.242	0.704	**0.794**

Square roots of average variances extracted (AVEs) shown in bold on diagonal

Table 6 Tests of hypotheses: SEM analyses

Hypothesis	β	*p*	Effect size	Supported?
H1a: Openness influences ethical behavior	0.054	0.193	0.014	No
H1b: Self-Enhancement influences ethical behavior	0.102	0.05	0.013	Yes
H1c: Conservation influences ethical behavior	−0.291	< 0.001	0.129	Yes
H1d: Self-Transcendence influences ethical behavior	−0.234	< 0.001	0.097	Yes
H2: Gender influences ethical behavior	−0.132	0.016	0.025	Yes
H3: Religiosity affects ethical behavior	0.01	0.436	0.002	No
H4: Ethics Training influences ethical behavior	−0.15	0.008	0.024	Yes

ARS = 27.6, $P < 0.001$

APC = 0.139, $P = 0.006$

AVIF = 1.493

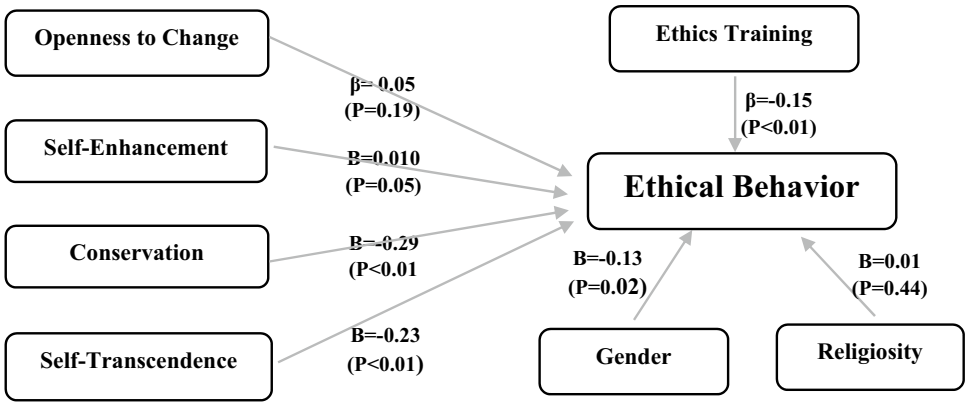

Fig. 3 PSL-based structural equation modeling

($\beta = 0.10$), Conservation ($\beta = -0.29$) and Self-Transcendence ($\beta = -0.23$) significantly influenced ethical behavior ($P < 0.05$), while the influence of Openness to Change on ethical behavior (H1a) is not significant. Self-Enhancement, which has a positive and significant path coefficient with ethical behavior is associated with unethical behavior, while Conservation and Self-Transcendence which both have negative significant paths are associated with more ethical behavior, thus, H1b, H1c and H1d are supported.

The second hypothesis, H2 tests whether gender influences ethical behavior. The variable gender (male = 1 and female = 2) is regressed on ethical behavior and H2 is supported with results suggesting that women are less likely to engage in unethical behavior ($\beta = -0.13$), ($p = 0.02$).

As shown on Table 6, the third hypothesis, H3 tests whether religiosity influences ethical behavior. This hypothesis is not supported with results showing no significant difference in ethical behavior ($\beta = 0.10$, $p = 0.44$) between religious and non-religious participants.

H4 tests whether ethics training influences ethical behavior. This hypothesis is supported ($\beta = -0.15$, $p = 0.01$). Table 6 shows the results indicating that participants who had been enrolled in more classes that contained an ethical component are less likely to engage in unethical behavior.

Next, the multi-group PLS analysis described by Keil et al. (2000) is used to test H5 and H6. It is a component-based structural equation modeling that compares structural model differences across groups. Path coefficients and their standard errors from WarpPLS are used in the comparison. The formula used is shown in Appendix 3.

To test for any difference in model between males and females (H5), the parameters from the gender model are analyzed as shown in Table 7. The multi-group results indicate that there is a difference between males and females in the path for Self-Transcendence → Ethical Behavior ($p = 0.042$), with the effect being stronger in men than women, hence H5 is partially supported.

To test H6, the multi-group analysis is performed to compare religious and non-religious participants, and the results presented in Table 8 show that the groups are significantly different as relates to Self-Transcendence → Ethical Behavior and Ethics Training → Ethical Behavior, thus partially supporting H6. Whereas Self-Transcendence is associated with ethical behavior in religious participants, it is not in non-religious participants and ethics training is associated with ethical behavior in both groups but the effect is stronger in non-religious participants.

