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SCHOOL OF ECONOMICS AND BUSINESS

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**ETHICS EDUCATION IN ACCOUNTING AND FACTORS  
AFFECTING MORAL JUDGMENT**

DOCTORAL DISSERTATION

Ljubljana, 2022

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## SUMMARY

Ethical behaviour is one of the foundations of the accounting profession (Ionescu, 2016), as it provides information for decision making and evaluation of decisions to a wide range of stakeholders. The reliance upon the work of accountants is based on trust, which, in turn, builds on ethical behaviour and ethical decision making. Trust in the accounting profession has declined, following a series of major corporate scandals at the turn of the century, such as Enron, WorldCom, Tyco, Adelphia and Lehman Brothers, which revealed a lack of ethics within the accounting profession, since it was accountants and auditors who were among those held responsible (European Commission, 2010). To regain public trust, the accounting profession must adhere to high ethical standards, whereby the education process has an important role to play. The purpose of this doctoral dissertation is to examine moral judgment of accounting students. The research findings have important implications for the educational process and can result in accounting students developing their moral judgment and thereby contributing to the ethical decision-making process (EDMP) of accounting professionals. The theoretical background of EDMP is outlined in the first chapter.

In the second chapter, we provide a comprehensive overview of existing research in the field that enhances understanding and drives future research of the field by applying three bibliometric methods. First, historiography is conducted to show the development of theoretical approaches. Second, bibliographic coupling is used to identify and analyse research areas that developed in the period before (1991–2000), between (2001–2010), and after major corporate scandals (2011–2020). And third, a co-word analysis is conducted to uncover field characteristics in terms of contextual space. Most studies on ethics education in accounting have presented a static view of the current situation. Since the field evolves dynamically over time, the second chapter provides a dynamic perspective on how this research field has developed over the last three decades. The resulting patterns of development in ethics education in accounting research, together with current developments in the business environment, provide a basis for predicting future developments in the field and for encouraging future research.

The period after the corporate accounting scandals outlined seven research areas, among which *Factors affecting EDMP* and the *Use of developed ethics frameworks* are of the main focus of the doctoral dissertation's empirical part of the research, where the effects of different variables on moral judgment are investigated. Moral judgment is the second step in EDMP, which deals with the ethical evaluation of morally questionable actions.

To achieve improvement in moral judgment in accounting students through ethics education, it is essential to understand their specifics. What is important and often neglected are the ethical predispositions of students enrolling in accounting. Understanding the unique characteristics of accounting students is crucial for a successful implementation of ethical content in higher accounting education, as different predispositions may require

different approaches to teaching ethics. Chapter three therefore focuses on ethical predispositions of accounting students. We are interested in how ethical predispositions of students who enrol in accounting differ compared to non-accounting business students. The data for the analysis were collected using a Multidimensional Ethics Scale questionnaire. The analysis of moral judgment shows that accounting students have different predispositions for *accounting-related* dilemmas compared to non-accounting business students, with accounting students being more influenced by egoism and contractualism.

After understanding the characteristics of accounting students, we move on to the research area *Factors affecting EDMP*, where we examine the impact of accounting education on students' moral judgment in chapter four. The data for the analysis were collected using the same questionnaire as in the third chapter. The results reveal that the change in moral judgment of accounting students from first to third year of study is not at a desirable level despite the integration of ethics topics in accounting courses.

Next, we investigate how additional improvement can be achieved. The literature review reveals that the *Use of developed ethics frameworks* is a research area newly developed in the last decade. Since some tools for teaching ethics in accounting have already been developed, we decided to study the effect of the Ethics Education Toolkit (EET) in the fifth chapter. EET was developed by the International Accounting Education Standards Board. The experimental design is used to determine the effects of teaching ethics with EET on moral judgment. The data were again collected using the same questionnaire. The results show that EET improves students' moral judgment in two out of three scenarios. Teaching with EET also influences the effects of moral philosophies, as the influence of justice, relativism and utilitarianism on moral judgment decreases, while the contractualism is perceived from a different perspective. Moreover, students believe that teaching with EET broadens their perspective on the extent of ethical decision making and appreciate being introduced to the difficulties faced by the accounting profession.

In the conclusion section, we summarise the main findings, theoretical contributions, practical implications, viable avenues for future research, limitations, and concluding remarks of the doctoral dissertation.

**Keywords:** accounting ethics education, moral judgment, moral philosophies, multidimensional ethics scale.

## POVZETEK

Etično vedenje je eden od temeljev računovodske stroke (Ionescu, 2016), saj zagotavlja informacije za odločanje in presojo širokemu krogu deležnikov. Uporaba teh informacij temelji na zaupanju, podlaga katerega pa je etičen proces odločanja in ravnanja. Zaupanje v računovodski poklic je upadlo po seriji velikih korporativnih škandalov, ki so se zgodili na prelomu stoletja, kot so Enron, WorldCom, Lehman Brothers in Parmalat, saj so razkrili pomanjkanje etike v računovodskem poklicu. Računovodje in revizorji so bili namreč med odgovornimi za omenjene skandale (European Commission, 2010). Za povrnitev zaupanja javnosti se mora računovodska stroka držati visokih etičnih standardov, pri čemer ima pomembno vlogo tudi izobraževalni proces. Namen te disertacije je preučiti moralno presojo študentov računovodstva. Ugotovitve raziskave imajo pomemben prispevek za izobraževalni proces, saj lahko pripomorejo k razvoju moralne presoje študentov računovodstva in s tem prispevajo k etičnemu odločanju računovodskih strokovnjakov. Teoretično ozadje procesa etičnega odločanja je opisano v prvem poglavju.

V drugem poglavju predstavimo obširen pregled obstoječih raziskav s področja izobraževanja o etiki v računovodstvu, kjer z uporabo treh bibliometričnih metod izboljšamo razumevanje področja in nakažemo možne smeri razvoja prihodnjih raziskav. Prva od uporabljenih bibliometričnih metod je historiografija, s katero prikažemo razvoj teoretičnih pristopov. Druga je bibliografska sklopljenost, s katero identificiramo raziskovalne sklope, ki so se razvili v obdobju pred (1991–2000), med (2001–2010) in po (2011–2020) velikih korporativnih škandalih. Kot tretjo smo uporabili analizo sobesedila z namenom prikazati kontekstualne značilnosti področja. Medtem ko večina obstoječih raziskav s področja izobraževanja o etiki v računovodstvu predstavlja statičen pogled, drugo poglavje ponuja dinamičen pogled na razvoj področja v zadnjih treh desetletjih. Razvoj področja izobraževanja o etiki v računovodstvu skupaj z aktualnim dogajanjem v poslovnem okolju predstavlja osnovo za napovedovanje prihodnjega razvoja področja in spodbuja prihodnje raziskave.

V obdobju po korporativnih računovodskih škandalih so se raziskave osredotočale na sedem raziskovalnih sklopov. Empirični del disertacije se osredotoča na dva od prepoznanih sklopov, in sicer *Dejavniki, ki vplivajo na proces etičnega odločanja* ter *Uporaba razvitih orodij za poučevanje etike*, kjer preučujemo učinke različnih spremenljivk na moralno presojo. Prav ta pa je drugi korak v procesu etičnega odločanja, ki se nanaša na oceno etičnosti določenega moralno spornega dejanja.

Če želimo z izobraževanjem o etiki doseči izboljšanje moralne presoje študentov računovodstva, je pomembno razumeti njihove značilne lastnosti. Pomembne in pogosto zanemarjene so etične predispozicije študentov, ki se vpišejo na smer računovodstvo. Razumevanje edinstvenih značilnosti študentov računovodstva je pomembno za uspešno izvajanje etičnih vsebin v računovodskem izobraževanju, saj lahko različne predispozicije zahtevajo različne pristope k poučevanju etike. Tretje poglavje se zato osredotoča na etične

predispozicije študentov računovodstva. Zanima nas, kako se etične predispozicije študentov, ki se vpišejo na računovodsko smer, razlikujejo od študentov, ki se vpišejo na druge poslovne smeri. Podatke za analizo smo zbrali s pomočjo vprašalnika večdimenzionalne etične lestvice (angl. Multidimensional ethics scale, MES). Analiza moralne presoje kaže, da imajo študentje računovodstva različne predispozicije za moralne dileme, povezane z računovodstvom, v primerjavi s poslovnimi študenti neračunovodskih smeri, pri čemer so študenti računovodstva bolj pod vplivom egoizma in kontraktualizma.

