



Determinants of the Attitudes of Portuguese Accounting Students and Professionals Towards Earnings Management

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Abstract

We revisit religiosity, gender, age, ethics education and experience as drivers of ethicality, while expanding prior research from Anglo-Saxon and Asiatic/Euro-Asiatic countries to a Latin European country, Portugal. We apply the Merchant (1989) instrument of attitudes towards earnings management, in a sample of Portuguese accounting students and alumni. We find no significant evidence of a positive association between religiosity and accountants' judgments on earnings management. However, gender, age, education (and accounting ethics education) and experience are significant predictors of accountants' judgments. The results are unchanged when we control for the intent (selfish benefit) of earnings management. Females, older individuals and alumni judge accounting earnings management more harshly than males, younger individuals, and students (who have not yet completed an accounting ethics course). A higher level of accounting work experience induces accountants to judge accounting earnings management as a less ethically questionable practice. This finding is theoretically relevant because it underscores the necessity of taking people's constraints in the workplace into consideration when studying ethical behavior in business contexts. The results are also practically relevant, as they highlight the importance of a systematic ethics education throughout the accountant's life.

Keywords Business ethics · Accounting ethics · Earnings management · Religiosity · Portugal

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Introduction

Ethical behavior and its boundaries are constantly being challenged in the contemporary business community. While accounting is rooted in moral conduct (Waymire 2014), the wave of international financial and accounting scandals has raised deep questions on moral values fragilities of business managers and accountants. These scandals stressed that regulations may not be sufficient, and that corporate governance needs to be guided by individual ethics and moral compasses (Pope 2005; Nga and Lum 2013; Triki et al. 2017). Portugal is not excluded from these scandals. For example, the Portuguese banking sector in the last decade suffered four large financial/accounting scandals.¹ Several other recent scandals, involving private companies, banks, lawyers, and politicians also shook the country.² In 2019, Portugal ranked 30th in the Corruption Perception Index among 180 countries, and 15th among the 31 countries of Western Europe.³

Given the ethics-unfriendly environment of Portugal, with many recent fraud and corruption scandals, the aim of this paper is to examine the determinants of ethical attitudes towards earnings management that are held by accounting students and accounting alumni from a Portuguese university. Earnings management has been generally accepted in the literature as involving managerial choices and accounting judgments that demonstrate intent to deceive financial statements users (Healy and Wahlen 1999).

The concern about ethics in the business and accounting profession has yielded a prolific stream of research that has largely focused on individual factors that influence individuals' decisions when faced with ethically questionable situations. Religiosity has been considered a primary driver of individual's ethical behavior. Religiosity of people corresponds to their practices, beliefs and ethical views (Dobbelaere 2014). Since it is concerned with evaluation and justification of actions, positive associations between religiosity and individual's behavior are expected (Kara et al. 2016). Yet, while prior studies generally report a positive relationship between religiosity and ethical judgments by accountants, business managers and students (e.g., Saat et al. 2009; Emerson and McKinney 2010; Ananthram and Chan 2016), other studies have found no effect or only a marginal effect (e.g., Kurpis et al. 2008; Kara et al. 2016). Past research on religiosity and business ethics has been conducted mainly in the U.S. (e.g., Kurpis et al. 2008; Emerson and McKinney 2010; Elias 2011) and Asian/Euro-Asian countries (e.g., Rashid and Ibrahim 2007; Kara et al. 2016; Ananthram and Chan 2016). The exceptions are Egypt and Finland (Ahmed et al. 2003) and Barbados (Devonish et al. 2009). The U.S. is overwhelmingly Christian, primarily Protestant, but has a relatively heterogeneous Christian population (Hilary and Hui 2009); in Asiatic/Euro-Asiatic countries, the most influential religions are Buddhism and Taoism (China, Hong Kong, and Thailand), Islam (Malaysia, Turkey and Egypt), Hinduism (India) and Russian Orthodox Church; in Finland, the vast majority of people are members of the (Christian) Evangelical Lutheran Church. In Barbados the Anglican Church is the most important. Most of the South Koreans have no

¹ The four major banking scandals in Portugal involved the Banco Comercial Português (BCP), Banco Português de Negócios (BPN), Banco Privado Português (BPP) and Banco Espírito Santo (BES) (<https://expresso.pt/economia/2015-12-30-Oito-anos%2D%2Dde-escandalos-financeiros>).

² See <https://www.publico.pt/2019/01/09/politica/noticia/-30-anos-acusacoes-corrupcao-politica-1857182> for details about Portuguese scandals, such as, the "Hurricane Operation", the "Freeport Case", The "Marquis Operation" and the "Visa Gold Process".

³ The Corruption Perceptions Index is a Transparency International's flagship research product (<https://www.transparency.org/cpi2019>).

formal affiliation with a religion.⁴ This leaves for scarce evidence on religiosity and business and accounting ethics from Western European (Christian) Catholic and Protestant countries. In particular, nothing has been explored in Portugal.

Linking other individual factors and accounting/business ethics, a fruitful stream of research has explored the role of gender, age, education, experience, and expertise on individual's ethical judgments (Baïada-Hirèche and Garmilis 2016). However, prior studies have provided contradictory (and no significant) evidence and are largely centered in Anglo-Saxon contexts (e.g., O'Leary 2009; Fiolleau and Kaplan 2017; Shawwer and Miller 2017). Exceptions are Parboteeah et al. (2008) who conducted a cross-country study; Devonish et al. (2009) who analysed data from Barbados; Kum-Lung and Teck-Chai (2010) who explored the Malaysia context; Shafer and Wang (2011) who used Chinese data; Torno-Carbó et al. (2016) who examined the Spanish context, and Baïada-Hirèche and Garmilis (2016) who used data from France and U.S.. Thus, and similar to religiosity, little attention has been paid to empirical analysis of other individual factors as determinants of accountants' ethical decision-making process in Western Europe. No studies have been conducted in Portugal.

Given the previous discussion, our aim is to analyse the role of religiosity and other individual factors [gender, age, education (and accounting ethics education) and experience] as determinants of ethical judgments of Portuguese accounting students and alumni. To our knowledge, this is the first study exploring this topic in Portugal, a country with the oldest Roman Catholic traditions in Europe. Portugal played a very relevant role in the worldwide diffusion of the Catholic religion (Souza 2000-2001). When it was part of the Roman Empire, Portugal adopted by the first time the Catholic religion, and since then, the Church and the State have symbolized a mutual-cooperation until the mid-seventies of the twentieth century (Mattoso 2000-2001). In the Portuguese Constitution of 1976, Church and State were formally divided, and, even keeping a special place in Portugal, the Church no longer has its former social influence (Solsten 1993). In the current democratic regime, religiosity is revealed by individualization in a plural environment (Coutinho, 2019).

In terms of ethics education in accounting undergraduate degrees, ethics curriculum is largely uniform throughout Portugal. The ethics course is commonly based on the Statutes and the Code of Conduct of the Portuguese Order of Chartered Accountants, but also focus ethical theories and concepts of deontology and ethics.⁵

To achieve the main objective, survey data were collected from undergraduate accounting students and accounting alumni from a University in the north of Portugal. Perceptions of earnings management are measured through the Merchant (1989) instrument. Religiosity is defined based on three core elements: the cognitive, the affective, and the behavioral dimensions (Cornwall et al. 1986; Parboteeah et al. 2008). While religiosity is not a significant predictor of ethical judgments of Portuguese accounting students and alumni, gender, education (and ethics education) and experience are found to be significantly related to perceptions of earnings management. The influence of individual factors on students' and alumni's ethical perceptions is not affected by the intent (selfish benefit) of earnings management. Our findings

⁴ https://en.wikipedia.org/wiki/Religions_by_country

⁵ In 2020, in Portugal, there are seven accounting undergraduate degrees and 11 undergraduate degrees related (e.g., accounting and auditing, accounting and taxation, accounting and finance). Fifteen are offered Polytechnic Institutions. The ethics course is, generally, a course mandatory taught in the 5th or 6th semester of the degree, requiring the student to perform tests/written assignments. Students are approved if their average score is ≥ 10 points (out of 20).

further stress a negative influence of more than five years' working experience on accountant's ethical judgments.

Our study differs from previous studies in several ways. First, we use a sample of Portuguese accounting students and alumni. Thereby, we add evidence from another empirical setting. Second, we provide a comparison of the ethical acceptability of earnings management practice of individuals from Portugal, China, U.S. and Canada, something that is scarce in literature. Third, our findings highlight the necessity of considering people's constraints in the workplace when studying morality and ethical behavior in accounting and business contexts.

The next section reviews the relevant literature and establishes the research hypotheses. This is followed by the methodology section, the presentation of data and analyses and discussion of results, and then we present the conclusion.

Literature Review and Hypotheses Development

Theories of Business Ethics

Due to businesses' specialized nature, business professionals are likely to face moral dilemmas that are unique to their profession. Therefore, there has been a growing interest in understanding the actual mechanisms of human decision-making in business settings, which led to the development of specialized theories of business ethics (Kurpis et al. 2008).

The Contingency Framework for Ethical Decision-Making by Ferrell and Gresham (1985) and the Theory of Ethics advanced by Hunt and Vitell (1986, 1993) outline groups of factors capable of affecting ethical cognition, intention and behavior (Kurpis et al. 2008; Ferrell et al. 2013).

