



Accounting Education

ISSN: 0963-9284 (Print) 1468-4489 (Online) Journal homepage: <http://www.tandfonline.com/loi/raed20>

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To cite this article: Alberto J. Costa, Margarida M. Pinheiro & Mariana S. Ribeiro (2016) Ethical perceptions of accounting students in a Portuguese university: the influence of individual factors and personal traits, Accounting Education, 25:4, 327-348, DOI: [10.1080/09639284.2016.1191270](https://doi.org/10.1080/09639284.2016.1191270)

To link to this article: <http://dx.doi.org/10.1080/09639284.2016.1191270>



Published online: 29 Jun 2016.



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Ethical perceptions of accounting students in a Portuguese university: the influence of individual factors and personal traits

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ABSTRACT

Our purpose is to empirically examine whether gender, age, work experience, and attendance of a course on ethics affect the ethical perceptions of Portuguese accounting students and analyze the influence of some individual factors that may affect their ethical decision-making. Additionally, we consider the degree of importance assigned to a list of personal traits and their relationship with those factors. We concluded that gender influenced the degree of importance attributed by students to initiative/entrepreneurship, obedience, and responsibility; age influenced the degree of importance attributed by students to integrity; work experience influenced the degree of importance attributed by students to obedience; and attendance of a course on ethics influenced the degree of importance attributed to independence. For each of these factors, the influence did not prove to be statistically significant in decision-making. Similarly, the study identified some reservations regarding attitudes the students' peers might have, and when asked about this, they had negative opinions, believing their colleagues would have lower ethical standards. Our results add to the literature, especially because, in Portugal, little has been done to understand which factors may affect students' ethical decision-making processes. We expect to bring added value to stakeholders, teachers, and scholars engaged with these matters.

ARTICLE HISTORY

Received 9 November 2014
Revised 17 April 2015,
12 September 2015,
9 December 2015
Accepted 12 December 2015

KEYWORDS

Business ethics; ethical decision-making; students in higher education

1. Introduction

Accounting is an information system that prepares and communicates financial and non-financial information for different stakeholders. In some cases, however, accountants have been found to be incapable of meeting the challenges of their work, resulting in a failure to achieve, either completely or in part, adequate financial statements. Even from the beginning of this millennium, several accounting scandals and other examples of unethical behaviour have affected the accounting profession all over the world (Ferrell, Fraedrich, & Ferrell, 2015; Jones, 2011; Mintz & Morris, 2014), and Portugal played its part (Machado de Almeida, 2014; Prior, Guazina, & Araceja, 2015).¹

These scandals and examples of unethical behaviour have increased the attention of academics, professionals, and many others to reflect on the accountants' ethical decision-making skills and address individual, situational, and/or organisational factors that influence the ethical decision-making process (Craft, 2013; Ford & Richardson, 1994; Lehnert, Park, & Singh, 2014; Loe, Ferrell, & Mansfield, 2000; O'Fallon & Butterfield, 2005).

To help fight these tendencies, learning environments, particularly institutions of higher education, must be considered. In fact, the mission of the teaching environment is not only to foster technical proficiency, but also ethical sensibility.

Considering our affiliation to a Portuguese institution of higher education focussed on accounting, motivated by the increasing debate surrounding accountants' ethical decision-making, and in light of the little research on this subject at the Portuguese national level, the purpose of this study is to examine the ethical perceptions of accounting students and to analyse the influence of some individual factors (i.e. gender, age, work experience, and attendance of a course on ethics) that may affect their ethical decision-making process. Additionally, we will consider the degree of importance assigned to a list of personal traits and their relationship with those factors.

To further explore this issue, two research questions are posed:

- (1) Do age, gender, work experience, and attendance of a course on ethics affect accounting students' responses to work-related ethical dilemmas?
- (2) Is the degree of importance assigned to certain personal traits affected by age, gender, work experience, and attendance of a course on ethics?

To illustrate our research and as a working tool, we chose the case study of the Institute of Accounting and Administration of the University of Aveiro (ISCA-UA). The choice of ISCA-UA was based, in part, on institutional proximity. In addition to proximity, the university has regular day school and post-school teaching, which allowed us to have access to students of various ages. We also had access to students with and without professional experience in the accounting area. Finally, and as in other institutions, part of the curriculum includes a course on ethics. Thus, this institution met the minimum requirements that we considered necessary for the development of this research.

Supported by other empirical studies, especially in those that refer to the factors that influence ethical perceptions of students such as the work of Eweje and Brunton (2010), we used a questionnaire. With the aim of understanding the differences in the perceptions of ethical behaviour of accounting students, a list of nine scenarios were presented (Appendix 1). All of the scenarios had been used previously Blodgett, Chaun Lu, Rose, & Vitelli, 2001; Cohen, Pant, & Sharp, 2001; Donoho, Herche, & Swenson, 2003; Eweje & Brunton, 2010), particularly in the United States, Canada, and New Zealand.

Similar to the work of Eweje and Brunton (2010), data were collected using closed, enforceable questions. Descriptive statistics and statistical inference were also used (through comparison studies between groups and logistic regression).

1.1. Contribution

In Portugal, the access to the accounting profession is regulated, on an exclusive basis, by the *Ordem dos Contabilistas Certificados* (OCC).² According to its official website,³ this

entity has about 72,000 registered professionals. Every year, hundreds of candidates try to become members of OTOC/OCC by going through several steps, which include an entrance examination that is particularly comprehensive and challenging and has a very modest success rate.⁴

The history of the accounting profession in Portugal is extensive (Caria & Rodrigues, 2014; Rodrigues, Gomes, & Craig, 2004), but the profession began to be regulated only in 1995. Because of that, universities began teaching ethics (applied to accounting, finance, and business) since that date. The aim was to prepare students for the entrance examination to the profession that included questions about ethics and the deontology of the accounting profession. Nevertheless, in Portugal, another independent professional body regulates the auditing profession: the *Ordem dos Revisores Oficiais de Contas* – OROC⁵ (Rodrigues, Gomes, & Craig, 2003).