Po tem, ko razumemo značilnosti študentov računovodstva, preidemo na raziskovalno področje *Dejavniki, ki vplivajo na proces etičnega odločanja*, kjer v četrtem poglavju preučimo vpliv računovodskega izobraževanja na moralno presojo študentov. Podatke za analizo smo zbrali z enakim vprašalnikom kot v tretjem poglavju. Rezultati kažejo, da sprememba moralne presoje študentov računovodstva od prvega do tretjega letnika študija kljub vključevanju etičnih tem v računovodske predmete ni na želeni ravni.

V petem poglavju zato preučimo, kako je mogoče doseči izboljšave. Pregled literature razkriva, da je *Uporaba razvitih orodij za poučevanje etike* raziskovalno področje, ki se je na novo razvilo v zadnjem desetletju. Ker so nekatera orodja za poučevanje etike v računovodstvu že razvita, smo se odločili, da preučimo učinek *Orodja za izobraževanje o etiki* (angl. Ethics Education Toolkit, EET), ki ga je razvil Odbor za mednarodne standarde etike za računovodske strokovnjake (angl. International Accounting Education Standards Board, IAESB). Učinke poučevanja etike z EET na moralno presojo smo preučili z izvedbo eksperimenta. Podatke smo znova zbrali s pomočjo vprašalnika. Rezultati kažejo, da izobraževanje z orodjem EET izboljša moralno presojo študentov v dveh od treh dilem, poleg tega se spremeni tudi vpliv nekaterih moralnih filozofij na moralno presojo, saj se vpliv pravičnosti, relativizma in utilitarizma zmanjša, medtem ko se zaznava kontraktualizma spremeni. Študenti so poučevanje z orodjem EET zaznali kot zelo pozitivno. Menijo, da je razširilo njihov pogled na razsežnost etičnega odločanja, in cenijo, da so se bolje seznanili s težavami, s katerimi se v praksi sooča računovodska stroka.

V zaključku povzemamo glavne ugotovitve, opredelimo teoretični in praktični prispevek, predstavimo nekaj idej za prihodnje raziskave, izpostavimo omejitve ter sklepne ugotovitve disertacije.

**Ključne besede:** izobraževanje o etiki v računovodstvu, moralna presoja, moralne filozofije, večdimenzionalna etična lestvica.

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## LIST OF ABBREVIATIONS

sl. – Slovenian

**AACSB** – (sl. Ameriško združenje poslovnih šol AACSB); Association to Advance Collegiate Schools of Business

**AMBA** – (sl. Združenje magistrov poslovedenja); Association of Masters of Business Administration

**CMD** – (sl. kognitivni moralni razvoj); Cognitive Moral Development

**DIT** – (sl. model za merjenje moralnega razvoja); Defining Issue Test

**EET** – (sl. orodje za izobraževanje o etiki); Ethics Education Toolkit

**EDMP** – (sl. proces etičnega odločanja); Ethical Decision-Making Process

**EQUIS** – (sl. Certifikat kakovosti EFMD); EFMD Quality Improvement System

- IAESB** – (sl. Odbor za Mednarodne standarde izobraževanja računovodskih strokovnjakov); International Accounting Education Standards Board
- IFAC** – (sl. Mednarodna zveza računovodskih strokovnjakov); International Federation of Accountants
- KMO** – (sl. Kaiser-Meyer-Olkinov test); Kaiser-Meyer-Olkin
- MES** – (sl. večdimenzionalna etična lestvica); Multidimensional Ethics Scale
- SEB LU** – (sl. Ekonomska fakulteta, Univerza v Ljubljani); School of Economics and Business, University of Ljubljana
- SOX** – (sl. zakon Sarbanes–Oxley); Sarbanes–Oxley Act
- SSCI** – (sl. indeks citiranja s področja družboslovnih ved); Social Science Citation Index



# INTRODUCTION

## Research topic

Ethics in accounting is defined as a philosophical study based on moral principles and reflective decision making that addresses the issues of right and wrong behaviour (Onyebuchi, 2011), where the accounting profession presents a community with shared norms, values and definitions of expected behaviour (Frankel, 1989). It is of the highest public interest, because the outcomes of business decisions made by numerous financial statements users depend on the quality of financial reporting. In order to enhance the confidence of intended users in financial statements, the latter should be free from material misstatements and should faithfully represent the financial performance and position of the company. Hence, financial statements should be prepared and audited in accordance with the highest ethical standards. The importance of ethics in accounting has vastly increased following the corporate scandals at the turn of the century, such as Enron in 2001, WorldCom, Tyco and Adelphia in 2002, Lehman Brothers in 2008, and many others, including the recent Wirecard scandal in 2020, since it was accountants and auditors who were among those held responsible (European Commission, 2010). More lately, the importance of ethics in accounting has also been linked to the role of accountants in the Ponzi schemes (Deason et al., 2021). As a result of several cases of reported accounting irregularities and manipulations (Giroux, 2008), the accounting and auditing professions have developed a reputation for a lack of ethics (Low et al., 2008). This reflects the lack of ethics in both the field of financial reporting, which is primarily intended to provide true and fair representation to external users of financial statements, and accountability to the general public.

To prevent, or at least mitigate, further corporate scandals, regulatory changes were enacted, e.g. Sarbanes-Oxley Act, Directive 2006/43/EC, Directive 2014/56/EU and Regulation 537/2014, and although regulatory measures were necessary, they were nevertheless not sufficient (Lail et al., 2017). Many researchers argue that ethical content should be increased in accounting education (Jackling et al., 2007; Low et al., 2008; Massey & Van Hise, 2009; McPhail, 2001; Mintz, 2007), which has also been complemented by the requirements of international program accreditations such as the Association to Advance Collegiate Schools of Business (AACSB), Association of Masters of Business Administration (AMBA) and EFMD Quality Improvement System (EQUIS) that further contributed to increasing awareness on the importance of the ethics education itself and an accelerated implementation of ethics courses into the schools' curricula. Changes in education were needed as an essential element to not only properly address the ethical crisis facing the accounting profession (Jackling et al., 2007), but also to ensure practical skills and professional identity in addition to technical knowledge (Wilkerson Jr., 2010).

Although the aforementioned program accreditations mandate ethics-related content, no standardization of ethics education has been proposed, which could be one of the reasons why ethics education is still not given the necessary importance, both in terms of its presence (Larrán Jorge et al., 2015) and quality (Dellaportas et al., 2014). Another problem pointed out by Pierre and Rebele (2014) is that the desired outcomes of ethics education are not clearly defined. Huss and Patterson (1993) emphasize that students must be able to recognize ethical dilemmas and act accordingly. Similarly, Fisher and Murphy (1995) believe that the outcome of ethics education should be the improvement of students' moral development. Moreover, there is no clear approach or guideline that guarantees the desired outcome. This is particularly problematic given the lack of qualified educators teaching ethics (Dellaportas et al., 2014) and results in low engagement of educators in the field (Mintz, 2007).

To fully understand the research topic, it is necessary to first comprehend the ethical decision-making process (EDMP) as a whole. Awareness of the importance of ethics education has grown since Kohlberg's seminal work on the theory of cognitive moral development (CMD) in 1958. The theory supports the position that moral judgments, judgments that have moral content, result from reasoning. Rest (1986) describes EDMP as a four-step process, starting with moral awareness or moral sensitivity<sup>1</sup> whereby an individual first needs to be aware of a problem. This is followed by moral judgment or an evaluation of morally questionable action. After evaluating the action, the individual reveals their moral intention, namely, the intention to choose one decision over another. In the last step – moral behaviour – the individual executes their moral intention.