The Ferrell and Gresham (1985) contingency model for ethical decision making takes a positivist approach towards ethical decision making. They propose a framework that is multidimensional, process oriented, and contingent in nature, so as to help understand how ethical decision making occurs. According to the model, the ethical decision-making process begins by recognizing that an issue has ethical dimensions, which will suffer influences from external factors, including the social and cultural environment. The framework then introduces three dimensions that influence the ethical decision-making process: 1) individual factors; 2) significant others, and 3) opportunity. The individual factors consist of personal background and socialization characteristics, such as educational and business experiences (knowledge), as well as values, attitudes, and intentions. The "significant others" dimension includes organizational members such as co-workers, supervisors, and executives. Ferrell and Gresham (1985) claim that the closer an individual works with a colleague, the more influence that colleague will have over the individual's behavior. Additionally, organizational pressures can sometimes create situations in which an employee might make a decision that conflicts with his or her individual values. The third dimension describes the opportunity that an individual has to take a particular action. Providing guidance for employees in the form of codes of ethical conduct can encourage or restrict certain behaviors (Ferrell et al. 2013).

The Hunt and Vitell (1986, 1993) theory of ethics (H-V model) draws upon the deontological and teleological ethical traditions in moral philosophy, and provides a general theoretical framework for ethical decision-making for business practitioners. Hunt and Vitell (1986, 1993) theorize that an individual's ethical judgments are a function of both the individual's deontological and teleological evaluations. Several categories of factors contribute to those evaluations: cultural environment (religion, legal and political system); professional, industry,

organizational environments (with informal norms, formal codes and code enforcement), and personal characteristics (religion, value and belief systems, strength of moral character, cognitive moral development, and ethical sensitivity). The core of the H-V model posits that an individual's ethical judgments (e.g., the belief that a particular alternative is the most ethical alternative) are a function of the individual's deontological evaluation (i.e., applying norms of behavior to each of the alternatives) and the individual's teleological evaluation (i.e., an evaluation of the sum total of goodness versus badness is likely to be provided by each alternative for all relevant stakeholders) (Hunt and Vitell 2006).

Theories of Ferrell and Gresham (1985) and Hunt and Vitell (1986, 1993) provide the theoretical foundation for the development of the hypotheses of our study.

Religiosity and Ethical Attitudes

Traditionally, religiosity has been perceived to shape individuals' values and social attitudes (Saroglou 2015). Feather (2005), Roccas (2005) and Saroglou and Muñoz-García (2008) argue that if values are desirable goals that people use as guiding principles in their life, a religious person can differ from a nonreligious person in the intensity and hierarchy with which s/he refers to universal values.

Religiosity is one of the strongest determinants of ethics and values. It provides people with specific ethical guidelines, emphasizes the general importance of ethical behavior, and establishes 'common knowledge' for understanding whether experiences are ethical (Weaver and Agle 2002). Thus, religiosity influences the person's ethical decision-making process (Barnett et al. 1996; Weaver and Agle 2002; Singhapakdi et al. 2013) and it is an important source of morality (Vitell 2009; Heiphetz 2018). Under Georg Simmel's view (a German Sociologist - 1858-1918), religiosity involves a specific but comparable way of being, of relating to the world (to reality) in general and to the social world (to others) in particular (Laermans 2006). Religiosity of people corresponds to their practices, beliefs and ethical views (Dobbelaere 2014), and may be defined based on three core elements: (1) the cognitive, which relates religious beliefs or religious knowledge, (2) the affective, which deals with individuals' emotional feelings about religion, and (3) the behavioral dimensions, which emphasizes church attendance, personal prayer or regular religious donations (Cornwall et al. 1986; Parboteeah et al. 2008).

Psychology and management literature has recognized religiosity as a part of economic thought, and as a salient component of an individual's self-identity that will be influential in social situations and in business ethics decision-making (McGuire et al. 2012; Vitell 2009; Singhapakdi et al. 2013). Scholars have noted the importance of rethinking how we construe business, and of finding meaningful ways to connect the wisdom of the humanities (ethics, religiosity and spirituality) with business activity (Wicks, 2014).

The Hunt and Vitell (1986, 1993) theory of ethics identifies several personal characteristics that influence specific aspects of the ethical decision-making process, while it mentions the individual's personal religiosity as one of the most important characteristics (Hunt and Vitell 2006). Compared with nonreligious people, we can expect that (1) highly religious people would have more clearly defined deontological norms and that (2) such norms would play a stronger role in ethical judgments. The Hunt and Vitell (1986, 1993) model suggests five key points where religiosity can impact ethical decision-making, namely in determining: 1) whether or not there is an ethical issue that one must resolve; 2) whether or not there is an impact on our moral philosophy and/or norms; 3) whether or not there is an impact on our

ethical judgments regarding a particular situation and various courses of action; 4) our intentions in a particular situation involving moral choices, and finally, 5) actual behavior in such situations.

Relying on Hunt and Vitell's (1986, 1993) theory, we expect positive and strong associations between an individual's religiosity and his/her business ethical judgments. Empirical evidence reveals this positive relationship or not significant results.

In the U.S., Longenecker et al. (2004) and Emerson and McKinney (2010) found that individuals who self-reported higher religiosity were significantly less accepting of ethically questionable behavior. Kidwell et al. (1987) found no relationship between religiosity and ethical judgments of business managers. Singhapakdi et al. (2000) analysed the ethical decision-making of 800 Thai managers. They found religiosity was a significant predictor of behavioral intentions in two of four situations. Using a sample of 40 senior executives from Indian multinational enterprises, Ananthram and Chan (2016) obtained further evidence that individual religious virtues positively contributed to ethical behavior.

Concerning accounting and business students, in the U.S., Keller et al. (2007) found differences in ethical attitudes based on their individual religiosity, but Agle and Van Buren (1999) found only a small positive relation between religious beliefs of students and corporate social responsibility. Furthermore, Conroy and Emerson (2004) revealed that church attendance is associated with lower individual acceptance of several ethically-charged scenarios by students; Albaum and Peterson (2006) found that business students with higher religious activity are more ethically oriented and less willing to accept ethically questionable behaviors, and Kurpis et al. (2008) show that religiosity is positively related to commitment to moral self-improvement of business students, but not to the perceived importance of ethics in a business context. Elias (2011) further indicated that auditing students with higher religiosity perceive many actions as less ethical (in audit processes), and are less likely to engage in such behaviors.

Siu et al. (2000) found that Hong Kong business undergraduate students with high religiosity are more oriented towards ethics and ethical issues. Similar evidence was obtained by Devonish et al. (2009) for students from Barbados. For Malaysian accounting students, Saat et al. (2009) concluded that religious affiliation, religious education background, type of institution and religiosity positively affect students' ethical sensitivity. Also in Malaysia, Kum-Lung and Teck-Chai (2010) conducted a study about working adults and undergraduate business students in Kuala Lumpur. They reported that (intrapersonal) religiosity is a significant determinant of attitude towards business ethics. Nevertheless, in Turkey, Kara et al. (2016) found no significant effect of business student's religiosity on ethical sensitivity.

In terms of the cross-cultural arena, only two studies were found. Ahmed et al. (2003) undertook a six-country study examining the ethics of business students in the U.S., China, Republic of Korea, Finland, Russia, and Egypt. They found that religiosity played some role in ethical decision-making, especially in Egypt, but played only a very weak role in China and Finland and a middle role in Russia, the U.S., and the Republic of Korea. Using a sample of Malay, Chinese, and Indian business students, Rashid and Ibrahim (2007) found that culture and religiosity affect on perceptions of business ethics.

The link between an individual's religiosity and ethical judgments in business contexts is well established. Similarly, the tie between accounting and religiosity is also deeply rooted in the literature. Lautour (2017) explores connections between accounting and religion, and expresses the view that, in order to approach accounting's very essence and ontology, it is necessary to depart from mere economic transactions and rather, focus on the meaning of

giving an account. Bearing in mind the basic conceptual link between religiosity and ethical behavior in business (and accounting) contexts, we predict that:

H1. Accounting students and accounting alumni with higher levels of religiosity are more likely to evaluate earnings management as unethical.

Other Individual Factors and Ethical Attitudes

In addition to an individual's religiosity, other individual factors may influence ethical behavior and perceptions (Baïada-Hirèche and Garmilis 2016). As mentioned earlier, the Ferrell and Gresham (1985) model presents three dimensions that influence the ethical decision-making process. Therefore, relying on Ferrell and Gresham's (1985) theory and in prior studies, we explore the gender, age, education, and working experience as individual determinants of accountants' decision-making process.

Past research shows that ethical perceptions are affected by gender (e.g., Keller et al. 2007; Parboteeah et al. 2008; Shafer and Wang 2011).⁶ Yet, while several studies conclude that, compared to males, females exhibit stronger ethical attitudes (e.g., Albaum and Peterson 2006; Mirshekary and Lawrence 2009; Bernardi et al. 2011; Torno-Carbó et al. 2016), other studies found no significant differences in the way that male and female accountants responded to ethical dilemmas (e.g., Geiger and O'Connell 1998; Rogers and Smith 2001; Kum-Lung and Teck-Chai 2010; Alleyne et al. 2014). Age is another important predictor of individual's ethical attitude. In general, prior studies have reported that older individuals exhibit more ethical inclinations (e.g., Mirshekary et al. 2010; Torno-Carbó et al. 2016). These findings support the stages of moral development model (Conroy and Emerson 2004).