In Portugal, little investigation has been performed regarding ethical decision-making. In the literature review, we explore this topic, including papers from Carreira and Gonçalves (2008), Torre and Proença (2011), Ferreira, Pinto, Santos, and Serra (2013), Almeida (2014), and Pereira (2014).

This paper is relevant and the results will add to the literature, given the fact that we are conducting our research in a country where little has been done to enhance the understanding of what factors may affect students' ethical decision-making processes. Furthermore, we are specifically examining accounting students at different levels of their academic training.

In addition to this examination, we have included a list of personal traits. Some of these personal traits and their importance in the decision-making process have not been studied in the literature. We will develop this topic further in the literature review.

For these reasons, we believe that our study will be of some importance to scholars and teachers engaged daily in preparing their students for the accounting profession. This study also benefits stakeholders since today's students will be tomorrow's professionals, and they will be responsible for the preparation of financial information that matters to stakeholders.

This paper is organised in six sections: introduction, literature review (organised into sub-points), methodology, the fit of personal questions and scenarios with students' ethical perceptions, findings and discussion, and conclusions.

2. Literature review and hypotheses development

In our daily lives, we are faced with numerous conflicts of judgement and ethical decision-making that, according to Cohen et al. (2001, p. 321), is defined as 'decision-making in situations where ethical conflicts are present', and these dilemmas occur when interests between parties disagree (Blodgett et al., 2001). Therefore, decision-making may depend on, among other things, situational and individual factors. According to Rest (1986), however, an ability to recognise and correctly evaluate the ethical dilemmas in decision-making situations is a necessary prerequisite to good ethical decisions.

In order to reduce the ambiguities and implicit decision-making risks based on subjective factors, we witness the emergence of codes of ethics (for professionals and organisations), which are intended, among other objectives, to standardise the attitudes of members of the organisation to which they relate. These regulatory instruments are

only a set of procedures, and they do not guarantee that members will make ethical decisions.

The literature is extensive on the topic of decision-making (Craft, 2013; Ford & Richardson, 1994; Lehnert et al., 2014; Loe et al., 2000; O'Fallon & Butterfield, 2005), and the authors who specifically identify the conditioning factors predominantly consider that these factors can be divided into two categories: individual factors and organisational factors. Ford and Richardson (1994) define the first category as the factors associated with the decision maker and the second as the situations in which the decision maker makes a decision. Thus, individual factors include all factors inherent to the individual, such as age, gender, nationality, religion, beliefs, values, education, professional experience, philosophy and value orientation, among many other characteristics. In turn, organisational factors include all factors related to situations or environments, such as the influence of the work environment (peers and supervisors), organisational culture (the characteristics of the organisation itself), opportunity, codes of ethics, rewards and sanctions, among others.

Individual factors, according to Craft (2013), have received increased attention from researchers, and Lehnert et al. (2014) also show that these factors continue to be studied.

Considering past reviews (Craft, 2013; Ford & Richardson, 1994; Lehnert et al., 2014; Loe et al., 2000; O'Fallon & Butterfield, 2005), we decided to consider only individual factors. Amongst these, we have chosen age, gender, and professional experience. We also decided to consider whether students had already attended a course in ethics as a factor, which we thought would provide more interesting results. Finally, we also considered a range of personal traits.

2.1. Gender

Over the years, numerous studies have attempted to determine if the male gender is more or less ethical than the female gender. The starting point for many studies was to consider that women are more ethical than men (Weeks, Moore, McKinney, & Longenecker, 1999). The literature, however, shows mixed results, withdrawing the possibility to prove definitively any such claim. The trend shown in some studies reveal that the differences between men and women are significant while other studies show no significant differences.

Several authors concluded that gender significantly influences decision-making (Cagle & Baucus, 2006; Ferrell & Skinner, 1988; Krambia-Kapardis & Zopiatis, 2008; Pierce & Sweeney, 2010; Ruegger & King, 1992). Authors like Beltramini, Peterson, and Kozmetsky (1984) or Ameen, Guffey, and McMillan (1996), who developed their studies in academia, concluded that females have a higher perception of and concern for unethical behaviour, and they tend to act more ethically in similar situations. In turn, Kidwell, Stevens, and Bethke (1987) concluded that not only do men act less ethically, but when confronted with their lack of ethics, they tend to excuse their mistakes. Cohen et al. (2001), in a study applied to accounting students and professionals working in large auditing firms, found that women identified ethical issues better than men. Finally, Eweje and Brunton (2010) concluded that female students are more ethically consistent in their responses than male colleagues.

On the other hand, some authors have reached completely opposite conclusions, supporting instead the idea that gender has no significant influence on the ethical decision-

making process (Brady & Wheeler, 1996; Browning & Zabriskie, 1983; Singhapakdi & Vitell, 1990). Hegarty and Sims (1978) assessed graduate business students and concluded that decision-making was not significantly influenced by gender but by other factors, such as individuals' beliefs. In turn, Callan (1992), using a random sample of employees of a state organisation, concluded that gender did not significantly influence ethical conduct within the company. Later, Fleischman and Valentine (2003) proved that no statistically significant difference exists between responses of females and males.