The doctoral dissertation examines the second step of EDMP, moral judgment. The research on moral judgment has largely evolved around two main areas of research: *CMD* (Bailey et al., 2010; Kohlberg, 1971; Lampe, 1996; Ponemon, 1990; Roche & Thoma, 2017) and *reasons influencing EDMP* (moral philosophies) (Gupta, 2010; Kara et al., 2016; Leonard et al., 2017). Based on the work of Reidenbach and Robin (1988, 1990), Cohen et al. (1998) organised the latter around five moral philosophies: justice, utilitarianism, contractualism, egoism and relativism. These moral philosophies are a considerable factor determining EDMP (Hunt & Vitell, 1986), since they tell us “*why one may do the right thing*” (Shawver & Sennetti, 2009, p. 666) and form the basis of the research throughout the doctoral dissertation.

Besides moral philosophies, a considerable body of business ethics literature looks at other factors of EDMP, such as gender (i.e. Adkins & Radtke, 2004; Albaum & Peterson, 2006; Betz et al., 1989; Chen & Tang, 2006; Dreber & Johannesson, 2008; Gill, 2010; Jones & Hildebeitel, 1995; Ng et al., 2016; Roxas & Stoneback, 2004), age and education (i.e. Adkins & Radtke, 2004; Borkowski & Yusuf, 1992; Cooper et al., 2008; Gautschi &

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<sup>1</sup> Moral awareness and moral sensitivity are used interchangeably (Weaver, 2007).



Jones, 1998; Halbesleben et al., 2005; Jones & Hildebeitel, 1995; Marques & Azevedo-Pereira, 2009; McNair & Milam, 1993; Mohd Ghazali, 2015; Ramirez & Palos-Sanchez, 2018; Rosati et al., 2018; Tormo-Carbó, Oltra et al., 2016), study major (i.e. Beekun et al., 2017; Borkowski & Yusuf, 1992; Green & Weber, 1997; Sweeney & Costello, 2009), culture (i.e. Antes et al., 2018; Ge & Thomas, 2008; Hofstede, 2001; Steele et al., 2016) and the teaching of ethics (i.e. Arfaoui et al., 2016; Carr, 2007; Dellaportas, 2006; McNair & Milam, 1993; Miller & Shawver, 2018; O’Leary & Stewart, 2013). Although researchers have addressed many different factors, most studies focus on main effects and do not consider possible interactions between factors. We intend to contribute to a comprehensive and deeper understanding of the development of moral judgment by taking into consideration the moral philosophies that underlie the ethical decision making and by including different factors in a single research study, while accounting for their interactions.

## **Research questions**

The significance of ethics in accounting has grown enormously since the corporate scandals at the turn of the century. These reflect a lack of ethics in both public accountability and financial reporting. The work of accountants influences the business decisions made by many users of such statements. The effectiveness of their decisions depends on the quality of financial statements. To increase the quality and regain public trust, in addition to legislative changes and revised professional codes of ethics, the corporate scandals also have implications for business schools, particularly MBA courses (Knights & O’Leary, 2005) and accounting- and auditing-related courses, as education in this field is a viable solution to address the accounting profession’s ethical crisis (Jackling et al., 2007). Increased importance of the research area is also highlighted in the bibliometric analysis of business ethics research, in which accounting ethics education is outlined as a research cluster but not described in detail (Uysal, 2010). Therefore, this particular field of research is further analysed in this doctoral dissertation. Since there seems to be an increasing awareness of the importance of ethics education in accounting, we aim to answer the following research questions:

*RQ1a: How have theoretical approaches in the field of ethics education in accounting developed?*

*RQ1b: Which research areas have developed in ethics education in accounting before, during, and after major accounting scandals?*

*RQ1c: What are the main characteristics of the research field in terms of contextual space before, during and after major accounting scandals?*

The literature review identifies seven research areas in the last decade, of which *Factors affecting EDMP* and the *Use of developed ethics frameworks* are the focus of the empirical part of the doctoral dissertation. The importance of these two research areas has been highlighted by Poje and Zaman Groff (2021), with the first area outlined as an ongoing

research cluster, and the second area expected to be transformed into the broader *How to teach ethics* cluster.

To contribute to ethics education in accounting, we need to understand ethical predispositions of students enrolling in accounting, as they might influence the effectiveness of education. Understanding the unique characteristics of accounting students is important for the successful implementation of ethical content in higher accounting education, as different predispositions may require different approaches to teaching ethics.

One of the indications that ethical predispositions of accounting students differ from those of non-accounting business students is their motivation to select accounting as study major. The fact that the accounting profession is perceived as very precise and thorough leads less creative people to choose this major (Azevedo & Sugahara, 2012; Saemann & Crooker, 1999). Related to creativity, the experiments of Gino and Ariely (2012) interestingly reveal that creativity reinforces dishonest behaviour. Taking into account these results, it can be assumed that students who are less inclined to dishonest behaviour enrol in accounting.

Although some research has been done in these areas, the results are not consistent and additional research is needed. Sweeney and Costello (2009) report accounting students are more likely to recognize ethical dilemmas than non-accounting business students. Beekun et al. (2017) investigate the differences in moral judgment between business and non-business students. The results reveal that business students more often base their decisions on egoism than their non-business counterparts. Similarly, Ge and Thomas (2008) reveal the troubling ethical decisions made by Chinese and Canadian undergraduate accounting students: egoism is found to be the most frequently used philosophy for moral judgment. On the other hand, using a sample of business students, Kara et al. (2016) show that justice, followed by relativism, egoism and contractualism, have the greatest influence on judgment. The opposite results are found in the research of Borkowski and Yusuf (1992), who studied differences in EDMP between accounting students and non-accounting business students and found no statistically significant differences. Similarly, Green and Weber (1997) found no differences in ethical predispositions between accounting and non-accounting students. The need for additional comparison between different majors was also outlined by Leonard et al. (2017), as it was recognized as one out of three under-investigated research areas in the field of business ethics in academia. Thus, the second research question is *RQ2: How do the ethical predispositions of students who enrol in accounting differ compared to non-accounting business students?*

The role of professional education is to expand knowledge and provide a service to society. Unfortunately, the accounting scandals show that society is not satisfied with the services provided. Low et al. (2008, p. 222) even stated that “it is argued that recent corporate scandals have set a new low for the accounting profession”. Although predispositions can have influence on EDMP, it can still be further enhanced by education, as it increases the sensitivity to ethical issues and moral judgment (Al-Ansari, 2006; Bakken & Ellsworth,

1990; Nather, 2013; Rest & Thoma, 1985). Research by Rest et al. (1999) shows that 30 to 50% of the variance in moral development can be explained by educational level. Individuals who enrol in formal education are more interested in their own progress than others and formal education enhances their growth (Rest & Navarez, 1994) makes them more ambitious and trustworthy (Rosati et al., 2018). Although positive effects of ethics education are evidenced (Nerandzić et al., 2012; Ramirez & Palos-Sanchez, 2018; Swenson-Lepper, 2005; Tormo-Carbó, Seguí-Mas et al., 2016), a problem arises in the implementation of ethics education, as there is no clear guideline on how much time should be devoted to the development of these so-called soft skills, given the limited teaching hours. Additional attention to soft skills can only be achieved by decreasing the technical competence education and it is a challenge to balance this (Rebele & Pierre, 2019). “Developing soft skills would be an added bonus, but this should never take priority over developing students’ technical accounting competence” (Rebele & Pierre, 2019, p. 77). Even if sufficient time is given to ethics education, a new problem arises: how to approach the teaching of ethics? Implementing ethics topics without thoroughly thinking about how to do so may not add value. Educators should define why and how ethics should be integrated into the curriculum. The goal of integrating ethics into the curriculum should be to enhance students’ moral development (Fischer & Rosenzweig, 1995). Ethics should be taught in a way that encourages students’ critical thinking about ethical dilemmas. There can be more than one right answer to ethical dilemmas, so students should be evaluated based on their critical analysis. This shows the importance of measuring the progress of teaching ethics and making changes accordingly, if the set goals are not met. Limited time should be used efficiently, otherwise there is no point in reducing the time spent on technical skills. Thus, the third research question is as follows: *RQ3: What influence does the accounting education have on students’ moral judgment?*