Discussion

Findings from this study show that, in general, personal values do play a significant role in shaping ethical behavior. The results suggest that the personal values of Conservation and Self-Transcendence are negatively associated with unethical behavior. In effect, the higher the participants scored on these two personal values, the more ethical

Table 7 Gender multi-group analysis

Paths	β male	β female	$t_{s\ pooled}$	p	Supported?
Openness to change a ethical behavior	0.025	−0.153	1.412	0.079	No
Self-Enhancement → ethical behavior	0.152	0.079	0.58	0.281	No
Conservation → ethical behavior	−0.247	−0.336	0.742	0.229	No
Self-Transcendence → ethical behavior	−0.4	−0.192	1.728	0.042	Yes
Ethical training → ethical behavior	−0.157	−0.149	0.065	0.474	No
Religiosity → ethical behavior	0.026	−0.022	0.379	0.352	No

Table 8 Religiosity multi-group analysis

Paths	β religious	β non-religious	$t_{s\ pooled}$	p	Supported?
Openness to change → ethical behavior	0.039	0.059	0.145	0.442	No
Self-enhancement → ethical behavior	0.003	0.204	1.477	0.07	No
Conservation → ethical behavior	−0.177	−0.28	0.786	0.216	No
Self-transcendence → ethical behavior	−0.41	0.168	4.487	0.001	Yes
Ethical training → ethical Behavior	−0.039	−0.316	2.058	0.02	Yes
Gender → ethical behavior	−0.135	−0.137	0.014	0.494	No

they seem likely to be (based on their reported intended behavior). This is consistent, at least in part, to previous research that found Conservation and Self-Transcendence to be positively associated with ethical behavior (Feldman et al. 2015). Conservation is associated with self-discipline, self-control and a desire to subordinate one's desires in order to conform to societal norms, and thus may inhibit unethical behavior that way (Feldman et al. 2015). Similarly, Self-Transcendence is about empathy, justice, fairness and the interests of others and thus discourages unethicality that can harm others (Feldman et al. 2015).

In contrast, Self-Enhancement is about power-dominance and pursuit of one's own interests and is achievement-driven (Schwartz et al. 2012), so it is possible for such individuals who possess this value to engage in unethical behaviors in order to achieve these selfish goals. This is reflected in the results that show a significant positive path for Self-Enhancement → Ethical Behavior. The path coefficient between Openness to Change and Ethical Behavior is not significant, implying that this particular personal value does not influence ethical behavior in any specific direction. Previous studies such as Feldman et al. (2015) have found mixed results on the effect of this value depending on the ethical behavior in question, and concede that Openness to Change has the least predictability in its relationship to ethical behavior. This is because the value is related to being free–spirited, which may encourage unethical behavior when individuals do not agree with specific rules, otherwise they would normally have no reason to act unethically. In practice, these results may be helpful in assigning official duties or roles where management may explore further the individual personal values of employees to guide in their decision making. If ethics is crucial to a particular duty or office, management could look for individuals with personal value of Self-Transcendence or Conservation instead of individuals with Self-Enhancement. In a competitive environment which is achievement-driven and perhaps forceful, individuals with Self-Enhancement would excel better than individuals with Self-Transcendence or Conversation values. This would be consistent with the now common practice of present or prospective employers using various personality tests to assist in personnel recruitment.

Gender is confirmed in this study as a significant factor that can influence ethical behavior. This result suggests that females are less likely than males to engage in unethical behavior. This conclusion is consistent with similar prior studies' findings (Ameen et al. 1996; Devonish et al. 2009; Alleyne et al. 2013). The reinforcement of previous results using different subjects and in different contexts shows the robustness of the assertion of gender differences in ethical behavior.

When male and female participants are compared using multi-group analysis, we find that the only personal value where the genders significantly differ is Self-Transcendence. While possessing high levels of the personal value Self-Transcendence is likely to be associated with ethical behavior in both genders, the effect is significantly stronger in male participants. This suggests that whereas when considering all factors in the model, women are generally more likely to behave in an ethically acceptable way, when considering the specific personal value of Self-Transcendence, men will behave more ethically than women assuming the same level of that particular personal value.