In Portugal, in a study applied to Portuguese Chartered Accountants (*Técnicos Oficiais de Contas*), Torre and Proença (2011) examined gender differences on three measures: ethical conscience, ethical orientation, and intent to act in a questionable way when facing a dilemma. Their research concluded that although differences exist across genders, these differences are not statistically significant. Ballantine and Mccourt (2011), examining the impact of gender on auditing students' ethical judgements, reported no significant relationship between gender and ethical judgement. Earlier, Sweeney and Costello (2009), exploring the relationship between perceived moral intensity and the ethical decision-making process of accounting and business students, found differences between accounting and non-accounting students, but gender was not found to be significant.

Given these mixed findings, further testing is necessary, and the following relationships are hypothesised:

H1(a): Ethical perceptions do not change with gender.

H1(b): Ethical perceptions in relation to self and others change with gender.

2.2. Age

Like gender, age is also a factor that generates contradictory results amongst researchers. Browning and Zabriskie (1983) show the influence of age on the decision-making process and conclude that younger managers have a more ethical point of view than older managers. On the other hand, authors such as Barnett and Karson (1989) or Serwinek (1992) concluded that older workers, when asked to interpret ethical standards in various scenarios, are ethically more stringent than younger workers. In a study applied specifically to auditors, Karcher (1996) concluded that a positive relationship exists between ethical sensitivity and age. Like others, Kim and Chun (2003) found that younger generations responded less ethically compared to older generations. Su (2006) found that older students perceived ethical problems more easily than younger students. Also Elango, Paul, Kundu, and Paudel (2010) concluded that new managers tended to be more impressionable and accordingly could engage in less ethical decision-making than older managers. Pereira (2014), in a study conducted at a Portuguese University, applied a questionnaire adapted from Sweeney and Costello (2009) to 583 students of Economic and Business Sciences and have concluded that older individuals employ a greater moral and ethical intensity in the decisions they make.

Others believe that age does not influence ethical decision-making, but that the ideals and beliefs of individuals do. In his research, Stevens (1984) concluded that age has no significant influence on the ethical position of students and executives. Kohut and Corriher (1994) analysed graduate business students and concluded that age had no significant

influence on the answers given by respondents. Forte (2004) studied officials with leadership or management responsibilities and concluded that no significant relationship exists between age and decision-making. Later, Eweje and Brunton (2010), in a study applied to higher education students, concluded that older students were not necessarily more ethically guided than younger students, and so they could not claim a significant relationship between the ethical perceptions of respondents and age.

Almeida (2014) questioned statutory auditors, internal auditors, court auditors, and teachers in order to

ascertain, empirically, the perceptions of these agents in respect to the practices and ethical performance of auditing and accounting professionals, as well as the role of corporate governance and the professional associations in meeting the formal and informal expectations of trust of all the stakeholders. (p. 47)

Although the study contemplates the age of the respondents, this variable was not analysed in order to assess its influence on the collected answers.

Ferreira et al. (2013) investigated the ethical perceptions of 109 Portuguese and 190 Brazilian students, with an average age of 22.5, concerning business and commercial practices. They used a set of 15 scenarios and the results show significant differences between Brazilian and Portuguese students in the three target dimensions: Brazilian students are more tolerant of ambiguity and more aware of the future consequences of their actions, but are also more prone to unethical behaviour.

Given these mixed findings, further testing is necessary, and the following relationships are hypothesised:

H2(a): Ethical perceptions do not change with age.

H2(b): Ethical perceptions in relation to self and others change with age.

2.3. Work experience

When analysing ethical behaviour in relation to work experience, Arlow and Ulrich (1980), studying students and executives, found that executives were more ethical than students, clearly demonstrating to the authors that work experience influences the decision-making process of the respondents. Note that for these authors, decision-making is influenced by other factors, such as age, and they claim that it would be difficult to evaluate age separately from maturity. Similarly, Stevens (1984) concluded in a study applying scenarios to students and businesspeople that the students demonstrated less ethical behaviour than those in business. Furthermore, Kidwell et al. (1987) argued that managers with more years of experience responded more ethically to the questionnaire than managers with less experience, which clearly indicated the influence of work experience on ethical decision-making.

While Cohen et al. (2001) concluded that no substantial difference exists between students and accounting professionals in regard to decision-making, Cole and Smith (1996) evaluated the ethical perceptions of business students, with and without professional experience, and concluded that students with no work experience were more receptive to ethically questionable actions and were more likely to practice them than those who were already working. Sparks and Hunt (1998) also found that work experience is a significant factor, concluding that workers are more sensitive to ethical issues than students

and for this reason are less likely to act unethically. Finally, McCullough and Faught (2005), in a study that included students from two universities in the southern United States, found that respondents with more work experience showed a greater tendency to more conservative and moralistic attitudes and ideals, and the authors believed that these attitudes would lead respondents to be less prone to unethical behaviour.

Given these mixed findings, further testing is necessary, and the following relationships are hypothesised:

H3(a): Ethical perceptions change with work experience.

H3(b): Ethical perceptions in relation to self and others change with work experience.

2.4. Attendance of a course on ethics

As with the other factors, here, too, the literature seems to be in disagreement regarding attendance of a course on ethics.

Eynon, Hills, and Stevens (1997), examining the factors that influence the moral reasoning abilities of accountants, have concluded that the completion of an ethics course in college had a positive impact on moral reasoning abilities. Interestingly, the accountants with the lowest moral reasoning abilities were also the least supportive of ethical training.