In line with the results of other research, we confirm that changes in ethics education in accounting are needed to enhance the moral development. Existing studies show that in the last decade researchers have moved further from the original research question *Can ethics be taught?* (LaGrone et al., 1996; Ponemon, 1993; Ritter, 2006) to more specific questions such as *How can ethics be incorporated into the curriculum?* (Hartman & Werhane, 2009; Jonson et al., 2015; Klimek & Wenell, 2011) and *What is the effectiveness of specific interventions?* (Blanthorne, 2017; Loeb, 2015; Martinov-Bennie & Mladenovic, 2015; Tweedie et al., 2013). Aside from the impact of formal education, other researchers have examined the effect of ethics education (Gautschi & Jones, 1998; Ponemon, 1993; Ramirez & Palos-Sanchez, 2018; Tormo-Carbó, Oltra et al., 2016; Tormo-Carbó, Seguí-Mas et al., 2016). Research by Tormo-Carbó, Seguí-Mas et al. (2016) shows that students who enrolled in ethics education had a need for further ethics education, due to their awareness of business ethics. They better understood the importance of ethics as regards their professional responsibilities. Tormo-Carbó, Oltra et al. (2016) reported similar results, showing that the moral awareness of students who had taken courses in business ethics and their willingness to take such courses were higher than with the students who had not taken

such courses. According to Ramirez and Palos-Sanchez (2018), students who engage in ethics education are more interested in complying with the law than others. Through ethics education, students are more apprehensive about the outcomes of unethical behaviour and more capable of relating illegal actions to the consequences, leading to greater law-abidingness. Although ethics education has some positive effects, the question of what the best way to teach ethics is remains unanswered. The International Accounting Education Standards Board (IAESB), an independent standard-setting body within International Federation of Accountants (IFAC), has published a paper titled Approaches to the Development and Maintenance of Professional Values, Ethics and Attitudes in Accounting Education Programs. The paper is a result of numerous research projects, aimed at supporting the implementation of ethical education programs for professional accountants (IAESB, 2006). As a result of one of the research projects, the Ethics Education Toolkit (EET) was developed. It is intended to assist in achieving good practice in education and development, as it provides clear guidance on how to approach teaching ethics. Using an existing toolkit can be an efficient way to overcome problems related to lack of ethics topics, such as lack of ethics topics in accounting textbooks (McNair & Milam, 1993; Tweedie et al., 2013), lack of qualified staff (Dellaportas et al., 2014), and time constraints (Dellaportas et al., 2014; McNair & Milam, 1993). In this context, we would like to address the following research questions:

*RQ4a: What is the impact of using EET on students' moral judgment?*

*RQ4b: How do students perceive education with EET?*

## **Research methodology**

To properly address the research questions, the following research methodologies are used in the doctoral dissertation: literature review, questionnaire and experiment.

To address the first research question, an extensive literature review is conducted. To identify development of theoretical approaches in the field of ethics education in accounting (*RQ1a*), we use historiography method. Historiography analyses the chronological development of the research field by visualizing the most important publications and showing how articles build on each other. For the second part of the first research question (*RQ1b*), the identification of research areas, we apply bibliographic coupling which allows us to identify and analyse individual clusters of research literature and relations between them. To gain insights into the influence of accounting scandals, the analysis is conducted separately for each of the three periods: period before, during, and after major accounting scandals. For the third part of the first research question (*RQ1c*), we apply another bibliometric method, the co-word analysis. It enables us to show the characteristics of the field in terms of contextual space and it is the only method within literature review that uses text data as a source for the analysis, whereas historiography and bibliographic coupling use references.

For the second (*RQ2*) and third research questions (*RQ3*), we use questionnaire as a research method. To collect the data, a Multidimensional Ethics Scale (MES) questionnaire developed by Cohen et al. (1998), based on the work by Reidenbach and Robin (1988, 1990), was distributed to students at the School of Economics and Business, University of Ljubljana (SEB LU). The MES is a questionnaire that requests respondents to reveal their motives for making decisions on ethical dilemmas. It provides information about the respondents' moral judgment based on five philosophical constructs (justice, relativism, egoism, utilitarianism, and contractualism). Ethical dilemmas were presented using eight vignettes (grouped into three types of dilemmas) developed by Cohen et al. (2001). After data collection, we first conduct factor analysis to determine whether items (questions) load on the same five factors (moral philosophies). This is followed by regression analysis where the level of perceived ethicality (moral judgment) of a morally questionable action represents the dependent variable of the regression model, while other variables related to moral philosophies, study major, and study year represent the independent variables. In addition to the main effects, we also study the interaction effects between moral philosophies and other independent variables.

To answer the fourth research question (*RQ4*), an experiment was conducted. For experimental purposes, sample was divided into two groups: treatment group and control group. Before treatment (pre-test data), students in both groups completed the MES questionnaire (same as for *RQ2* and *RQ3*) to ensure no differences between the groups exist prior to treatment. Next, the treatment group attended lectures that followed the guidelines of EET, while the control group received no additional ethics training. After the treatment, both groups were again given the MES questionnaire, this time along with three vignettes describing accounting ethical dilemmas developed by Uddin and Gillett (2002). The data were again analysed using regression analysis, with the level of perceived ethicality (moral judgment) of a morally questionable action being the dependent variable of the regression model, while moral philosophies and experimental group are the independent variables. In addition to main effects, we also study the interaction effects between moral philosophies and experimental group. In all empirical studies we control for gender influence.

### **Structure of the doctoral dissertation**

After the introduction, the first chapter focuses on the theoretical background of EDMP. In the second chapter, we provide answers to the first research question (*RQ1*) by presenting a literature review of the research area of ethics education in accounting. We show a chronological development of the research field using historiography and outline the most influential articles in the field. We also identify and analyse individual clusters of academic literature and relations between them using bibliographic coupling. Moreover, we highlight the characteristics of the field by performing co-word analysis. Based on the findings of the literature review, we conduct three empirical studies, which are described in chapters

three to five. In chapter three, we focus on the second research question (*RQ2*), in which we address the differences in ethical predispositions between accounting students and non-accounting business students. After understanding the ethical predispositions of accounting major students, we move to the third research question (*RQ3*) in the fourth chapter. In the latter, we analyse the improvement in moral judgment of accounting students from first to third year of study. Since the results show there is still room for improvement in students' moral development, we centre on the fourth research question (*RQ4*), which focuses on the effect of a specific education instrument, the EET, on moral judgment of accounting students in chapter five. In the sixth chapter, we outline the main findings, theoretical contributions and practical implications of the doctoral dissertation. We also suggest avenues for future research and discuss the limitations of the doctoral dissertation. Chapter ends with concluding remarks. In the appendices, we provide additional information and results not included in the main part of the doctoral dissertation, as well as an extended summary in Slovenian language.

## **1 ETHICAL DECISION-MAKING PROCESS**

### **1.1 Theoretical background**

One of the most important works related to the theoretical background of accounting ethics research is a seminal work by Kohlberg (1958, 1969), who developed the theoretical foundation of CMD. He defined six stages of moral development that can be divided into three levels: pre-conventional, conventional, and post-conventional. At the pre-conventional level, moral sense is externally controlled and ethical decisions are based primarily on the expectations of authority and the consequences of breaking the rules. At the next, conventional level, individuals strive to ensure positive relationships and social order. At the last, post-conventional level, individuals understand the meaning of principles and morality and act according to their own ethical principles. To progress to a more complex, higher level of moral reasoning, individuals need to successfully progress through the previous stages. The theory supports the position that moral judgments, that is, judgments that have moral content, result from reasoning.