Education and ethics education are also suggested as determinants of differences in individual ethical standards (Bampton and Cowton 2013). Several studies revealed that individuals with a higher education level tend to be more ethical, since formal education endows them with more resources to make ethical judgments (e.g., Parboteeah et al. 2008; Kum-Lung and Teck-Chai 2010). Prior research also emphasizes the importance of ethics in accounting education (e.g., Devonish et al. 2009; May et al. 2009; O'Leary 2009; Waymire 2014; Torno-Carbó et al. 2016; Shawwer and Miller 2017).⁷ Yet, some studies found no discernible difference in levels of moral development of accountants after ethical intervention (e.g., Ponemon 1993; Lampe 1996; McCarthy 1997; Bernardi et al. 2011), suggesting that moral reasoning may be defined by other factors rather than ethical intervention (Bampton and Cowton 2013). Studies have further suggested that ethical reasoning capacity differs significantly by work experience and hierarchical position within an accounting firm (e.g., Ponemon, 1990, 1992; Deshpande 1997; Keller et al. 2007; Fiolleau and Kaplan 2017; Klaczynski 2017). According to Bampton and Cowton (2013), these studies are generally cross-sectional rather than longitudinal. Therefore, it can be difficult to identify the reason for a phenomenon. As such, it should not be inferred that individuals necessarily suffer a reduction in moral reasoning abilities as they progress in their career, rather, it is possible that those with higher levels of moral reasoning leave the profession for various reasons. Those findings point some explanations of differences in ethical behavior, including the impact of conflicting social influences at

⁶ Some authors reject the idea of two spheres of masculinity and femininity or male and female. There is a growing awareness that in different cultural contexts gender can be viewed as one or as many, rather than a binary variable (Woodhead 2013).

⁷ In Portugal, completed study of accounting ethics is a precondition of accountants' professional qualification.

different hierarchical levels, mediated by different screening and self-selection processes within the firm (Bampton and Cowton 2013).

In general, prior literature, lead us to conclude that gender, age, education (and ethics education), and working experience are determinants of accountants' ethical behavior, but does not endow us with strong expectations regarding the signal of their effects. Thus, we posit that:

H2. Gender, age, education (and ethics education), and working experience are significant predictors of the ethical perceptions of accounting students and alumni towards earnings management.

Social Desirability Response Bias and Ethics Research

Social desirability response bias corresponds to the "tendency of individuals to present themselves favorably with respect to current social norm and standards" (Zerbe and Paulhus, 1987, p. 250).

While the premise of honest reporting is essential to ethics research, people tend to exaggerate willingness to behave ethically in order to produce a more altruistic and society-oriented image (Peterson 2004). Thus, the presence of a social desirability response bias can pose a major threat to the validity of findings in ethics studies (Bernardi and Guptill 2008; Yang et al. 2017). Even so, little effort has been directed towards determining the impact of a response bias in ethics research. Only few empirical research articles since 1960 have attempted to assess the impact of a social desirability response bias (Randall and Fernandes 2013).

According to Yang et al. (2017), three approaches have controlled for the social desirability response bias in the existing business ethics research: self-administered questionnaire, indirect questioning, and direct measurement. In self-administered questionnaires participants are asked to complete questionnaires anonymously based on the premise that there is less social desirability response bias in a private context compared with a public context. However, Fernandes and Randall (1992) showed this procedure does not control for this bias. In the indirect questioning approach, participants are asked in the third person rather than in the first person to assess the probability that their colleagues or peers would undertake a certain action or decision. By asking people to report on the nature of typical others rather than of themselves, this approach can reduce the social desirability response bias without introducing any systematic error (Yang et al. 2017). Under the direct measurement approach, specific scales are used to measure the social desirability response bias directly. By using this method, researchers can treat social desirability as a covariate in the statistical process to control for social desirability response bias error (Yang et al. 2017).⁸ Yet, as described by Yang et al. (2017), compared with indirect questioning, the direct measurement presents some vulnerabilities. First, while the concept of social desirability comprised two dimensions (Zerbe and Paulhus, 1987), most scholars only measure impression management. Second, the construct validity of social desirability scales is poor. The reliability of scales is relatively low. Third, the social desirability response bias is based on personality characteristics and situation characteristics. However, social desirability scales only reflect the personality characteristics in general, and tend to underestimate the social desirability response bias (Jong et al., 2010; Yang et al. 2017). To control for social desirability response bias, the essential idea is to provide privacy protection to survey participants at the level of the individual items in multi-item measures (Jong et al., 2010).

⁸ The Marlowe-Crowne Social Desirability scale and the Balanced Inventory of Desirable Responding scale are used under the direct measurement approach (Yang et al. 2017).

Research Method

Participants and Procedure

A questionnaire was distributed to a sample of undergraduate accounting students and alumni (graduated in accounting), from a university in the north of Portugal. Access to undergraduate accounting students was obtained through personal contacts with teachers. A total of 115 questionnaires were delivered directly to the 1st, 2nd, and 3rd year students of the undergraduate accounting degree. They completed the questionnaire confidentially in class. 99 usable responses were received (representing 58% of the undergraduate accounting students of the university in 2017/2018 school year). To obtain answers from accounting alumni, the questionnaire was made available online through *Survio* platform,⁹ where they could complete the answer confidentially. We collected 85 responses, and all were usable responses (representing 68% of the university graduates in accounting between 2013 and 2017).¹⁰ The final sample is then composed of 184 individuals (99 undergraduate accounting students of the 1st, 2nd, and 3rd year and 85 accounting alumni).

All the 99 students of the 1st, 2nd, and 3rd year completed the questionnaire before attending the ethics course, which is mandatory, and taught in the 6th semester of the undergraduate accounting degree. The collection of 2nd and 3rd year students' responses was made during the third and fifth semesters of the degree, respectively (between the end of November 2017 and the end of February 2018). Concerning the 1st year students, the questionnaire was delivered in early March 2018, in the beginning of the second semester, to ensure that these students had already attended accounting courses, which had provided them with sufficient knowledge to understand the earnings management scenarios. The accounting alumni's answers were obtained between February and May 2018.

The questionnaire is divided into two parts (see Appendix 1). The first part contains demographic and religiosity questions. The second part includes 13 earnings management scenarios (potential ethical dilemmas) from Merchant (1989). As a first attempt to control for social desirability response bias, the questionnaire affords respondents anonymity. This allows them to provide more truthful answers to potentially sensitive survey items. Furthermore, the introductory note of the second part of the questionnaire (earnings management scenarios) is worded in such a way that attitudes are inferred based upon a respondent's judgments of the behavior of others (Bernardi and Guptill 2008). For accounting alumni, we also used a self-administered method of data collection to make the questionnaire available. According to Callegero (2008), one of the most consistent findings in the literature is that self-administered methods of data collection, such as mail surveys and internet surveys, decrease the prevalence of social desirability bias.

Measurement of Variables

A summary table of all variables is provided in Appendix 2.

Earnings Management Instrument

Undergraduate accounting students and accounting alumni completed the earnings management instrument (Merchant 1989) that was distributed as part of the total questionnaire.

⁹ The questionnaire link was: <https://www.survio.com/survey/d/Y5U6Y3H2V7U1L9E0R>

¹⁰ School year of 2012/2013 was the first year where the university produced accounting undergraduates.

Earnings management is viewed as a financial reporting phenomenon associated with managers' intention. Depending on its intention, earnings management can perform an opportunist or an informational role. Under the opportunistic view, earnings management comprises managerial choices and accounting decisions that clearly demonstrate intent to deceive financial statements' users; under the informational perspective, managers use managing choices and accounting judgments to make financial reports more informative for stakeholders (Healy and Wahlen 1999; Raman and Shahrur 2008). The opportunistic perspective of earnings management is the most used in accounting research. To Schipper (1989, p. 92), earnings management comprises "(...) a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain (...)". Fischer and Rosenzweig (1995) define these practices as actions that serve to manipulate current reported earnings of an organization, but may be detrimental to the firm's long-term economic success.

The instrument includes 13 scenarios representing earnings management activities – 6 real (operating) manipulations and 7 accounting manipulations.¹¹ Real manipulations are departures from normal operational practices, motivated by managers' desire to mislead stakeholders into believing certain financial reporting goals have been met in the normal course of operations (Roychowdhury 2006). In accounting manipulations, managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the firm's underlying economic performance or to influence contractual outcomes that depend on reported accounting practices (Healy and Wahlen 1999).

Participants assume the role of a supervisor whose subordinate engages in the various earnings manipulation schemes. They are asked to evaluate the subordinate's actions on a five-point scale based on "totally ethical" (1), "ethical" (2), "neutral" (3), "unethical" (4), "totally unethical" (5). Earnings manipulation schemes involved choice and timing of operating events and choice of timing of recognition of specific revenues and expenses. The Merchant (1989) instrument was independently translated from English version to Portuguese, by two scholars fluent in both languages, who then compared and reconciled any differences. The Portuguese version was then reviewed by two professional accountants who are fluent in both languages, and minor adjustments were made.¹²

The Merchant (1989) instrument has been used in behavioral studies of earnings management (e.g., Merchant and Rockness 1994; Fischer and Rosenzweig 1995; Elias 2004; Shafer and Wang 2011; Lan et al. 2015). Our main measure of earnings management is *EM*, and corresponds to the score obtained by each participant in the 13 scenarios. We also use the score of the 6 operating manipulations scenarios to compute *REM* (a measure of perceptions on real earnings management) and the score of the 7 accounting manipulations scenarios to compute *AEM* (a measure of perceptions on accounting earnings management). Higher values of *EM*, *REM*, and *AEM* represent perceptions of earnings management as more unethical practices.