Later, Abbey, Abubakar, and Boghossian (2009) studied the influence of ethics instruction on the ethical judgement of minority students attending a university in Maryland in the United States. Business students who had taken at least two formal courses in business ethics were compared to engineering seniors and freshmen business students who had not been introduced to formal instructions in ethics. Respondents were exposed to realistic ethical business scenarios dealing with conflict of interest transactions and personal integrity. The results showed a significant difference between the two groups of respondents regarding the conflict of interest scenarios but no difference regarding the personal integrity scenarios.

In Italy, Canarutto, Smith, and Smith (2010) adapted and used in classes an ethics presentation previously developed in the United States. The study tried to determine if the presentation at an Italian university could change students' perceptions of ethics. Furthermore, they compared the results of the study with previously published results from United States students. The results show that ethics is widely recognised as an important topic by students. The ethics presentation was favourably received, and post-presentation comments strongly indicated that Italian students left the presentation with heightened perceptions of the importance of ethics education.

In a study applied to 49 MBA students, Awasthi (2008) concluded that students who had taken an ethics course were more inclined to judge management decisions as bad compared to others, indicating that they were more aware or sensitive to the moral issues involved in the study.

Bloodgood, Turnley, and Mudrack (2008) examined the influence of ethics instruction, religiosity, and intelligence as these relate to cheating. Their findings suggested that students who were not highly religious demonstrated less cheating if they had taken a business ethics course. Additionally, the extent of cheating amongst highly intelligent students was significantly reduced if such students had taken a course in business ethics.

Finally, Ritter (2006) conducted an empirical study that tested the effect of ethics training on moral awareness and reasoning. Among other results, findings suggested that women showed significantly improved moral awareness and decision-making processes after ethics exercises and discussion relevant to each topic were completed.

Cole and Smith (1996), however, reported the results of a survey administered to 537 college senior business majors and 158 experienced businesspeople: students were significantly more accepting of questionable ethical responses than were businesspeople, and the completion of ethics courses did not significantly affect students' responses.

In Portugal, Carreira and Gonçalves (2008) evaluated individuals' attitudes towards ethics before and after training in order to determine to what extent participants may change their attitudes and, in particular, their professional ethics. This study was developed with students from the College of Business Administration of the School of Higher Learning of the Polytechnic Institute of Setubal. Evidence from this study is consistent with the notion that behavioural change does occur with ethics instruction.

Accordingly, it is hypothesised that:

H4(a): Ethical perceptions change with attendance of a course on ethics.

H4(b): Ethical perceptions in relation to self and others change with attendance of a course on ethics.

2.5. Personal traits

As said before, we have included in our research a list of personal traits. These personal traits and their importance in the decision-making process have not been studied in the literature.

We have, however, decided to include 12 personal traits considered relevant to the accounting profession and to use a 5-point Likert scale (starting from 1 (*of no importance*) and ending with 5 (*completely important*)) to evaluate the degree of importance attributed by respondents to those traits.

Some of the traits were chosen after analysing the Portuguese Certified Accountants Ethics Code. Consequently, we have selected the following traits:

- Technical/professional competence: certified accountants must perform their duties diligently and responsibly, using the necessary knowledge and techniques, respecting the law as well as accounting and ethical principles.
- Confidentiality: certified accountants and their collaborators keep professional secrecy on the facts and documents brought to their knowledge, directly or indirectly, in the exercise of their duties.
- Impartiality: certified accountants ensure equal treatment and attention to all the entities they serve, except as provided in agreed contractual standards.
- Independence: certified accountants remain equidistant from any pressure as derived from its own interests or outside influences, so as not to compromise their technical independence.
- Integrity: certified accountants will be guided by standards of honesty and good faith.
- Loyalty: certified accountants, in their mutual relations, act with propriety and civility, refraining from any personal attack or disparaging allusion, conducting themselves in

compliance with the rules of fair competition and the law in order to maintain the dignity of the profession.

- Responsibility: certified accountants take responsibility for the acts committed in the performance of their duties.

The other personal traits used in this research were chosen considering technical books, journal articles, peer discussions in international meetings (e.g. 12th World Congress of Accounting Educators and Researchers), and several web searches. We have selected traits that, once achieved, could enhance certified accountants' performance in their daily tasks:

- Courage: certified accountants must possess not only technical proficiency and ethical sensibility, but also the strength to do what everyone expects them to do. On this subject, Steare (2013) offered content to help anyone learn how to decide what is right and to find the courage to do it. We found this trait of vital importance to certified accountants' everyday work.
- Initiative/entrepreneurship: certified accountants generate solutions in their labour relations. Buchholz and Rosenthal (2005) unify a framework that brings together the activity of entrepreneurship and moral decision-making. They stress the importance, from both an economic and ethical standpoint, of keeping the entrepreneurial spirit alive in organisations. Inspiration was also found in Sarasvathy (2002) when she states, 'At its heart, entrepreneurship is about the future. Not the future that has already happened and is therefore predictable ... but the future that is barely imagined today and can only be known in the creation of it tomorrow' (p. 109). From this, we found this trait is also crucial to certified accountants' everyday work.
- Spirit of leadership: certified accountants are to be honest and to communicate, delegate wisely, lead by example, and foster the commitment and confidence of the team, inspiring and encouraging resourcefulness. These are essential qualities of great leaders, which must be true of certified accountants.
- Obedience: certified accountants must obey the law and a whole series of rules and regulations that regulate the profession. Moreover, sometimes it also becomes necessary to obey hierarchical indications.
- Sense of justice: in the context of their duties and functions (as defined in the Portuguese Accounting Profession), certified accountants should demonstrate empathy by being aware of the ideals, interests, feelings, and well-being of others, especially of those with whom they work directly. Certified accountants should show fair treatment to all.