An ethical dilemma, sometimes called an ethical paradox, is a decision problem between two (or more) possible morally questionable actions, neither of which is clearly acceptable or preferable. The complexity arises from the situational conflict in which compliance with one would lead to transgression of the other. The ethical dilemma is a widely used concept, but there is no general agreement on its operationalization.

Based on Kohlberg's theory, Rest (1986) defines EDMP as a four-step process that begins with moral awareness, where the individual first needs to be aware of the existing problem or morally questionable action. Although Rest developed the four-step model, he did not discover the concept of moral awareness, as the concept had already been explored in the

philosophical studies in the eighteenth century (Weaver, 2007). But due to his work, moral awareness has been recognized as an important component of EDMP in academic research (Weaver, 2007). Moral awareness is followed by moral judgment or an individual's assessment of whether the morally questionable action that is to be taken to deal with the problem is morally right. After evaluating the morally questionable action, the individual reveals their moral intention, namely, the probability of taking such an action. The final step of EDMP, i.e. moral behaviour, represents the individual's actual execution of their moral intention. Only when the individuals are aware of the problem can they make a moral judgment, choose the intention, and act accordingly (Rest, 1986).

Research on EDMP has evolved around two main areas: CMD (Arfaoui et al., 2016; Bailey et al., 2010; Christensen et al., 2018; Kohlberg, 1971; Lampe, 1996; Ponemon, 1990; Roche & Thoma, 2017; Thorne, 1999) and the reasons influencing EDMP (Gupta, 2010; Kara et al., 2016; Leonard et al., 2017). While Defining Issue Test (DIT), developed by Rest (1979), is one of the most widely used instruments for assessing an individual's CMD, MES, on the other hand, originally developed by Reidenbach and Robin (1988, 1990), is one of the most widely used instruments in research on reasons that influence EDMP. DIT measures the level of moral reasoning, whereas MES provides the understanding of moral reasoning by measuring individual ethical preferences. With MES, individuals not only indicate their decisions about ethical dilemmas, but also disclose the reasons that contribute to their decisions. The focus of this doctoral dissertation is on the reasons that influence EDMP as measured by MES.

MES was developed by Reidenbach and Robin in 1988 and consists of 30 items. Based on content analysis, items can be categorised into five moral philosophies: justice, deontology, relativism, utilitarianism, and egoism. The 30 items were reduced by the same authors two years later (Reidenbach & Robin, 1990) to 8 that capture three (instead of five) constructs: moral equity, relativism, and contractualism. In a later version of MES, Cohen et al. (1998) expanded 8 items to 12, corresponding to five constructs: justice, deontology, relativism, utilitarianism, and egoism. The latter two were added to the three constructs 8-item MES. Since items of deontology from Cohen's MES correspond to contractualism in Reidenbach's 8-item MES, this term will continue to be used. Since the research of Cohen et al. (1995, 1996, 2001) focused on accountants and auditors and the 12-item MES scale has been widely used for business ethics research (e.g. Gupta, 2010; Leonard et al., 2017; Shawver & Sennetti, 2009), this is the scale we used for the empirical part of the doctoral dissertation. The differences between the 30-, 12-, and 8-item MES are listed in Appendix 2.

Moral philosophies include theories by various philosophers such as Rawls (1971) (justice), Brandt (1959) (relativism), Donaldson and Werhane (1983) (egoism), Smart (1973) (utilitarianism) and Ross (1930) (deontology). The following explanation of moral philosophies refers to the 12-item MES. Actions based on fairness and the equal treatment of equals refer to justice and include three elements: justice, fairness and moral rightness.

Relativism refers to actions that follow the guidelines and requirements of particular environments rather than individual considerations and include family acceptance, cultural acceptance and traditional acceptance. Commitment to adhere to ethical rules and not violate an unwritten contract or an unspoken promise refers to contractualism. Egoism refers to the promotion of long-term self-interest and involves self-promotion and personal satisfaction. In contrast to egoism, the moral philosophy utilitarianism refers to actions that bring the greatest good to the greatest number of people and comprises greatest utility and maximizing benefits, while minimizing harms. Altogether, moral philosophies represent an important factor in determining EDMP (Hunt & Vitell, 1986; Kara et al., 2016), as they tell us “why one may do the right thing” (Shawver & Sennetti, 2009, p. 666).

According to Hansen (1992), justice consists of two components: distributive justice and procedural justice. Distributive justice refers to the appropriate distribution of resources. Procedural justice, on the other hand, refers to the idea of fairness and justice of rules or procedures by which resources are distributed. Rawls (1971) gives a good example of procedural justice. If one person cuts a cake into two pieces and the other person can choose which piece to take, then the person cutting the cake will be motivated to divide it into two equal pieces. Reidenbach and Robin (1990) defined justice as the totality of the above. Ethical aspects of an action are determined by the perception that equals are treated equally and unequals are treated unequally. It is based on fairness, but also includes the idea of both distributive justice and procedural justice. Justice consists of three ideas: fairness, justice, and moral rightness. “A person has been treated justly when he or she has been given what is due or owed, what he or she deserves or can legitimately claim. What is deserved may, however, be either a benefit or a burden” (Beauchamp & Bowie, 1983, p. 40).

Relativists believe that what is morally right depends on circumstances (Elias, 2002) and therefore deny the objectivity of moral judgment (Reidenbach & Robin, 1990). What is morally right depends on a culture or an individual, on the norms of that particular society (Reidenbach & Robin, 1990). This means that there are no universal ethical rules that apply to everyone and could be considered fundamental. Since ethical rules are relative to a particular culture, the values and behaviour of people in one culture need not determine the behaviour of people in another culture. Relativism refers to actions that follow the guidelines and requirements of a particular environment and includes acceptance of family, culture and tradition.

According to Reidenbach and Robin (1990), utilitarianism is the teleological theory which states that individuals should act in such a way as to produce the greatest possible balance between good and evil for society as a whole. It forces actors to consider and weigh all the consequences of their actions or inactions in order to determine what is best for society. Since one action is compared to another, utilitarianism promotes efficiency. This means that a less efficient action is likely to produce less benefit than a more efficient action and is therefore less ethical. Furthermore, the public learns about the ideas of utilitarianism



through the concept of the democratic process, which focuses on majority rule. Utilitarianism is primarily concerned with the consequences of actions. It assumes that an action is right, if it leads to the greatest benefit for the greatest number of people or, conversely, the best balance of bad consequences. Utilitarianism refers to actions that bring the greatest good to the greatest number of people and comprises of greatest utility and maximizing benefits, while minimizing harms.

Reidenbach and Robin (1990) noted that the two teleological theories most commonly discussed in modern philosophy can be illustrated by the question of whether the evaluator of consequences should focus exclusively on the individual or include society as a whole. If the evaluator focuses only on the consequences for the individual, then the related theory is called egoism. A person behaves in their own best interest and seeks to maximize their pleasure. Although this often has a negative connotation, it was an important basis for the development of Adam Smith's invisible hand theory: organizations that focus on their own long-term interest without realizing it are simultaneously contributing to the best interest of society. Thus, egoism refers to the promotion of long-term self-interest and involves self-promotion and personal satisfaction.