¹¹ Real earnings management are scenarios 1; 2.1; 2.2; 4.1; 4.2, and 4.3; accounting earnings management are scenarios 3; 5.1; 5.2; 6.1; 6.2; 7.1, and 7.2 in the Part II of the Questionnaire (see Appendix 1).

¹² No major cultural adjustments were made to the Merchant (1989) instrument, since the 13 scenarios included represent the Portuguese firms' main motivations to manage earnings, i.e., tax and debt incentives (Moreira 2006; Marques et al. 2011). In particular, incentives related to tax minimization and debt renegotiation can be measured in scenarios 1., 5.1, and 5.2.; incentives related to debt contract or debt covenant violation avoidance can be measured using the remaining scenarios.

Religiosity

Parboteeah et al. (2008) and Vitell (2009) argue that the not significant results of prior studies on religiosity and business ethics are mostly due to studies' methodological issues related to unidimensional conceptualizations of religiosity as predictors of ethics. Following prior literature (Cornwall et al. 1986; Parboteeah et al. 2008), religiosity is defined by (1) its cognitive, (2) its affective, and (3) its behavioral elements. Similar to McGuire et al. (2012) and Kanagaretnam et al. (2015), participants were asked to answer three questions corresponding the three elements of religiosity: (1) Are you affiliated with a religion? (cognitive dimension - religious affiliation; answers: 1 = yes; no = 0); (2) How important is religion in your life? (affective dimension - religion importance; answers fall on a scale from 1 to 4, where 1 = not important at all, and 4 = very important); and (3) How often do you attend religious services? (behavioral dimension - religious attendance; answers fall in a scale from 1 to 10, where 1 = never, and 10 = more than once in a day).

First, we use the three elements (cognitive, affective and behavioral dimensions) as indicators of individual's religiosity. We label the cognitive dimension as *Raff*, the affective as *RImp*, and the behavioral component as *RAtt*. Second, we compute an aggregate measure of religiosity, by using factor analysis (principal-component method with rotation - orthogonal varimax) to combine the three dimensions of religiosity into one. We are conscious of the reliability limitation of the aggregated measure of religiosity, but prior studies, such McGuire et al. (2012), Tang and Tang (2010) and Kanagaretnam et al. (2015) used a similar approach. The factor analysis process revealed one interpretable factor with eigenvalues in excess of one that includes the three components of religiosity. The retained factor accounts for 64% of the total variance, and the pattern matrix offers a picture of the relevance of each component of religiosity in the factor: the cognitive dimension (religious affiliation) has a loading of 0.69, the affective dimension (religion importance) presents a loading of 0.86, and the behavioral dimension (religious attendance) has a loading of 0.83.¹³ We label this variable as *ARel*. It corresponds to the scores of the prediction of the retained factor. Third, we compute an alternative global measure to proxy for religiosity (*GRel*), corresponding to the simple average of the three individual components (i.e., for each individual, we sum the score of the cognitive, affective and behavioral dimensions and we divide the sum by three) (McGuire et al. (2012) used a similar approach). Higher values of *Raff*, *RImp*, *RAtt*, *ARel* and *GRel* imply higher levels of religiosity.

Other Individual Factors

Gender (*G*) is a dummy variable equal to 1 for woman and 0 for man. *AGE* is the age of the individual. The education degree (*EDU*) is a dummy variable assuming value 1 for individuals possessing an undergraduate in accounting (accounting alumni) and 0 for undergraduate students; when *EDU*=1, it also means that the individual completed the accounting ethics course. Experience (*EXP*) is a categorical variable assuming value 0 for individuals without experience in accounting area; 1 for experience up to 1 year; 2 for experience up to 2 years; 3 for experience between 2 to 5 years, and 4 if more than 5 years.¹⁴

¹³ Kaiser-Meyer-Olkin (KMO) test is used to see how suitable our data is for **factor analysis**. The sampling adequacy for the complete model is 0.63, indicating the model is minimally adequate for factor analysis (Hair et al. 2006).

¹⁴ Eight students of our sample work in accounting area while attending the undergraduate degree in accounting.

Results and Discussion

Descriptive Statistics and Correlation Analysis

Table 1 provides summary statistics of variables used in this study. Descriptive statistics for responses to the Merchant (1989) earnings management five-point scale [13 scenarios- scored from “totally ethical” (1) to “totally unethical” (5)], show that Portuguese accounting students and accounting alumni generally perceive earnings management scenarios between a neutral and an unethical action. Real earnings management (*REM*) is perceived as a neutral action and accounting earnings management (*AEM*) as a more unethical practice.¹⁵ In Table 2, we compare our participants’ attitudes towards earnings management with those reported in prior studies, in particular, by Lan et al. (2015), Shafer and Wang (2011) and Merchant and Rockness (1994). According to Shafer and Wang (2011), this is important since only a very limited number of studies have reported descriptive statistics for responses to the Merchant (1989) scale. While we recognize that those studies are not directly comparable to ours, due to the inclusion of different individuals (accounting students, accountants, managers, controllers and internal auditors), interestingly, a clear contrast was found between the studies. The Portuguese, Canadian and U.S. respondents judged accounting manipulations more harshly than the Chinese. Also, the Portuguese respondents judged operating manipulations more harshly than Canadian, Chinese and U.S. respondents. A general pattern of judging accounting manipulations more severely than operating manipulations was found in Portugal, Canada, China and U.S. In Portugal, this tendency is consistent across accounting students and alumni.

Table 1 further shows that 85.3% of the Portuguese accounting students and alumni in our sample state to be religiously affiliated; roughly 91% declare to be Christians and 76% Catholic; they attribute a moderately strong importance to religion, but they attend religious services only few times per year. Dividing the sample in accounting students and accounting alumni (results not reported), 97% of students are religiously affiliated (88% Catholic), against 72% of account alumni (61% Catholic). Students attribute a higher importance to religion (score of 2.8 against 2.6 of alumni) and show a frequency of religious services slightly above alumni (3.8 against 3.6). This denotes the declining tendency of religion practice among Portuguese people that began around 1980 (Teixeira, 2011) and also the age decline of religiosity (Twenge et al. 2015). This evidence also reflects trends in Western countries of a weakening of the church influence on society (Pessi 2013; Dobbelaere 2014). The mean age of respondents in our sample is 25 years old (roughly 20 for students); on average, they have experience in accounting lower than 1 year (data not reported shows that 29 individuals have experience lower than 1 year; 16 individuals have experience up to 2 years; 13 individuals with experience between 2 and 5 years, and 8 with experience higher than 5 years); 65.8% of the respondents are woman, and 46,2% hold an accounting undergraduate degree.

Correlation matrix is reported in Table 3. The significant correlation between the dependent and several independent variables underscores the importance of controlling for these variables in the multivariate analysis. The low correlation coefficients between religiosity and other independent variables suggest that multicollinearity is not a problem.

¹⁵ A *T*-test shows (not reported) the individual mean values of *REM* are significantly lower than individual mean values of *AEM* at 1% level.

Table 1 Descriptive statistics

Variable	N	mean	p50	sd	Max.	Min.
<i>EM</i>	184	42.24	43	5.85	57	24
<i>REM</i>	184	17.64	18	2.76	25	10
<i>AEM</i>	184	24.59	25	4.25	33	7
<i>RAff= 1</i>	157 (85.3%)	–	–	–	–	–
<i>Christian</i>	167 (90.8%)	–	–	–	–	–
<i>Catholic</i>	139 (75.6%)	–	–	–	–	–
<i>Protestant</i>	2 (1.1%)	–	–	–	–	–
<i>Evangelical</i>	2 (1.1%)	–	–	–	–	–
<i>Jewish</i>	1 (0.5%)	–	–	–	–	–
<i>Atheist</i>	12 (6.5%)	–	–	–	–	–
<i>RImp</i>	184	2.71	3	0.77	4	1
<i>RAtt</i>	184	3.71	4	1.82	9	1
<i>ARel</i>	184	0.09	0.15	1	2.17	0.001
<i>GRel</i>	184	2.42	2.33	0.84	4.67	0.67
<i>AGE</i>	184	25	23	7.44	53	18
<i>EXP</i>	184	0.72	0	1.15	4	0
<i>G= 1</i>	121 (65.8%)	–	–	–	–	–
<i>EDU==1</i>	85 (46.2%)	–	–	–	–	–

EM - total score of each individual, for the 13 scenarios of earnings management; *REM* - total score of each individual, for the 6 scenarios of real earnings management; *AEM* - total score of each individual, for the 7 scenarios of accounting earnings management; *RAff* - cognitive dimension of religiosity; dummy variable = 1 if an individual is affiliated with a religion, =0 otherwise; *RImp* - religion importance, the affective dimension of religiosity: = 1 if not important at all, =2 if not important; =3 if important, =4 if very important; *RAtt* - religious attendance, the behavioral dimension of religiosity: =1 if never, =2 if rarely, =3 if once a year, =4 if several times year, =5 if once by month, =6 if several times by month, =7 if once a week, =8 if several times by week, =9 if once a day, =10 if more than once in a day, =10 more than once in a day; *ARel* - an aggregate measure of individual-level religiosity comprising the three distinct elements of religiosity (cognitive, affective and behavioral) and obtained from the factor analysis application; *GRel* - an aggregate measure of individual-level religiosity which is the simple average of the three individual components of religiosity (cognitive, affective and behavioral dimensions); *G* - dummy variable = 1 if female; =0 if male; *AGE* - age of each individual; *EDU* - dummy variable = 1 for individuals holding an undergraduate in accounting (accounting alumni), =0 for undergraduate accounting students; *EXP* - categorical variable = 0 for individuals without experience in accounting area, =1 for experience up to 1 year, =2 for experience up to 2 years, =3 for experience between 2 to 5 years, = 4 for more than 5 years of experience

Baseline Results and Discussion

As suggested by the correlation analysis, multicollinearity statistics do not indicate distortions of results due to correlation among independent variables. Variance inflation factors (VIF) for all parameter estimates are lower than 2, indicating that multicollinearity is not a problematic issue (Studenmund 1992). For all the models reported in Table 4, the highest VIF is 1.45.