Our study does not find that religiosity directly influences ethical behavior and this is consistent with some previous research that finds that religious and non-religious individuals are equally likely to engage in unethical behaviors (Kidwell et al. 1987; Oumlil and Balloun 2009). Other research suggests that differences between the two groups are context dependent and have therefore been attributed in part to the limitations of method of study and the type of ethical behavior in question (Parboteeah et al. 2008). For instance, religiosity has been shown to have a significant effect on behavior such as use of illicit substances which is deemed to be more egregious unethical behavior (Khavari and Harmon 1982) but no significant effect on behavior such as cheating and dishonesty (Hood et al. 1996), which is deemed to be less egregious unethical behavior). In the current study, the actual unethical behavior was not specified so it is conceivable that participants did not deem it egregious, hence their religious sensitivity was not fully involved. This finding clearly indicate further exploration.

However, the multi-group analysis findings indicate that with Self-Transcendence, there exists a significant difference between religious and non-religious groups. For the same

level of the personal value Self-Transcendence, religious individuals report being less likely to engage in unethical behavior than non-religious individuals, as indicated by negative coefficients in Table 8. This is interesting to note considering that religiosity does not show a significant effect on ethical behavior in the general research model. This highlights the significance of the different personal values, whether individually or as they interact with other factors (like religion in this case). Religious individuals who also have higher levels of Self-Transcendence are less likely to engage in unethical behavior compared to those who are religious but less self-transcendent, or who are self-transcendent but not religious. This finding suggests that religiosity is only effective in encouraging ethical behavior when combined with Self-Transcendence.

The results also suggest that ethics training may make a difference in the ethical behavior of participants, with those who report having taken more classes with an ethical component being less likely to engage in unethical behavior. This result emphasizes the importance of accounting education curriculum designers and professional seminar developers continuing to consciously integrate ethics content into their programs and curricula. The results however show no difference in the manner in which training influences behavior between the genders. This result is inconsistent with Luthar and Karri (2005) who finds that exposure to ethics education actually allows males students to catch up with females in their ethical sensitivities. The Luthar and Karri (2005) study however tests student ability to identify ideal linkage between organizational ethical behavior and business outcomes, and not likely ethical behavior as in this study.

Ethics training has the desired, positive effect on both religious and non-religious participants in that both groups are less likely to engage in unethical behavior when ethics training is provided. However, the multi-group analysis indicates that there is a significant difference in how training impacts religious and non-religious participants. Non-religious participants appear to benefit significantly more from ethical training than do religious participants. This suggests that training may make up for other factors possibly associated with religiosity that encourage ethical behavior.

Conclusion

This study investigates the factors that influence ethical behavior of accounting students using Schwartz's Personal Value Theory. Ethical behavior is essential in accountants, so any research on the factors that influence such behavior is important to understanding how it can be enhanced in the accounting profession. This study reveals that participants who possess higher levels of certain personal values are less likely to act unethically than others. The significant factors that influence ethical behavior of accounting students are identified to include Self-Enhancement, Conservation, Self-Transcendence, Ethical Training and Gender.

Managerial and Research Contributions

This study has contributed to theory and research methodology by proposing and using the well-grounded Schwartz's Value Theory and accompanying measurement constructs to enhance the understanding of the effect of personal values, gender, religiosity and ethics training on ethical behavior. The study, while increasing our understanding of what measures could be effective in encouraging ethical behavior among professional accountants, is the first attempt to apply Schwartz's recently redefined values to the study of ethical behavior. The study demonstrates a unique application of one of the latest and most comprehensive approaches to personal value theory. This endeavor provides researchers in the field, a new, theory-based research tool for future studies while demonstrating a novel research approach which combines ethics training with gender and religiosity factors in one study. Another major contribution of the study is the combination of the ethical behavior scale proposed by Akaah and Lund (1994) and Schwartz's personal value scale (2017) in one study (this is the first time it has been done), which we believe can be used by researchers on several research issues in the future.

The findings of the current study on how religiosity influences ethical behavior emphasize the importance of more intricate analyses of the issue as they suggest that the influence of religiosity is only significant when combined with personal value of Self-Transcendence. This contributes to literature by going some way in explaining why there have been mixed results of previous studies on religiosity. The takeaway from present study is for future researchers to perform multi-level analysis on the religiosity construct for clearer conclusions.

In practice, the designers of accounting curricula can borrow from the findings of this study to sufficiently account for ethical components in the training of accounting professionals. The results make a compelling case for including an ethics component in academic curricula and workshops and seminars for professional accountants since ethical education is a life-time process for professionals. The positive effect of ethics training is seen despite the general lack of consensus on what should be the best approach. This only emphasizes the need for more research in that area as more

skillful approach to training could potentially yield even better results. Staffing policy makers can also benefit from the study findings by seriously considering the influence of personal values on ethical behavior before appointing staff to ethically sensitive positions in the accounting function of their firm. Management should exercise caution when assigning roles that call for ethical decision-making to those individuals who score high on Self-Enhancement since the results seem to suggest that this personal value is positively associated with unethical behavior. The four HOVs used in this study are not equal in terms of the strength of their influence. Conservation is the most influential value followed by Self-Transcendence and Self-Enhancement. Openness to Change is of little or no significant influence.