Given these traits and the individual factors already defined, the following relationships are hypothesised:

H5(a): The importance of personal traits changes with gender.

H5(b): The importance of personal traits changes with age.

H5(c): The importance of personal traits changes with work experience.

H5(d): The importance of personal traits changes with attendance of a course on ethics.

H5(e): A relationship exists between personal traits and the propensity to act similar to peers.

3. Methodology

This section addresses the research questions, data, and methods of this study. In this paper, we draw on a research study (Eweje & Brunton, 2010) that identified individual factors that may affect accounting students' ethical decision-making process. To further explore this idea, we question how age, gender, work experience, and attendance of a course on ethics affect accounting students' responses to work-related ethical dilemmas, and we assess the degree of importance assigned to certain personal traits.

Similar to the study of Eweje and Brunton (2010), which served as the basis for our study, we have chosen a questionnaire to quantitatively examine these topics. The framework of the questionnaire involved three parts: identification, personal questions, and scenarios (Appendix 1). Scenarios 3 and 5 were adapted to the Portuguese context. As our questionnaire was translated and adapted by the authors from the original version (Eweje & Brunton, 2010), we opted not to have it tested using a pilot version; instead, we used a small focus group of students comprising the same population to validate it.

Our empirical research explored the perceptions of students who were taking part in accounting education at ISCA-UA. The study generated data over a one-year period from 2012 to 2013, involving a total of 117 students from three specific accountancy courses: Financial Accounting (first year undergraduate course), Ethics and Deontology (third year undergraduate course), and Advanced Accounting (first year master's course). The questionnaire adapted from Eweje and Brunton (2010) provided the research data. An English version of the research instrument is provided in Appendix 1 (the translation process was carried out by the researcher), and a local language (Portuguese) version is available on request.

In order to get the appropriate ethics clearance, the study was explained to the Board of Directors of ISCA-UA. With their approval, each of the Heads of the courses was also fully informed about the empirical research, and the questionnaires were distributed with their approval. Comprehensive information was given to all the students involved, before the questionnaire was distributed, during a class.

Students completed the questionnaires in-situ and immediately returned these to the researcher. There were no non-responses. All the questionnaires were fully completed by the students. Students responded voluntarily and anonymously.

The first part (Question 1 – Identification) identified the sample regarding gender, age, work experience, and attendance of a course on ethics (see Table 1).

According to the range of ages, from 18 to 51 years, even if the majority of students arrived for their first year at age 18, some of them arrived later in life. The sample was then organised into four age bands that typically address students in each of the academic

Table 1. Characteristics of the respondents.

	Gender		Age				Work experience		Attendance of a course on ethics	
	Female	Male	18–20	21–23	24–26	27–51	Yes	No	Yes	No
Frequency	92	25	40	40	10	27	37	80	61	56
%	79	21	34	34	9	23	32	68	52	48

years that were analysed. Even though the age range 24–26 has fewer students, it corresponds to the students enrolled in a first master's degree, a specific situation that was under analysis.

The second part (Question 2 – personal questions) was designed to assess the degree of importance attributed by respondents to 12 personal traits considered relevant to the accounting profession. To measure their responses, we used a Likert scale of 5 points, starting from 1 (*of no importance*) and ending with 5 (*completely important*). Assuming the perspective of Hill and Hill (2008), some parametric techniques were used.

In the third part of the questionnaire (Question 3 – scenarios), respondents were presented with a list of nine scenarios regarding questionable business practices involving dishonest or barely honest practices and unethical acts. Each of these scenarios was composed of three questions: (a) Is the action ethical? (b) Would you do this yourself? (c) Would your peers do it?

Quantitative data analysis was performed with Statistical Package for Social Sciences.

First, an exploratory univariate analysis to synthesise data (descriptive statistics) was performed. Afterward, and in order to do distribution-free tests around our ordinal or nominal data, some specific tests were performed: Levene's test for testing the equality of variances and Kolmogorov–Smirnov ($n \geq 30$) or Shapiro–Wilk ($n < 30$) for testing normality. All tests were done at a 5% significant level. The distribution-free tests we conducted were the Mann–Whitney test (comparable to t -tests for parametric statistics), which was performed to determine whether two sets of rankings were likely to be from the same population, and the Kruskal–Wallis test (comparable to one-way Anova for parametric statistics), which was used to determine whether groups of rankings were equivalent or statistically different.

Regarding Question 2 – personal questions, we analysed how the personal traits were related with the different characteristics (gender, age, work experience, and attendance of a course on ethics).

Regarding Question 3 – scenarios, and in order to determine if significant differences existed for the three questions (Is the action ethical? Would you do this yourself? Would your peers do it?), we performed Mann–Whitney and Kruskal–Wallis tests to compare the medians.

Second, and in order to express the binomial variable 'attitude that each student had in each scenario' in function of the set of personal traits (Question 2), logistic regression was performed. As mentioned by Pestana and Gageiro (2009), a logistic regression model can be used when we try to explain an answer variable (nominal or ordinal) in the function of some (dependent) explicative variables. Subsequently, logistic regression (using Wald statistics to assess the contribution of individual predictors in the model, the Cox and Snell R^2 /Nagelkerke R^2 to measure the strength of association of the model, and a Hosmer and Lemeshow test to analyse how well the model fit the data) was performed in order to find the best fitting and most parsimonious, clinically interpretable model to describe the relationship between an outcome (dependent or response) variable and a set of independent (predictor or explanatory) variables.