In Table 4, Ordinary Least Squares (OLS) with robust standard errors is used to estimate regressions and test the hypotheses. Robust standard errors correct for heteroskedasticity. The *R*-squared indicate that the models are successful in explaining some of the variance in ethical position towards earnings management.¹⁶

In line with H1, we expected that accounting students and accounting alumni with higher levels of religiosity (considering the individual dimensions and the aggregate measures of religiosity) would judge earnings management more harshly. Yet, while, several studies

¹⁶ Prior studies found similar *R*² values (e.g., Kurpis et al. 2008; Elias's 2011; Kara et al. 2016).

Table 2 Perceptions of earnings management comparison with prior studies

Item	Current Study - Portugal			Lan et al. (2015)*Canadian undergraduate accounting students	Shafer and Wang (2011) Accountants of local and multinational corporations from China	Merchant and Rockness (1994) Managers, controllers and internal auditors from U.S.	
	Accounting students and alumni (n = 184)	Accounting students (n = 99)	Accounting alumni (n = 85)				
	Mean	Mean	Mean	Mean	Mean	Mean	
<i>Real EM</i>	1	2.54	2.63	2.45		1.78	1.26
	2.1	3.70	3.67	3.73		2.52	1.81
	2.2	3.90	3.69	4.15		3.22	2.09
	4.1	2.70	2.77	2.62		2.01	1.96
	4.2	2.77	2.81	2.73		1.27	1.31
	4.3	2.03	2.13	1.92		1.42	1.25
Mean <i>REM</i>	2.94	2.95	2.93	2.33		2.04	1.61
<i>Accounting EM</i>	3	3.78	3.62	3.99		2.38	3.42
	5.1	3.34	3.31	3.36		2.69	3.27
	5.2	3.68	3.42	3.99		2.80	3.51
	6.1	3.21	3.15	3.27		2.12	3.59
	6.2	3.40	3.22	3.60		2.53	3.69
	7.1	3.44	3.28	3.62		2.11	3.76
	7.2	3.74	3.48	4.05		3.27	4.05
	Mean <i>AEM</i>	3.51	3.35	3.70	3.33		2.56

The means reported above represent participants' ethical judgments regarding the acceptability of earnings management. In all studies, judgments were provided on a five-point scale anchored on "ethical" (1) and "totally unethical" (5)

* Lan et al. (2015) do not provide the mean values for each scenario of Real and Accounting EM

reported a positive relationship between religiosity and ethical judgments of accounting and business managers and students (e.g., Emerson and McKinney 2010; Kum-Lung and Teck-Chai 2010; Elias 2011; Ananthram and Chan 2016), others provide no significant results (e.g., Kidwell et al. 1987; Kurpis et al., 2008; Kara et al. 2016). Our results indicate that religiosity has no significant impact on ethical attitudes of Portuguese accounting students and alumni, leading to reject H1.¹⁷

Regarding the relationship between other individual factors and ethical perceptions, we find significant evidence that gender, age, education, and working experience are significant determinants of ethical positions of accounting students and alumni towards earnings management. Thus, H2 is supported.

Consistent with a branch of prior research, our study reveals that ethical perceptions are significantly affected by gender (e.g., Keller et al. 2007; Parboteeah et al. 2008; Shafer and Wang 2011). In particular, in consonance with several studies concluding that females exhibit stronger ethical attitudes (e.g., Albaum and Peterson 2006; Emerson and McKinney 2010; Torno-Carbó et al. 2016), we find significant evidence that, compared to males, female accounting students and alumni perceive earnings management as unethical practices. We

¹⁷ We further tested the existence of differences between students and alumni based on religiosity with respect to attitudes towards earnings management. Unreported results show that the main findings remain unchanged (i.e., no significant differences were found).

Table 3 Pearson correlations

	EM	RAff	RImp	RAtr	ARel	GRel	G	AGE	EDU	EXP
EM	1									
RAff	-0.007	1								
RImp	0.006	0.402***	1							
RAtr	0.035	0.340***	0.606***	1						
ARel	0.016	0.691***	0.860***	0.832***	1					
GRel	0.026	0.508***	0.797***	0.953***	0.958***	1				
G	0.144**	0.057	0.112	0.056	0.095	0.082	1			
AGE	0.188**	-0.195***	0.011	-0.072	-0.097	-0.076	-0.023	1		
EDU	0.196***	-0.355***	-0.086	-0.075	-0.200***	-0.130*	-0.044	0.382***	1	
EXP	0.045	-0.222***	-0.1126	-0.182**	-0.210***	-0.197***	0.022	0.422***	0.503***	1

*, ** and *** indicate significance at the 0.1, 0.05 and 0.01 levels, respectively

EM - total score of each individual, for the 13 scenarios of earnings management; REM - total score of each individual, for the 6 scenarios of real earnings management; AEM - total score of each individual, for the 7 scenarios of accounting earnings management; RAff - cognitive dimension of religiosity; dummy variable = 1 if an individual is affiliated with a religion, =0 otherwise; RImp - religion importance, the affective dimension of religiosity; = 1 if not important at all, =2 if not important, =3 if important, =4 if very important; RAtr - religious attendance, the behavioral dimension of religiosity; =1 if never, =2 if rarely, =3 if once a year, =4 if several times year, =5 if once by month, =6 if several times by month, =7 if once a week, =8 if several times by week, =9 if once a day, =10 if more than once in a day; ARel - an aggregate measure of individual-level religiosity comprising the three distinct elements of religiosity (cognitive, affective and behavioral) and obtained from the factor analysis application; GRel - an aggregate measure of individual-level religiosity which is the simple average of the three individual components of religiosity (cognitive, affective and behavioral dimensions); G - dummy variable = 1 if female; =0 if male; AGE - age of each individual; EDU - dummy variable = 1 for individuals holding an undergraduate in accounting (accounting alumni), =0 for undergraduate accounting students; EXP- categorical variable =0 for individuals without experience in accounting area, =1 for experience up to 1 year, =2 for experience up to 2 years, =3 for experience between 2 to 5 years = 4 for more than 5 years of experience

Table 4 Attitudes towards earnings management: role of religiosity, gender, age, education, and working experience

Independent Variables	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)	Model (7)	Model (8)	Model (9)	Model (10)	Model (11)	Model (12)	Model (13)	Model (14)	Model	
	EM	REM	AEM	EM	REM	AEM	EM	REM	AEM	EM	REM	AEM	EM	REM	AEM	
<i>RAff</i>	1.376 (1.486)	0.578 (0.761)	0.798 (1.129)													
<i>RImp</i>	-0.545 (0.678)	-0.360 (0.341)	-0.185 (0.490)													
<i>RAtt</i>	0.153 (0.252)	0.140 (0.130)	0.0130 (0.190)													
<i>ARel</i>				0.187 (0.485)	0.107 (0.234)	0.0800 (0.350)										
<i>GRel</i>							0.193 (0.551)	0.142 (0.269)	0.0507 (0.389)							
<i>G</i>	1.977** (0.931)	0.829* (0.443)	1.148* (0.673)	1.919** (0.927)	0.793* (0.443)	1.127* (0.666)	1.927** (0.928)	0.792* (0.443)	1.135* (0.670)	1.956** (0.920)	0.814* (0.443)	1.142* (0.669)	2.009** (0.900)	0.842* (0.445)	1.167* (0.652)	
<i>AGE</i>	0.142*** (0.0520)	0.0411 (0.0300)	0.101*** (0.0383)	0.133*** (0.0511)	0.0362 (0.0296)	0.0970** (0.0379)	0.133*** (0.0512)	0.0361 (0.0297)	0.0971** (0.0378)	0.134*** (0.0508)	0.0364 (0.0295)	0.0972*** (0.0377)	0.150*** (0.0510)	0.0462 (0.0312)	0.103*** (0.0378)	
<i>EDU</i>	2.638** (1.018)	-0.109 (0.514)	2.747*** (0.711)	2.439** (0.994)	-0.168 (0.491)	2.607*** (0.685)	2.406** (0.986)	-0.185 (0.491)	2.591*** (0.676)	2.393** (0.980)	-0.195 (0.491)	2.587*** (0.671)	1.621* (1.089)	-0.552 (0.570)	2.173*** (0.776)	
<i>EXP</i>	-0.655 (0.421)	-0.0457 (0.201)	-0.610** (0.330)	-0.650 (0.417)	-0.0523 (0.197)	-0.598** (0.327)	-0.649 (0.421)	-0.0475 (0.199)	-0.602** (0.328)	-0.676* (0.410)	-0.0669 (0.193)	-0.609** (0.329)				
<i>EXP = 1</i>													1.642 (1.338)	0.854 (0.667)	0.789 (0.956)	
<i>EXP = 2</i>													-0.770 (2.091)	0.521 (0.983)	-1.292 (1.387)	
<i>EXP = 3</i>													-2.032 (2.017)	-0.452 (0.942)	-1.580 (1.911)	
<i>EXP = 4</i>													-2.721* (1.741)	-0.311 (0.762)	-2.410** (1.257)	
Obs.	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	
R ²	0.096	0.038	0.129	0.090	0.028	0.126	0.090	0.029	0.126	0.089	0.027	0.126	0.106	0.042	0.138	