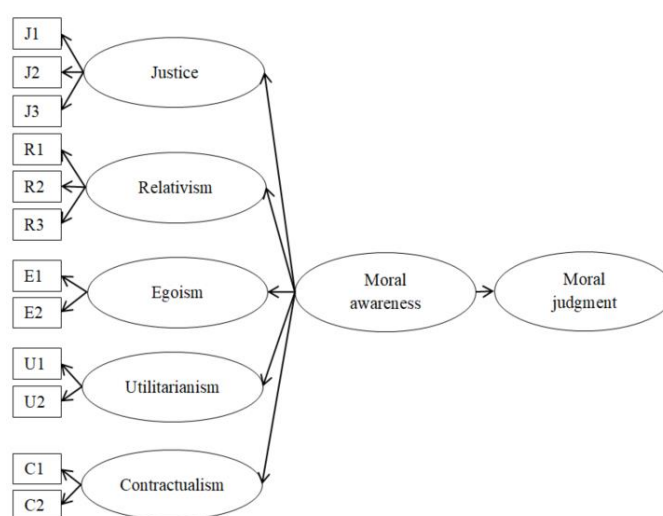
Deontology suggests that people are obligated to meet the needs of others. The most famous ethical rule comes from Immanuel Kant and is called the "Categorical Imperative" (Kant, 1965). An interesting adaptation of the Kantian deontology was developed by John Rawls. His approach has become labelled "contractarianism" or "contractualism", because it uses the idea of a social contract. Social contract forms the basis for morality and serves as a reason for our social obligation towards the needs of others. Shafer-Landau (2013, p. 593) describes contractualism as follows: "An act is wrong if its performance under the circumstances would be disallowed by any system of rules for the general regulation of behaviour which no one could reasonably reject as a basis for informed, unforced general agreement." In this doctoral dissertation, the concept of contractualism refers to the social contract. It is the contract between the society and business. It states that people accept a concept of duty that is independent of the concept of good and that a person's actions are justified not by the consequences associated with those actions, but by the motives underlying those actions (Reidenbach & Robin, 1990). It refers to the obligation to abide by ethical rules and not to break an unwritten contract or an unspoken promise.

Empirical research uses two terms for moral philosophies measured by MES: moral awareness (e.g. Cohen et al., 2001) and moral judgment (e.g. McMahon & Harvey, 2007). Researchers who claim that MES is the measure of moral judgment view moral philosophies as a measure of moral judgment (Pan & Sparks, 2012). On the other hand, researchers who view moral philosophies as moral awareness believe that the items of moral philosophies in MES influence other steps in EDMP, including moral judgment (Leonard et al., 2017).

EDMP has been defined by Rest (1986) as a four-step process. It begins with moral awareness, in which individual recognizes that moral problem exists. This is followed by moral judgment, which is the evaluation of whether a questionable action is morally right or wrong. Cohen et al. (1996) were among the first who propose a relationship between MES and Rest's four step model. They suggest scores of moral philosophies relate to moral awareness. Term moral awareness is used for moral philosophy items, while the "is it ethical" item is used to measure moral judgment. Because items related to moral philosophies do not evaluate whether a questionable action is morally right or wrong, they are better suited to represent moral awareness than moral judgment. Given Rest's definition of the four steps of EDMP, we will use term moral philosophy as an equivalent for moral awareness in this dissertation.

Meaning, that measurement instrument MES captures moral awareness with moral philosophies, where each of the five moral philosophies presents ethical criteria (Cohen et al., 2001). Buchan (2014) presented the group factor model in which moral awareness has a direct influence on moral judgment (Figure 1). This approach assumes that the latent variable, i.e. moral awareness, exists in each moral philosophy, which means that moral awareness is represented by one combination of moral philosophies per individual.

*Figure 1: Group Factor Model*

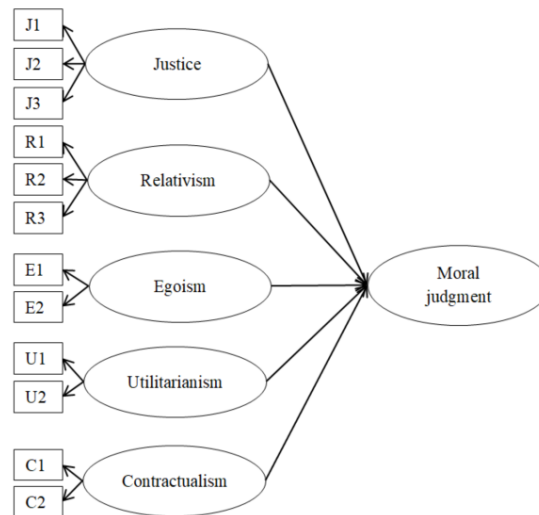


*Source: Adapted from Buchan (2014), Cohen et al. (1998) and Ishida et al. (2016).*

Not all researchers agree with this research model. For example, Bartels et al. (2015) and Kara et al. (2016) prove that individuals can make decisions based on multiple moral philosophies and the combination can vary depending on the context (i.e. scenario). The underlying moral philosophy is not unique for each individual. Therefore, in the empirical part of the doctoral dissertation, we opted for a one-factor model in which the effects of each moral philosophy on moral judgment are analysed. This is also the model commonly used in accounting ethics research (e.g. Cohen et al., 2001; Lin & Ho, 2008; Shawver &

Sennetti, 2009; Thomas, 2018). Ethics consists of multiple dimensions (moral philosophies) that cannot be summarised in a single variable. Each moral philosophy represents a factor associated with the observed variable, i.e. moral judgment (Figure 2).

*Figure 2: One-factor Model*



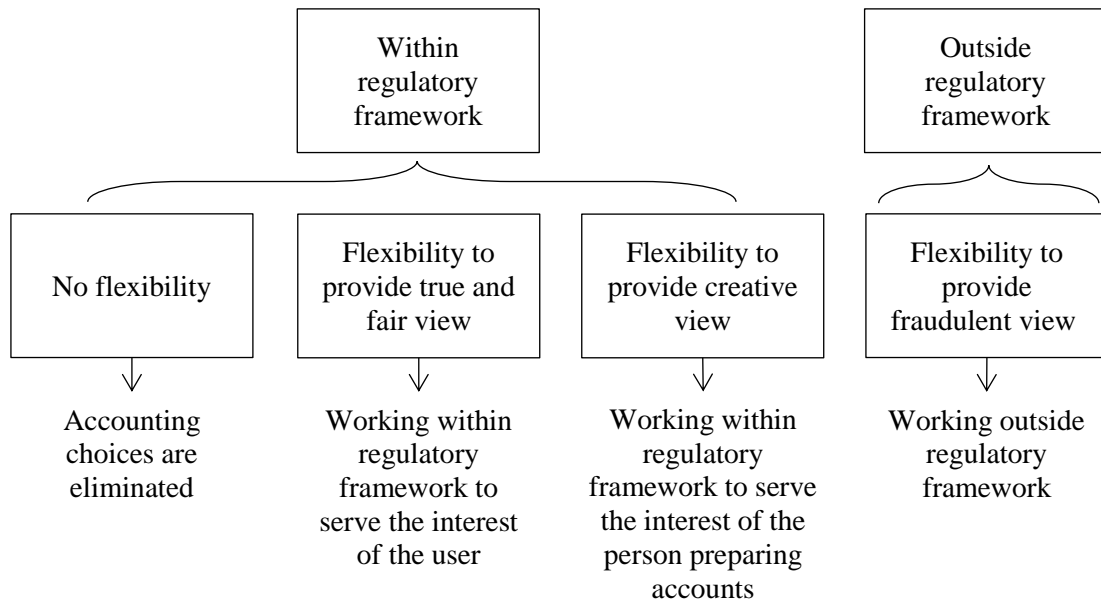
*Source: Adapted from Buchan (2014) and Cohen et al. (1998).*

O'Fallon and Butterfield's (2005) literature review shows that among the steps of EDMP, moral judgment is by far the most studied dependent variable, followed by intention and behaviour, which have been similarly researched. While only two reported findings relate to the independent variable awareness and dependent variable moral judgment, eleven times more articles report findings related to the independent variable moral philosophies and the dependent variable moral judgment.