4. The fit of personal questions and scenarios with students' ethical perceptions

4.1. Personal questions

For a more comprehensive data analysis, and to take into account the values of the semantic content of the Likert scale, we followed the three levels proposed by Morgado (2000), either regarding central tendency (see Table 2) or variability measures (see Table 3). As these levels were originally proposed for a simple but clear understanding of the adequacy regarding 'mean range' and the consensus regarding 'standard deviation range', they present themselves as appropriate for the purpose of our investigation. With this understanding and following Morgado's (2000) suggestion, we assumed the mean and the standard deviation as acceptable indicators of the adequacy level of each aspect analysed and the consensus/dispersion of each item, respectively.

Following the principles of Morgado (2000), central tendency (mean) and variability measures (standard deviation) were performed for all personal traits (see Table 4). From the results in Table 4, it can be seen that, globally, all traits seem to be very highly valued by students, although courage, spirit of leadership, and obedience are less pronounced than the others.

Nevertheless, in light of Morgado's (2000) criteria, the low moderate consensus for almost all items suggests that students do not really tend to give similar answers regarding these personal traits. However, 'Technical/professional competence' and 'Responsibility' (which present high moderate consensus) are the traits that tended to generate more similar answers from students.

In order to determine possible statistically significant differences between gender, age, work experience, and attendance of a course on ethics and all personal traits, and after concluding that Kolmogorov–Smirnov or Shapiro–Wilk normality tests rejected this hypothesis (all values were below .036 for a level of significance of 5%), we performed Mann–Whitney and Kruskal–Wallis distribution-free tests (see Table 5). For the Mann–Whitney test, performing it once only suggests that differences exist regarding integrity, but this does not convey which age bands are statistically significantly different. Therefore, successive Mann–Whitney tests were performed for a comparison among age bands for this specific trait (see Table 6).

Of the 12 traits initially chosen, only five proved to be influenced by any of the factors under consideration, and gender is most influential. Gender influences the 'Initiative/entrepreneurship', 'Obedience', and 'Responsibility'; age influences the trait 'Integrity'. Also 'Obedience' is influenced by work experience. And lastly, 'Independence' is influenced by the factor 'attendance of a course on ethics'. For 'Integrity', those who were older responded differently from those who were younger.

Table 2. Level of adequacy regarding central tendency (adapted from Morgado, 2000).

Mean range	Level of adequacy
1.0–2.5	Clearly inappropriate
2.6–3.5	Neither inappropriate nor appropriate
3.6–5.0	Clearly appropriate

Table 3. Level of consensus regarding standard deviation (adapted from Morgado, 2000).

Standard deviation range	Consensus
.00–.29	High consensus
.30–.59	High moderate consensus
.60–.89	Low moderate consensus
More than .89	Low consensus

4.2. Scenarios

With the purpose of analysing students' propensity to act similarly to their peers, nine different scenarios were pictured. In order to determine if statistically significant differences existed for the three questions (Is the action ethical? Would you do this yourself? Would your peers do it?), Mann–Whitney and Kruskal–Wallis tests were performed to compare the medians. No statistically significant differences were found for the scenarios except for Scenarios E and I. In fact, while for Scenario E students with and without work experience answer the question regarding the described attitude differently (p -value .002), in Scenario I, students from 18 to 20 and from 21 to 24 give different answers when compared with the age group of 27 to 51 (p -value .003 and .010, respectively).

In order to understand the relationship between the attitude that each student had when faced with each scenario and the degree of importance attributed to the personal traits (Question 2), logistic regression was performed (see Table 7).

5. Findings and discussion

Some of the results we obtained were as expected, but others were not. In general, the degree of importance attributed to personal traits did not change with gender, age, work experience, or attendance of a course on ethics. These results force us to reject hypotheses H5(a), H5(b), H5(c), and H5(d). Some personal traits, however, do change with factors (i.e. 'Initiative/entrepreneurship', 'Obedience', and 'Responsibility' change with gender; 'Integrity' changes with age; 'Obedience' changes with work experience; and 'Independence' changes with attendance of a course on ethics).

As for the degree of importance attributed to the personal traits, in general, the ethical perceptions of accounting students did not change with gender, age, work experience, or attendance of a course on ethics. Therefore, hypotheses H1(a) and H2(a) are supported but hypotheses H4(a) and H5(a) are not.

Table 4. Importance of personal traits.

Traits	Mean	Standard deviation
Technical/professional competence	4.56	.516
Confidentiality	4.47	.596
Courage	3.68	.703
Initiative/entrepreneurship	4.10	.674
Spirit of leadership	3.94	.802
Impartiality	4.12	.756
Independence	4.11	.796
Integrity	4.45	.609
Loyalty	4.54	.623
Obedience	3.96	.792
Responsibility	4.88	.351
Sense of justice	4.38	.628

Table 5. Influence of personal traits on gender, age, work experience, and attendance of a course on ethics (p -value for Mann–Whitney and Kruskal–Wallis distribution-free tests).

Personal traits	Age	Gender	Work experience	Attendance of a course on ethics
Technical/professional competence	–	–	–	–
Confidentiality	–	–	–	–
Courage	–	–	–	–
Initiative/entrepreneurship	–	.013 ^a	–	–
Spirit of leadership	–	–	–	–
Impartiality	–	–	–	–
Independence	–	–	–	.001 ^a
Integrity	.024 ^a	–	–	–
Loyalty	–	–	–	–
Obedience	–	.014 ^a	.034 ^a	–
Responsibility	–	.019 ^a	–	–
Sense of justice	–	–	–	–

^aSignificant at .05**Table 6.** p -values for comparison among age bands for integrity.