*, **, and *** indicate significance at the 0.1, 0.05 and 0.01 levels, respectively

OLS regressions include robust standard errors. Each column reports the coefficient estimate followed by the standard error in parentheses

Dependent Variable – *EM* - total score of each individual, for the 13 scenarios of earnings management; *REM* - total score of each individual, for the 6 scenarios of real earnings management; *AEM* - total score of each individual, for the 7 scenarios of accounting earnings management. Independent Variables: *RAff* - cognitive dimension of religiosity: dummy variable = 1 if an individual is affiliated with a religion, =0 otherwise; *RImp* - religion importance, the affective dimension of religiosity: = 1 if not important at all, =2 if not important; =3 if important, =4 if very important; *RAtt* - religious attendance, the behavioral dimension of religiosity: =1 if never, =2 if rarely, =3 if once a year, =4 if several times year, =5 if once by month, =6 if several times by month, =7 if once a week, =8 if several times by week, =9 if once a day, =10 if more than once in a day; *ARel* - an aggregate measure of individual-level religiosity comprising the three distinct elements of religiosity (cognitive, affective and behavioral) and obtained from the factor analysis application; *GRel* - an aggregate measure of individual-level religiosity which is the simple average of the three individual components of religiosity (cognitive, affective and behavioral dimensions); *G* - dummy variable = 1 if female; =0 if male; *AGE* - age of each individual; *EDU* - dummy variable = 1 for individuals holding an undergraduate in accounting (accounting alumni), =0 for undergraduate accounting students; *EXP*- categorical variable = 0 for individuals without experience in accounting area, =1 for experience up to 1 year, =2 for experience up to 2 years, =3 for experience between 2 to 5 years, = 4 for more than 5 years of experience

also find significant evidence that older accounting students and alumni tend to judge accounting earnings management more harshly than younger students and younger alumni. This is coincident with literature revealing that age is an important predictor of individual's ethical attitude and that older individuals exhibit more ethical inclinations (e.g., Parboteeah et al. 2008; Emerson and McKinney 2010; Kum-Lung and Teck-Chai 2010; Torno-Carbó et al. 2016). Our finding supports the Conroy and Emerson (2004) argument of a potential moral maturation over the lifecycle.

Results also indicate that, compared to students, individuals who completed an undergraduate degree in accounting (and that attended the accounting ethics course, i.e., accounting alumni) tend to judge accounting earnings management in a stricter way as unethical practices. This finding is aligned with prior studies suggesting that individuals with higher levels of education (e.g., Parboteeah et al. 2008; Kum-Lung and Teck-Chai 2010) and ethics education (e.g., Waymire 2014; Torno-Carbó et al. 2016; Shawwer and Miller 2017) tend to be more ethical, since they are endowed with more resources to make ethical judgments. We further find significant evidence that individuals with higher working experience in accounting tend to judge accounting earnings management as a less ethically questionable practice. In additional analysis, we explore whether the effects of *EXP* vary according to the different levels of working experience represented by this variable. We observe that the negative effect of *EXP* on accounting earnings management perceptions is only statistically significant when the level of working experience in accounting is higher than 5 years ($EXP = 4$).¹⁸ The interesting question raised by this result is that, while accounting is a regulated profession, and all accountants in Portugal must possess an undergraduate degree, with the consequent attendance of an ethics course, the ethical teachings seems decline across the life span and/or the organizational context. The individual works seems to influence negatively the ethical positioning of accountants towards accounting earnings management.

According to Bampton and Cowton (2013), it can be difficult to identify the reason for such a phenomenon and, thus, one should not conclude that individuals necessarily suffer a reduction in moral reasoning abilities across the life span, or during their career progress. On the contrary, several reasons can cause individuals with higher levels of moral reasoning to leave the profession, such as conflicting social influences at different hierarchical levels, mediated by differential screening and self-selection processes within the firm (Bampton and Cowton 2013).

Financial and work-related pressures have been identified as motivators of fraudulent behavior, including accountant's behavior towards earnings management (Brenna and McGrath 2007; Dellaportas 2013).

The negative influence of working context on accountant's ethical decisions is emphasized by our results, namely concerning the accounting earnings management practices. The Portuguese market is characterized by small privately held firms (in 2016, 96.2% of Portuguese non-financial firms were micro enterprises, with less than 10 employees), to whom tax and debt are the main incentives to manage earnings (Moreira 2006; Marques et al. 2011). As accounting earnings management uses GAAP flexibility opportunistically to change reported earnings, but has no direct cash flow consequences (Cohen and Zarowin 2010), the second method will be the preferred in debt- and tax-induced earnings management (Coppens and Peek 2005). Thus,

¹⁸ Result remains qualitatively similar when we run Models (13), (14) and (15) excluding the 8 students that have working experience in accounting.

it is not surprising that the (accounting) working context in Portugal can exert pressure in professional accountants towards accounting earnings management practices.

This evidence highlights the need to recognize and consider both the ethical and economic implications of accountants' decisions (Fioleau and Kaplan 2017). Increasingly accountants are exposed to the commercial aspects of their firms. During their education, they were trained in professional responsibilities and ethics, but, in general, this education is not reinforced (Fioleau and Kaplan 2017). Therefore, accounting profession needs to set a strong initial accounting role identity that should be reinforced within professional organizations and continuing education on professional responsibilities and ethics (May et al. 2009; Bampton and Cowton 2013; Sorensen et al. 2017; Lopez and Perry 2018). Findings of a meta-analysis conducted by Medeiros et al. (2017) suggest that professional, focused, and workshop-based training programs are especially effective for improving business ethics. Culham (2013) emphasizes that learning ethics is a lifetime process and cannot be taught in a semester long course.

Additional Tests

Considering Social Desirability Response Bias

Our first attempt to decrease the prevalence of social desirability response bias is described in "Participant and Procedure" sub-section. Here, we present further action.

According to Callegaro (2008), the concept of social desirability has four nested characteristics: (1) the highest layer is a cultural characteristic (determined by the norms of that particular group or culture), followed by (2) a personality characteristic, (3) mode of data collection, and (4) an item characteristic. Therefore, some types of respondents may feel pressured to state they oppose to some less ethical practices (due to norms or pressures of their community or reference groups), when, in fact, they actually support (or are indifferent to) those actions (Lax et al. 2016).

Following Lax et al. (2016), these arguments prompt us to explore whether the direction in which social desirability bias works is predicted by a respondent's key reference groups, in particular, a religious community. A religious person who personally favors several earnings management practices but whose religious community is against it may conclude that the socially desirable answer is to say that it is against those practices (we might expect the reverse among someone who is not religious). Therefore, we consider whether social desirability effects on earnings management perceptions differ by a respondent's religious affiliation. Table 5 presents the results of the t-test, and we can see that the difference between the means of *EM*, *REM* and *AEM* across

Table 5 T-test of *EM*, *REM* and *AEM* for non-religious affiliated/religious affiliated individuals

	<i>EM</i>	<i>REM</i>	<i>AEM</i>
Mean difference	0.110	-0.491	0.602
Degrees of freedom	33.7	32.2	31.7
<i>t</i> statistic	0.084	-0.738	0.573
<i>p</i> value	0.933	0.466	0.571

EM - total score of each individual, for the 13 scenarios of earnings management; *REM* - total score of each individual, for the 6 scenarios of real earnings management; *AEM* - total score of each individual, for the 7 scenarios of accounting earnings management

subgroups of non-religious affiliated (27 individuals) and religious affiliated (157 individuals) is not statistically significant.¹⁹ These sub-groups of respondents perceive earnings management practices in a similar way, suggesting that there is no social pressure exerted by religious affiliation. We further tested the difference between the means of *EM*, *REM* and *AEM* between subgroups of individuals who do not attribute importance to religiosity (RImp = 1; RImp = 2; 63 individuals) and individuals who attach importance to religiosity (RImp = 3; RImp = 4; 121 individuals), and the difference remains statistically not significant (unreported results). It seems then that social desirability bias is not predicted by a respondent's reference group, in particular, a religious community.

The Dynamic Interactions of Religiosity and Working Experience

As Balog et al. (2014) highlight, it is essential to understand the relative importance of religious and spiritual values at different levels of analysis (cultural, subcultural, institutional, and personal) and how they relate to entrepreneurial activities. It is also fundamental to explore some dynamic interactions of religious and spiritual values with other variables that influence entrepreneurial activities (such as traits, skills, experience, stages in life, etc.). Businesses are increasingly integrating spirituality at work, in part because of the benefits that religiosity has in developing prosocial behaviors (Collins 2010; Comer and Vega 2011; Herzog et al. 2018).²⁰

Researchers typically expect that spirituality and religiosity (either personal or in organizations) are positively related to varied individual/organizational attitudinal, prosocial behaviors, and performance outcomes (Day 2005; Koerber and Neck 2006; Geh and Tan 2009; Duffy et al. 2010; Exline and Bright 2011; Weitz et al. 2012; Word 2012; Singh et al. 2016; McGhee and Grant 2017; Petchsawang and McLean 2017).