Limitations and Further Study

One limitation of this study, although not uncommon, is that the subject pool consists of only students. Given that current university students are the future business leaders, we believe there is value in the study and it would certainly be useful if future studies could include both students and professionals and the two groups could be compared in terms of their observed ethical views and behavior. Previous studies such as Sheehan and Schmidt (2015) and Christensen et al. (2016) all used student participants and still reached useful conclusions. Another limitation of this study, which is common to almost all survey-based studies, is possible self-response bias which may be reflected in participants not being honest, but merely reporting what they know to be ethically accepted behavior instead of what would likely be their own actual behavior. Related to this is the fact that such a survey measures participants' opinions, which even if they were completely accurate at that time, may not translate into actual behavior were those participants to find themselves facing those ethical issues because of many other situational factors in real life matters. Further research can mitigate this weakness by directly observing participants' behavior instead of simply depending on participant's response. Finally, this study is also subject to limitations related to measurement of two of the independent variables, religiosity and ethics training. Religiosity was examined as a binary measure (religious or non-religious). While this clearly separates the religious from the non-religious participants, a more nuanced measure that captures the degree of religiosity could provide a clearer picture of the influence of religion on ethical behavior. The measurement of ethics training simply by number of classes taken by the participants is also crude and could be improved in further research, especially by examining the nature of training provided to accountants. This would go some way in addressing concerns over appropriate methods of teaching ethics as those raised in studies like Baetz and Sharp (2004) and Waples et al (2009). Further research could examine whether specific types of training have incremental value on different groups considering the differences found in this study. Being a preliminary study and given the limitations, we caution the readers to interpret the findings with care until additional studies are done.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval The questionnaire and methodology for this study was approved by the Institutional Review Board of the University of Texas at El Paso (# 970628-1).

Appendix 1

See Table 9.

Table 9 How HOVs relate to LOVs

HOVs	LOVs
Openness to Change	Self-direction thought
	Self-direction action
	Stimulation
	Hedonism
Self-Enhancement	Achievement
	Power dominance
	Power resources
Conservation	Security personal
	Security societal
	Tradition
	Conformity-rules
	Conformity-interpersonal
Self-Transcendence	Universalism-nature
	Universalism-concern
	Universalism-tolerance
	Benevolence-care
	Benevolence-dependability

Appendix 2

See Table 10.

Table 10 Ethical behavior survey items

Ethical value	Question
Personal use	Using company services for personal use
	Doing personal business on company time
	Pilfering company materials and supplies
	Taking extra personal time (lunch hour, breaks, early departure)
Passing blame	Concealing one's errors
	Passing blame for errors to an innocent co-worker
	Claiming credit for someone else's work
Bribery	Giving gifts/favors in exchange for preferential treatment
	Accepting gifts/favors in exchange for preferential treatment
Falsification	Falsifying time/quality/quantity reports
	Calling in sick to take a day off
	Authorizing a subordinate to violate company rules
Padding expenses	Padding an expense account up to 10%
	Padding an expense account more than 10%
Deception	Taking longer than necessary to do a job
	Divulging confidential information
	Not reporting others' violations of company policies and rules

Appendix 3: Formula for Multi-group Analysis

$$S_{12} = \left(\sqrt{\frac{(N_1 - 1)^2}{N_1 + N_2 - 2} \cdot S_1^2 + \frac{(N_2 - 1)^2}{N_1 + N_2 - 2} \cdot S_2^2} \right) \cdot \left(\sqrt{\frac{1}{N_1} + \frac{1}{N_2}} \right)$$

$$t_{\text{s pooled}} = \frac{\left(\text{PC}_1 - \text{PC}_2\right)}{\left[S_{\text{pooled}} \times \left((1/N_1) + (1/N_2)\right)\right]}$$

where S_{12} is the pooled estimator for the variance, t_{spooled} is the t-statistic with $(N_1 + N_2 - 2)$ degrees of freedom, N_i is the sample size of dataset for group$_i$, S_i is the standard error of path in structural model of group$_i$, PC$_i$ is the path coefficient in structural model of group$_i$.

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