	Mann–Whitney U	p -value
18–20 versus 21–23	755.500	.629
18–20 versus 24–26	113.000	.017 ^a
18–20 versus 27–51	379.500	.021 ^a
21–23 versus 24–26	127.000	.079
21–23 versus 27–51	413.000	.066
24–26 versus 27–51	120.000	.508

^aSignificant at 0.05.**Table 7.** Existence of relationship between the scenarios and the degree of importance of the personal traits (p -values/Hosmer and Lemeshow values).

Personal traits	Scenarios								
	A	B	C	D	E	F	G	H	I
Technical/professional competence	–	–	–	–	–	–	–	–	–
Confidentiality	.033	–	–	–	–	–	–	–	–
	.287	–	–	–	–	–	–	–	–
Courage	–	–	–	.016	–	–	–	–	–
	–	–	–	.535	–	–	–	–	–
Initiative/entrepreneurship	–	–	–	–	–	–	–	–	–
Spirit of leadership	–	–	–	–	–	–	–	–	–
Impartiality	–	–	–	.005	–	–	–	.047	–
	–	–	–	.535	–	–	–	.360	–
Independence	–	–	–	–	–	–	–	–	–
Integrity	–	–	–	–	.000	–	–	–	–
	–	–	–	–	.641	–	–	–	–
Loyalty	–	–	–	–	.018	–	–	–	–
	–	–	–	–	.641	–	–	–	–
Obedience	–	–	.020	–	–	.046	–	–	.035
	–	–	.728	–	–	.104	–	–	.029
Responsibility	–	–	.021	–	–	–	–	–	–
	–	–	.728	–	–	–	–	–	–
Sense of justice	–	.024	–	–	–	–	–	–	–
	–	.818	–	–	–	–	–	–	–

^aSignificant at 05/Hosmer and Lemeshow test.

These results are similar to the studies of Kidwell et al. (1987) and Serwinek (1992), which found evidence that no differences exist in ethical decision-making regarding gender, but the results contrast with those obtained by Ruegger and King (1992), Beltrami et al. (1984) and Eweje and Brunton (2010).

As with Larkin (2000), and Forte (2004), our results suggest that no differences exist in ethical decision-making regarding age. This result contrasts with those obtained by Barnett and Karson (1989), Serwinek (1992), Karcher (1996), and Lund (2008), who concluded that older individuals responded more ethically than younger ones.

Also, the ethical perceptions of accounting students did not change with work experience or with attendance of a course on ethics. And regarding work experience, in eight of the nine scenarios, no differences were found. Thus, attendance of a course on ethics seems to have no influence on the answers given by accounting students. These results are in accordance with Goodman and Crawford (1974), McNichols and Zimmerer (1985), and Tse and Au (1997), but they are in contrast to the results of Arlow and Ulrich (1980), Beltramini et al. (1984), and Cole and Smith (1996).

Assessing their own ethics and the ethics of others, a majority of accounting students, when asked 'Would you do this yourself?', replied 'No'. However, when asked about their peers, they are divided, and the difference between those who respond 'Yes' and 'No' is minimal; although, in certain scenarios, respondents clearly have a negative perception of their peers.

These findings supported hypotheses H1(b), H2(b), H3(b), and H4(b), but we have not found any studies in the literature that support these findings. As a result, we believe that our results open new doors to further empirical research.

Using logistic regression analysis to understand the relationship between the attitude that each individual has when faced with ethical scenarios and the degree of importance attributed to the 12 personal traits (Question 2), we conclude that in eight of the nine scenarios, a relationship exists (which supports hypothesis H5(e)). None of the traits defined as potentially influential in decision-making, however, has been proven to be influential.

6. Conclusions

The main purpose of this study was to examine the ethical perceptions of accounting students and to analyse the influence of some individual factors that may affect their ethical decision-making process. We believe that our results will add to the literature, especially because, in Portugal, little has been done to further an understanding of which factors may affect students' ethical decision-making processes. We also hope to bring some added value to stakeholders, teachers, and scholars engaged with these matters.

In general, our study yielded very interesting results. Most respondents recognised the ethical problems presented in the scenarios, but when asked if they would have the same attitude, in many situations, the respondents would have the same attitude – even while acknowledging that the conduct was unethical. Finally, the ethical perceptions of individuals compared to their peers were, in most cases, divided. When they were not divided, the majority often had a negative perception of their peers.

Regarding the gender factor, we conclude that it influences the degree of importance attributed by students to traits such as 'Initiative/entrepreneurship', 'Obedience', and 'Responsibility'; however, in relation to decision-making, contrary to the conclusions reached by Eweje and Brunton (2010), we could not prove gender to be statistically significant in decision-making on the part of respondents. Thus, our study is in line with the results of Hegarty and Sims (1978), Callan (1992), and Fleischman and Valentine (2003).

As with the gender factor, the age factor proved to be influential in the degree of importance given by students to the trait 'Integrity', given that students, in general, attributed 'very' or 'quite important' to this trait; however, this trait also proved not to be statistically significant, unlike in the research of Eweje and Brunton (2010). Therefore, our study opposes the conclusions defended by Stevens (1984) and Forte (2004).

Work experience proved to be influential in the degree of importance given by students to the trait 'Obedience'; these results also contrast with those of Eweje and Brunton (2010), since in their research the factor was not found to be statistically significant, which is also advocated by Kohut and Corriher (1994) and McCullough and Faught (2005).

Finally, attendance of a course on ethics factor influenced the degree of importance attributed by students to the trait 'Independence' but, like previous factors, did not prove to be influential in decision-making by students with attitudes towards ethically questionable scenarios, which is advocated by authors such as Rohatyn (1988) and Fisher and Ott (1996).