Since our baseline results show a negative relation between working experience in accounting and individual's ethical perceptions on earnings management, we further explore religiosity as a mediator between those two dimensions. Table 6 presents results for the effects of interactions between religiosity variables and working experience on accounting students' and alumni' perceptions about earnings management. We hypothesized that religiosity should moderate the negative effects of working experience that we found in our baseline results. Nevertheless, in general, we find no significant evidence that religiosity serves as a moderator variable on the negative effects of working experience on ethical behavior of individuals. The exception is a slightly effect of the religious affiliation interaction with experience (*Raff*EXP*), that is, we find some evidence that people affiliated with a religion and possessing working experience in accounting tend to judge earnings management as unethical practices.²¹ Religious affiliation seems to have some role in moderating the negative effects of working experience in accounting in perceptions on earnings management of accounting students and alumni.

¹⁹ We used the unequal variances *t*-test since it is more reliable when the two samples have unequal variances and/or unequal sample sizes (Derrick et al. 2016).

²⁰ Workplace spirituality includes aspects, either in the individual, the group, or the organization, that facilitates employees' sense of being connected to a nonphysical force beyond themselves that provides feelings of completeness and joy (Comer and Vega 2011).

²¹ Results remain qualitatively similar if we restrict the sample to accounting students and alumni with working experience in accounting (66 individuals).

Table 6 Attitudes towards earnings management: religiosity as mediator of working experience effects

Independent Variables	Model (16) <i>EM</i>	Model (17) <i>EM</i>	Model (18) <i>EM</i>
<i>RAff*EXP</i>	1.637* (0.909)		
<i>RImp*EXP</i>	-0.882* (0.480)		
<i>RAtt*EXP</i>	-0.394 (0.242)		
<i>ARel*EXP</i>		-0.305 (0.531)	
<i>GRel*EXP</i>			-0.613 (0.705)
<i>RAff</i>	0.219 (1.758)		
<i>RImp</i>	0.0532 (0.737)		
<i>RAtt</i>	0.224 (0.295)		
<i>ARel</i>		0.402 (0.506)	
<i>GRel</i>			0.508 (0.580)
<i>G</i>	1.739* (0.897)	1.906** (0.925)	1.876** (0.923)
<i>AGE</i>	0.137** (0.0541)	0.126** (0.0537)	0.122** (0.0535)
<i>EDU</i>	2.781*** (1.037)	2.483** (1.005)	2.481** (1.000)
<i>EXP</i>	1.571 (1.612)	-0.705 (0.430)	0.716 (1.581)
Obs.	184	184	184
R ²	0.124	0.093	0.096

*, ** and *** indicate significance at the 0.1, 0.05 and 0.01 levels, respectively

OLS regressions include robust standard errors. Each column reports the coefficient estimate followed by the standard error in parentheses

Dependent Variable – *EM* - total score of each individual, for the 13 scenarios of earnings management. Independent Variables: *RAff* - cognitive dimension of religiosity: dummy variable = 1 if an individual is affiliated with a religion, =0 otherwise; *RImp* - religion importance, the affective dimension of religiosity: = 1 if not important at all, =2 if not important; =3 if important, =4 if very important; *RAtt* - religious attendance, the behavioral dimension of religiosity: =1 if never, =2 if rarely, =3 if once a year, =4 if several times year, =5 if once by month, =6 if several times by month, =7 if once a week, =8 if several times by week, =9 if once a day, =10 if more than once in a day, =10 more than once in a day; *ARel* - an aggregate measure of individual-level religiosity comprising the three distinct elements of religiosity (cognitive, affective and behavioral) and obtained from the factor analysis application; *GRel* - an aggregate measure of individual-level religiosity which is the simple average of the three individual components of religiosity (cognitive, affective and behavioral dimensions); *G* - dummy variable = 1 if female; =0 if male; *AGE* - age of each individual; *EDU* - dummy variable = 1 for individuals holding an undergraduate in accounting (accounting alumni), =0 for undergraduate accounting students; *EXP* - categorical variable = 0 for individuals without experience in accounting area, =1 for experience up to 1 year, =2 for experience up to 2 years, =3 for experience between 2 to 5 years, = 4 for more than 5 years of experience

*RAff*EXP*, *RImp*EXP*, *RAtt*EXP*, *ARel*EXP*, and *Agrel*EXP* represent interactions between religiosity measures and working experience in accounting

The Influence of Individual Factors on Ethical Judgments, when the Intent of Earnings Management Is Considered

As we previously explained in Research Method section, earnings management is a financial reporting phenomenon associated with managers' aim, and depending on the intent, these

practices might perform an opportunist or an informational role (Raman and Shahrur 2008). There is, thus, an ambiguity surrounding earnings management, as the intent of those managing earnings might be primarily for selfish or unselfish benefit (Lan et al. 2015).

The participants of the Merchant and Rockness (1994) study assessed intended selfish benefit as more unethical than intended corporate benefit. Also, Lan et al. (2015) explored whether intent of earnings management (selfish or unselfish benefit) affected the evaluation of the level of ethical acceptability of earnings management by senior Canadian undergraduate accounting students, and concluded for statistically significant differences in the assessments of ethical acceptability attributable to intent.

In order to provide additional evidence to our main results, we test the effects of individual factors (religiosity, gender, age, education, and working experience in accounting) on ethical judgments of accounting students and alumni, when the intent of earnings management is considered. To ponder the intent of earnings management in ethical acceptability of accounting students and alumni, we divided the 13 scenarios of the Merchant's (1989) instrument (see Appendix 1, Part II of the Questionnaire), according to the based intent of each action described. Each scenario that specifically expresses an action of the General Manager (GM) to achieve its division (profit) targets is considered to be a selfish benefit situation, assuming a possible indexation of GM's remuneration to the division profits (scenarios 2.1; 2.2; 4.1; 4.2; 4.3; 6.2; 7.1, and 7.2).²²

On Table 7 we rerun our baseline models, by substituting the dependent variable *EM* by a revised measure which ponders the selfish intent of earnings management (*EMI*). *EMI* corresponds to the total score of each individual, for the 8 scenarios of earnings management considered to be a selfish benefit situation. The results obtained remain similar to that of our baseline models. We find no significant effect of religiosity on ethical behavior of individuals, and the ethical perceptions of students and alumni are again significantly affected by gender, age, education level and working experience in accounting, when the selfish benefit of earnings management is considered.

Conclusion

We find no significant evidence of a positive association between the three elements of religiosity (cognitive, affective and behavioral dimensions), or of the aggregate measures of religiosity and individual's ethical position towards earnings management, real earnings management and accounting earnings management. Therefore, religiosity has no significant impact on ethical attitudes of Portuguese accountants.

The ethical perceptions of accounting students and alumni are significantly affected by gender, age, education (and accounting ethics education) and working experience in accounting. Females and older individuals tend to judge accounting earnings management more severely than males and younger individuals. Accounting alumni exhibit stronger ethical attitudes towards accounting earnings management when compared to accounting students. We further find significant evidence that higher working experience in accounting leads individuals to judge accounting earnings management as less ethically questionable practice. We reveal that the negative effect of

²² Lan et al. (2015) distinguished the intent of earnings management by providing two versions of the questionnaire to their respondents: version 1, with the explicit instruction that the primary intent of the CEO was selfish gain through enhanced remuneration; and version 2, with the explaining that the primary intent of the CEO was to maximize the benefits of financial reporting for the employees and shareholders and achieve the corporate governance objectives of the firm.

Table 7 Influence of individual factors on ethical attitudes, when considering the intent of earnings management

Independent Variables	Model (19) <i>EMI</i>	Model (20) <i>EMI</i>	Model (21) <i>EMI</i>	Model (22) <i>EMI</i>
<i>RAff</i>	0.300 (1.036)			
<i>RImp</i>	-0.331 (0.452)			
<i>RAtt</i>	0.160 (0.181)			
<i>ARel</i>		0.0922 (0.347)		
<i>GRel</i>			0.149 (0.393)	
<i>G</i>	1.378** (0.642)	1.346** (0.637)	1.342** (0.635)	1.364** (0.629)
<i>AGE</i>	0.0944** (0.0382)	0.0905** (0.0370)	0.0904** (0.0371)	0.0908** (0.0370)
<i>EDU</i>	1.371** (0.685)	1.368** (0.678)	1.356** (0.673)	1.346** (0.668)
<i>EXP</i>	-0.357 (0.294)	-0.370 (0.289)	-0.363 (0.292)	-0.383* (0.285)
Obs.	184	184	184	184
R ²	0.081	0.078	0.078	0.077

*, ** and *** indicate significance at the 0.1, 0.05 and 0.01 levels, respectively

OLS regressions include robust standard errors. Each column reports the coefficient estimate followed by the standard error in parentheses