## **1.2 Importance of ethics in accounting**

The work of accountants and auditors influences the business decisions of numerous financial statements users. The effectiveness of their decisions depends on the quality of financial statements, which should be free of material misstatement and should faithfully represent the company's financial performance and position in accordance with the relevant accounting framework. To enhance users' confidence in financial statements and facilitate business decisions, the principles of professional ethics should be respected in both professions. Accountants should provide accounting users with a true and fair view of the company's performance and for this reason accounting regulatory system provides some flexibility. It is difficult to create a system that works for all types of companies in different industries and environments. However, this flexibility is often abused and serves for creative accounting, which looks for loopholes in the existing regulatory framework. The term creative accounting is usually used for the flexibility in the accounting within the regulatory framework and excludes fraud (Figure 3) (Jones, 2010).

*Figure 3: Accounting Flexibility*



*Source: Adapted from Jones (2010).*

In the literature review by Balaciu et al. (2009), it is presented that researchers perceive creative accounting as a reason for many corporate scandals. The problem arises, because different stakeholders have conflicting interests. On the one hand, investors want reliable information to make an appropriate decision, and on the other hand, the company wants to attract investors by portraying the company in a positive light (Remenarić et al., 2018). Although many scandals started with unethical actions through creative accounting, they escalated to illegal activities. The corporate scandals at the turn of the century (Enron, WorldCom, Tyco, Adelphia, etc.) made this problem more visible and caused the accounting and auditing professions to develop a reputation for their lack of ethics (Low et al., 2008). What major scandals have in common are accounting irregularities and manipulations (Giroux, 2008).

Scandals have consequences for both the company and its stakeholders. In addition to bankruptcy, other consequences for the company include changes in the ownership and the removal of publicly traded securities from the stock market. By the end of 2000, Enron's market capitalization exceeded 60 \$ billion and its stock price was 83.13 \$. Just one year later, before bankruptcy, a stock was worth only 0.26 \$ (Healy & Palepu, 2003). In Enron's case, the consequences for employees were greater than job loss, because employees also had their lifetime retirement funds firmly invested in the company's stock. While top executives were allowed to sell their stock, this was not allowed to other employees (Petrick & Scherer, 2003). In 2001, 4,000 Enron employees were laid off. If this number already shocked the public, the layoff of 17,000 employees at WorldCom in 2002 was even worse (Petra & Spieler, 2020). WorldCom went bankrupt in 2002 after an 11 \$ billion accounting fraud was uncovered (Yallapragada et al., 2012). Many investors and creditors

lost money, which was accompanied by the loss of confidence in the stock market, starting in the US, and then spreading to Europe (Tran, 2002). As illustrated by the two cases, the consequences of accounting scandals are very far-reaching, having a major impact on the economic situation of the country, and may lead to new regulatory measures to prevent further abuses (Jones, 2010).

In the wake of corporate scandals at the turn of the century, the Sarbanes-Oxley Act (SOX) was enacted in the United States in 2002 to protect shareholders, mitigate ethical problems, and restore public trust in the accounting profession. It called for the establishment of the Public Company Accounting Oversight Board to supervise audits of public companies. The changes brought by SOX impacted accounting practitioners and the Financial Accounting Standards Board, the standard setting-body (Baranek, 2018). “*Financial scandals and crises give lawmakers opportunities to regulate the market*” (Kandemir, 2016, p. 95), not only in the US but also in Europe and elsewhere. To increase public trust, the European Commission adopted Directive 2006/43/EC on statutory audits of financial statements, which was amended eight years later by Directive 2014/56/EU. In the same year, the European Parliament and the Council adopted Regulation 537/2014 on the specificities of statutory audits of public interest entities, the main objective of which is to strengthen auditor independence, thereby enhancing auditor integrity and audit quality.

To regain public trust, professional codes are another essential component. The Code of Ethics for Professional Accountants, issued by the International Ethics Standards Board for Accountants, that promotes adherence to integrity, objectivity, professional competence and due care, confidentiality, and professional behaviour was revised in 2005 and 2009 with the aim of strengthening the requirements of auditor independence. In 2018 and 2020, the focus was on promoting professional ethics in small and medium-sized entities and practices. Most studies, investigating the impact of the Code of Ethics on EDMP report a positive impact (O’Fallon & Butterfield, 2005).

In addition to legislative changes and revised codes of professional ethics, corporate scandals have also impacted business schools, particularly MBA courses (Knights & O’Leary, 2005) and accounting and auditing courses, as education in this area provides a viable solution to the ethical crisis facing the accounting profession (Jackling et al., 2007). Moreover, to obtain the Triple Crown, the Triple Accredited Business Schools (AACSB, AMBA, and EQUIS) had to meet the requirements of all three accreditations, including ethics-related standards and criteria. Using the EQUIS accreditation as an example, EFMD (2019, p. 72) defined the following ethics-related assessment criteria: “*The School should have a clear understanding of its role as a “globally responsible citizen” and its contribution to ethics and sustainability... There should be evidence that the School’s contribution is reflected in its regular activities, covering education, research, interactions with businesses and managers, community outreach and its own operations.*”. These requirements are one of the reasons why business schools are becoming increasingly aware of the importance of ethics education and are incorporating it into their curricula.

Accountants cannot be expected to make good ethical decisions, if they are unable to evaluate ethical dilemmas in a situation. Recognizing and properly evaluating a morally questionable action is an essential prerequisite for making good ethical decisions (Rest, 1986).

### **1.3 Factors affecting ethical decision-making process**

For the accountants and auditors to regain reputation, Ponemon (1990) stresses that special attention should be paid to the ethics education, as it can contribute to the credibility of both the accounting and auditing professions. Awareness of the importance of the ethics education has grown since Kohlberg's seminal work in 1969 on the theory of CMD. In a detailed review of the empirical literature on ethical decision-making, O'Fallon and Butterfield (2005) confirm a positive relationship between CMD and moral judgment. The authors grouped the factors influencing EDMP into three main categories: individual factors, moral intensity and organizational factors. The individual factors were the main focus of the researchers, with most findings related to gender, philosophy orientation and education. Research on moral philosophy confirms that moral philosophies are an important determinant of EDMP (O'Fallon & Butterfield, 2005).

According to Eagly (1987), gender differences in social behaviour occur because of social roles that create gender stereotypes. According to the gender stereotypes, females are more concerned about the welfare of others and are more caring than males. Although most research shows that females are more ethical in comparison with males (Mubako et al., 2020; Nguyen et al., 2008a; Roxas & Stoneback, 2004; Stedham et al., 2007), the findings should nevertheless be interpreted with caution. The claim that females are more ethical than males regardless of the dilemma is unsupported generalisation that ignores the importance of the type of the moral dilemma. Context is an important determinant of moral judgment and may cause males to be more ethical than females in certain situations (Loo, 2003).

In the context of education, Leonard et al. (2017) point out the ethical behaviour of students across different majors as a viable under-researched area in the field of business ethics in academia. Research until 2003 provided consistent results as 5 out of 6 studies found no significant results when comparing the EDMP of students in different study majors (O'Fallon & Butterfield, 2005). In contrast, later studies provide some evidence for the existence of differences in EDMP based on study major (Alleyne et al., 2013; Baird & Zelin, 2007; Christensen et al., 2016; Sweeney & Costello, 2009). The differences could be due to self-selection bias, as students with certain characteristics are more inclined to choose accounting as their study major (Azevedo & Sugahara, 2012; Bryant et al., 2011; Sugahara & Boland, 2011). The perception that the accounting profession is very precise and thorough leads less creative people to choose this major (Azevedo & Sugahara, 2012; Saemann & Crooker, 1999). Different motivation to enrol in a particular study major was

also outlined: while students who decide to enrol in accounting see this study major as an important determinant for career success, students majoring in management believe that this knowledge will help them with their own business (Kim et al., 2002).