Furthermore, this study identified some reservations regarding attitudes students' peers might have, and when asked about it, they had negative opinions or believed that their colleagues would have low ethical standards.

Like any empirical research, this study has some limitations. The first limitation is the extrapolation of the results because the sample of students was probably very small and represented only one institution of higher education. Another limitation has to do with the fact that the ethical perceptions of respondents were assessed on hypothetical ethical dilemmas: it is not possible to say without doubt that individuals' responses correspond to their behaviour in real situations. Furthermore, the respondents were not given the option of answering 'I don't know', and this may have affected their responses.

We suggest a number of ideas and opportunities for future research, including the following: develop this study at other institutions of higher education in Portugal and comparatively with other countries; develop this study with other students in addition to the accounting course; study in more detail other factors, both individual (i.e. individual values, cultural values) and situational (i.e. the influence of the working group) that were not assessed in this study.

Therefore, we are certain that this study contributes positively to the debate on this issue and opens the door to further investigate the topic of influential factors in students' decision-making.

Notes

1. Another example is: Wise (2015).
2. OCC (Certified Accountants Order), officially recognised in 2009, is the only professional association in Portugal that represents, through mandatory registration, the professional interests of certified accountants and supervises all aspects related to the performance of their duties. The professional organisation was officially recognised in 1995 as an *Association*; in 1999, it became a *Chamber*; in 2009, it became an *Order*. On 7 September 2015, the denomination changed from *OTOC – Ordem dos Técnicos Oficiais de Contas* (Official Account Technician Order) to *OCC – Ordem dos Contabilistas Certificados* (Certified Accountants Order).
3. For more details, please see <http://www.otoc.pt/pt/membros/> (available only in Portuguese). Retrieved December 14, 2015.

4. As an example, in 2013, OTOC/OCC administered three exams, and the average success rate was 33.81%. The total number of candidates was 2573.
5. OROC (Official Accounts Reviser/Auditor Order) was officially recognised in 1999, but the profession had already been recognised in 1972. This professional body is the sole association responsible for representing auditors, and it oversees all aspects related to the profession in Portugal. The professional body began in 1972 as a *Chamber*; in 1999, it became an *Order*.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Appendix 1. The questionnaire scenario (based on Eweje & Brunton, 2010)

Scenario A

A sales manager realises that the projected quarterly sales will not be met and that he/she will not receive a bonus. If a customer order is shipped early, it will ensure the quarterly bonus with no effect on annual sales. The sales manager asks a customer/client of his trust to place an order to reach the level necessary to receive the bonus.

Questions:

Is the sales manager's action ethical? Yes No

Would you do this yourself? Yes No

Would your peers do it? Yes No

Scenario B

A promising start-up company applies for a loan at a bank. This company's short credit history does not meet the bank's normal lending criteria. The bank credit manager is a

friend and golf partner of the company's owner, and, therefore, the credit manager approves the loan.

Questions:

Is the credit manager's action ethical? Yes No

Would you do this yourself? Yes No

Would your peers do it? Yes No

Scenario C

Because of an economic recession, the Director of Human Resources (HR) realises that he will have to lay off a person in order to reduce costs for the company. He will have to decide between an older person with a history of faults (illness in the family) and a recently hired employee who is very competent and committed. The HR Director dismisses the employee most recently hired.

Questions:

Is the HR Director's action ethical? Yes No

Would you do this yourself? Yes No

Would your peers do it? Yes No

Scenario D

The first responsibility of a newly promoted product manager is to sell a new, highly successful small kitchen appliance. Her salary bonus is based on the product sales. She discovers that the product has insufficient product testing to meet safety guidelines. So far, all testing has indicated no safety problems. The manager authorises the promotion and selling of the product.

Questions:

Is the product manager's action ethical? Yes No

Would you do this yourself? Yes No

Would your peers do it? Yes No

Scenario E

Mr. Almeida is an experienced salesperson who was unemployed for over 12 months. In order to increase his chances for getting a position he 'exaggerated' his experience, performance record, and salary history on his CV. As a consequence, he was offered a job, and became one of that company's top performers.

Questions:

Is Mr. Almeida's action ethical? Yes No

Would you do this yourself? Yes No

Would your peers do it? Yes No

Scenario F

A salesperson with two small children has been promoted to a job that demands extensive travelling. As usual in that company, he charges personal items to the company expense account because these trips are frequent and inconvenient to his family life.

Questions:

Is the salesperson's action ethical? Yes No

Would you do this yourself? Yes No

Would your peers do it? Yes No

Scenario G

A CEO instructs the financial controller to reduce the estimate for unrecoverable debt to increase reported income. The CEO argues that this is common industry practice during hard times. Historically, the company has made very conservative allowances for doubtful accounts, even in bad years. The financial controller makes the adjustment.

Questions:

Is the financial controller's action ethical? Yes No

Would you do this yourself? Yes No

Would your peers do it? Yes No

Scenario H

Mr. Silva, a small business owner in financial difficulty approaches a long-term friend to copy a database software program that will increase future sales. The software retails for 1000€. The friend provides a copy of the software package.

Questions:

Is Mr. Silva's action ethical? Yes No

Would you do this yourself? Yes No

Would your peers do it? Yes No

Scenario I

Your manager is in charge of deciding which new computers to purchase for your organisation. He tells one of the sales people that the decision is between his company and one other. The next day a new computer arrives at his company, a gift from the sales rep. The manager keeps the computer.

Questions:

Is the manager's action ethical? Yes No

Would you do this yourself? Yes No

Would your peers do it? Yes No