Dependent Variable –*EMI* - total score of each individual, for the 8 scenarios of earnings management considered to be a selfish benefit situation. Independent Variables: *RAff* - cognitive dimension of religiosity: dummy variable = 1 if an individual is affiliated with a religion, =0 otherwise; *RImp* - religion importance, the affective dimension of religiosity: = 1 if not important at all, =2 if not important; =3 if important, =4 if very important; *RAtt* - religious attendance, the behavioral dimension of religiosity: =1 if never, =2 if rarely, =3 if once a year, =4 if several times year, =5 if once by month, =6 if several times by month, =7 if once a week, =8 if several times by week, =9 if once a day, =10 if more than once in a day, =10 more than once in a day; *ARel* - an aggregate measure of individual-level religiosity comprising the three distinct elements of religiosity (cognitive, affective and behavioral) and obtained from the factor analysis application; *GRel* - an aggregate measure of individual-level religiosity which is the simple average of the three individual components of religiosity (cognitive, affective and behavioral dimensions); *G* - dummy variable = 1 if female; =0 if male; *AGE* - age of each individual; *EDU* - dummy variable = 1 for individuals holding an undergraduate in accounting (accounting alumni), =0 for undergraduate accounting students; *EXP* - categorical variable = 0 for individuals without experience in accounting area, =1 for experience up to 1 year, =2 for experience up to 2 years, =3 for experience between 2 to 5 years, = 4 for more than 5 years of experience

experience on earnings management perceptions is only statistically significant when the level of working experience in accounting is higher than 5 years. Though our results recognize the importance of education in accounting (Parboteeah et al. 2008; Kum-Lung and Teck-Chai 2010), they seem to indicate that the effects of ethics education decline along with the increased exposure to the accounting working context. Thus, a systematic ethics education throughout accountant's life is necessary, in order to equip individuals with the ability to resolve complex moral issues and inspire them to fight against opposite forces in their organizations (Bampton and Cowton 2013; Fiolleau and Kaplan 2017; Sorensen et al. 2017; Lopez and Perry 2018). Additionally, when exploring religiosity as a mediator of the negative effects of working experience on accounting students' and alumni's perceptions on earnings management, we obtain slight evidence that people who are religiously affiliated and possess working experience in accounting tend to judge earnings management as unethical practices. In further analysis, we also conclude that the intent of earnings management does not affect our main results. Beyond that, we

provide some evidence that social desirability bias is not predicted by a respondent's reference group, in particular, a religious community.

This paper contributes to accounting and business ethics literature by examining the role of religiosity, gender, age, education and working experience as determinants of accounting ethics. We extend findings of prior research from Anglo-Saxon and Asiatic contexts to a different setting: Portugal. Furthermore, we provide a comparison of the ethical acceptability of earnings management practices of individuals from Portugal, China, U.S. and Canada, something that is rare in past research. Our findings have theoretical implications since they alert academics to the need of consider individual's constraints in the workplace when analysing morality and ethical behavior in accounting contexts.

The results of this study also have practical implications since they assist in the future recruitment and training of accountants (Saat et al. 2009, Lopez and Perry 2018). Our findings highlight the need of a systematic ethics education throughout accountant's life (at the moment, in Portugal, ethics is only required in the entry professional exam), and the need of instilling in accountants a strong initial accounting role identity through their initial education, which should be reinforced within accounting firms and through continuing professional education. Thus, we recommend that the accountants' associations provide training on ethics to accounting professionals. Strategies may also include rewarding ethical conduct in both student and accounting practitioner settings.

Limitations of this study are common to ethics research. The Merchant (1989) instrument is a surrogate measure for ethical behavior, and the religiosity measures are proxies for individual religiosity. Additionally, while we tried to decrease the prevalence of social desirability response bias, since data for the study was collected through self-reported evaluations of the ethical situations, we recognize that our findings can have been influenced by this bias. Also, participants are from a single Portuguese university. Therefore, our sample may not be representative of all Portuguese accounting students and accounting alumni. Finally, the ethical judgments of respondents are contingent upon the earnings management scenarios presented.

Future research may explore different proxies for religiosity, such as the intrinsic and extrinsic religiosity concepts from Allport and Ross (1967), and alternative surrogates for ethical judgments, while expanding the analysis from a single country to a cross-country setting, and exploring the role of both the national culture forces and institutional forces from governing bodies on practicing industry accountants (Parboteeah et al. 2005).

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Compliance with Ethical Standards

Conflicts of Interest/Competing Interests 'Not applicable'.

Code Availability 'Not applicable'.

Appendix 1 Questionnaire

PART I

Demographic and Religiosity Questions

1. Gender: F M
2. Age: _____
3. Do you have an accounting (undergraduate) degree?
Yes No
4. Professional experience in accounting area:
 - No experience
 - Up to 1 Year
 - Up to 2 Years
 - Between 2 and 5 years
 - More than 5 years
5. Are you affiliated with a religion?
Yes No
6. What is your religion? _____
7. How important is religion in your life?
 - (1) Not important at all
 - (2) Not important
 - (3) Important
 - (4) Very important
5. How often do you attend religious services?
 - (1) Never
 - (2) Rarely
 - (3) Once a year
 - (4) Several times year
 - (5) Once by month
 - (6) Several times by month
 - (7) Once a week
 - (8) Several times by week
 - (9) Once a day
 - (10) More than once in a day

PART II

Earnings Management Scenarios

Take the role of a supervisor whose subordinate (a division general manager - GM) engages in various earnings management schemes, and evaluate your subordinate's actions by circling your response on the following 5-point scale:

1 Totally ethical	2 Ethical	3 Neutral	4 Unethical	5 Totally unethical
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(1) The division's headquarters building was scheduled to be painted in 1999. But since profit performance was way ahead of budget in 1998, the GM decided to have the work done in 1998. Amount: \$150,000.

1	2	3	4	5
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(2) The GM ordered his employees to defer all discretionary expenditures (e.g. travel, advertising, hiring and maintenance) into the next accounting period, so his division could make its budgeted profit targets. Expected amounts of deferrals: \$150,000:

(2.1) the expenses were postponed from February and March to April in order to make the first quarter target; and

1	2	3	4	5
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(2.2) the expenses were postponed from November and December to January in order to make the annual target.

1	2	3	4	5
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(3) On 15 December, a clerk ordered \$3,000 of office supplies, and the supplies were delivered on 29 December. This order was a mistake because the GM had ordered that no discretionary expenses be incurred for the remainder of the fiscal year, and the supplies were not urgently needed. The company's accounting policy manual states that office supplies are to be recorded as an expense when delivered. The GM learned what had happened, and to correct the mistake, he asked the accounting department not to record the invoice until February.

1	2	3	4	5
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(4) In September, the GM realized the division would need strong performance in the fourth quarter to reach its budget targets:

(4.1.) he decided to implement a sales program offering liberal payment terms to pull some sales that would normally occur next year into the current year; customers accepting delivery in the fourth quarter would not have to pay the invoice for 120 days;

1	2	3	4	5
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(4.2) he ordered manufacturing to work overtime in December so that everything possible could be shipped by the end of the year; and

1	2	3	4	5
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(4.3) he sold some excess assets and realized profit of \$40,000.

1	2	3	4	5
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(5) At the beginning of December 1998, the GM realized the division would exceed its budgeted profit targets for the year:

(5.1) he ordered his controller to prepay some expenses (e.g. hotel rooms, exhibit expense) for a major trade show to be held in March 1999 and to book them as 1998 expenses. Amount: \$60,000; and

1	2	3	4	5
---	---	---	---	---

(5.2) he ordered his controller to develop the rationale for increasing the reserve for inventory obsolescence. By taking a pessimistic view of future market prospects, the controller was able to identify \$700,000 worth of finished goods that conservative accounting would say should be fully reserved (i.e. written off), even though the GM was fairly confident the inventory would still be sold at a later date at close to full price.

1	2	3	4	5
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(6) The next year, the division sold 70 per cent of the written-off inventory, and a customer had indicated some interest in buying the rest of that inventory the following year. The GM ordered his controller to prepare the rationale for reducing the reserve for obsolescence by \$210,000 (i.e. writing up the previously written-off goods to full cost). The GM's motivation for recapturing the profit was:

(6.1) to be able to continue working on some important product development projects that might have been delayed due to budget constraints; and

1	2	3	4	5
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(6.2) to make budgeted profit targets.

1	2	3	4	5
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(7) In November 1998, the division was straining to meet budget. The GM called the engagement partner of a consulting firm that was doing some work for the division and asked that the firm not send an invoice until next year. The partner agreed. Estimated work done but not invoiced:

(7.1) \$30,000; and

1	2	3	4	5
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(7.2) \$500,000.

1	2	3	4	5
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Appendix 2

Table of variables

Panel A. Dependent Variable – Earnings Management Measure

Measures of individuals' perceptions of earnings management based on the Merchant (1989) earnings management instrument:

EM Total score of each individual, for the 13 scenarios of earnings management

REM Total score of each individual, for the 6 scenarios of real earnings management

AEM Total score of each individual, for the 7 scenarios of accounting earnings management

Panel B. Independent Variables

Raff The cognitive dimension of religiosity (religious affiliation) - dummy variable = 1 if an individual is affiliated with a religion, = 0

RImp The affective dimension of religiosity (religion importance) - categorical variable = 1 if not important at all; =2 if not important; =3 if important; =4 if very important

RAtt The behavioral dimension (religious attendance) – categorical variable = 1 if never; =2 if rarely; =3 if once a year; =4 if several times year; =5 if once by month; =6 if several times by month; =7 if once a week; =8 if several times by week; =9 if once a day; =10 if more than once in a day

ARel An aggregate measure of individual-level religiosity comprising the three distinct elements of religiosity (cognitive, affective and behavioral) and obtained from the factor analysis application.

GRel An aggregate measure of individual-level religiosity which is the simple average of the three individual components of religiosity (cognitive, affective and behavioral dimensions).

G Dummy variable = 1 if female; = 0 if male

AGE Age of the individual

EDU Dummy variable = 1 for individuals with an undergraduate in accounting (and that completed the accounting ethics course); = 0 for undergraduate accounting students

EXP Categorical variable = 0 for individuals without experience in accounting area; =1 for experience up to 1 year; =2 for experience up to 2 years; =3 for experience between 2 to 5 years, and = 4 for experience greater than more than 5 years

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