To encourage students' moral development, leading business schools have implemented business ethics into their programs (Christensen et al., 2007; Rasche et al., 2013), as education can increase sensitivity to ethical issues and influence EDMP (Hernandez & McGee, 2013; Martinov-Bennie & Mladenovic, 2015; Ramirez & Palos-Sanchez, 2018; Rosati et al., 2018; Swenson-Lepper, 2005; Tormo-Carbó, Oltra, et al., 2016; Tormo-Carbó, Seguí-Mas, et al., 2016). In addition to the ethics-related improvements requested by legislators, regulators, and the general public, accreditation requirements helped raise awareness of the importance of ethics education itself and accelerated the implementation of ethics courses into the schools' curricula. During the period from 2004 to 2008, leading US business schools responded by increasing the adoption of stand-alone ethics courses by 30 percentage points (Litzky & MacLean, 2011).

These are some of the most extensively studied factors affecting EDMP in existing literature. One of the recent trends in the research area that should not be disregarded is the narrower focus: instead of analysing the comprehensive effects of education on EDMP, the researchers more frequently examine the effects of a particular type of intervention. More in detail factors influencing EDMP are presented in the next chapter *Ethics education in accounting research* under the subchapter *Research fields in ethics education in accounting*.

## **2 ETHICS EDUCATION IN ACCOUNTING RESEARCH**

Qualitative reviews of all articles in a particular research area are time-consuming and may be more subjective than quantitative research, which has led to the development of bibliometric methods. The majority of bibliometric methods are based on citation analysis in the field, where citations present article influence. The advantage of these methods is the reduction of subjectivity, since qualitative data are analysed quantitatively. To identify research areas developed in the field of ethics education in accounting, we use the clustering method as defined in the bibliometric literature (Van Eck & Waltman, 2017; Waltman et al., 2010). To show the structure of the research area and the development path, science mapping is used (Zupic & Čater, 2015).

### **2.1 Research method**

#### *Bibliographic coupling*

Zupic and Čater (2015) differentiate between five main bibliometric methods: citation analysis, co-citation analysis, bibliographic coupling, co-author analysis and co-word

analysis. We use bibliographic coupling as a cross citation technique which refers to two documents that have at least one common reference. This method searches for bibliography overlaps. Since it is looking for citing publications, it is a retrospective (static) similarity measure, not depending on a certain point in time. It is used to determine recent contributions and research trends (Vogel & Güttel, 2013). Although bibliometric methods are useful, they are not self-sufficient, as they do not give any information about the content of analysed papers. We use the bibliographic coupling method in VOSviewer software to map and analyse research in the field of ethics education in accounting.

### *Historiography*

Bibliographic coupling shows a static picture of a research field. Since we are also interested in the field's development over time, we perform historiography in CitNetExplorer. Historiography analyses the chronological development of the research field by visualizing the most important publications and showing how articles build on each other. The tool enables identification of the most important publications in the field in chronological order and shows citations between them. It uses citation networks of individual publications as data for analysis (Van Eck & Waltman, 2014).

### *Co-word analysis*

We also perform in VOSviewer software co-word or co-occurrence analysis which is a content analysis that connects words or noun phrases in the title or abstract. Based on connections, a conceptual structure of the topic can be built: the more times the terms appear together, the stronger the connection of the concepts (He, 1991). Among the bibliometric methods, co-word analysis is the only one that uses text data, instead of references, as a source for the analysis (Van Eck & Waltman, 2019) to show thematic landscape. It analyses documents' content, while other methods search for connections only through citation analysis. The major idea of co-word analysis is to connect identified patterns into a map of contextual space. The sequence of such maps for different periods shows the conceptual transformation (Coulter et al., 1998).

## **2.2 Sampling and data**

Our analysis is based on the Web of Science data source. Despite not all existing articles from the field of ethics education in accounting being included in Web of Science, we use this database for the following reasons. Firstly, Web of Science covers the widest time span and also comprises articles over 40 years older than other databases (Web of Science includes Social Science Citation Index (SSCI) articles from 1956, while Scopus from 1996 (Meho & Yang, 2007)) which are needed to perform historical comparison. Secondly, the database covers the SSCI that, due to the independent and thorough editorial process, ensures journal quality. Thirdly, Web of Science was designed for citation analysis (Falagas et al., 2008).

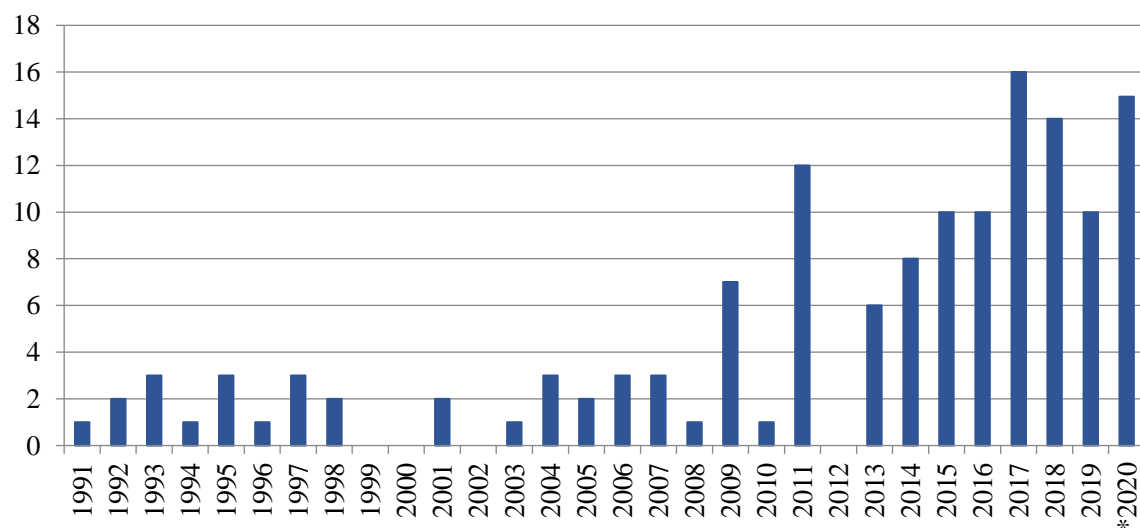


To derive the data set of articles for the analysis, we first used keywords accounting, education, and ethic\* as a search engine in Web of Science. Using asterisk in the search engine enables us the inclusion of related words (e.g. ethics, ethical, ethicality). In total, 385 articles matching all three keywords were found in July 2020. Next, we limited the search to the following science categories: business and finance, business, education, educational research and ethics, which scaled down the list of relevant articles to 273. Third, we defined article as document type (205 articles remained) and English as document language (192 articles remained). To prevent omission of relevant articles, we also ran searches with different combinations of keywords, including teaching, accountant and similar, all resulting in a comparable set of articles.

For the set of 192 articles, we downloaded and read the abstracts to examine if the content of the articles is in line with our research topic. We excluded the articles that were not directly related to all three keywords: education, ethics and accounting. The majority of the excluded articles were closely related to two keywords, while the third was only mentioned (the mere mention of the keyword was sufficient for inclusion by the program, but the manual check did not show a match with the research topic). Based on our judgment, an additional 58 articles were excluded as non-relevant for the analysis, resulting in the final selection of 134 primary articles to be included in further research. Only one article was dated before 1991 (1939) and was for that reason eliminated from further analysis.

Figure 4 presents the number of articles published by year. The vast majority of articles were published in the Journal of Business Ethics as presented in Table 1.

*Figure 4: Number of Articles Published by Year*



*Note:* \* Data were collected until 15 July 2020 and extrapolated until the end of 2020.

*Source:* Poje & Zaman Groff (2021).

*Table 1: Top 5 Journals Based on the Number of Published Articles*

<b>Journal</b>	<b>Number of articles</b>
Journal of Business Ethics	58
Advances in Accounting Education: Teaching and Curriculum Innovations	8
Accounting Education	7
Critical Perspectives on Accounting	5
Research on Professional Responsibility and Ethics in Accounting	4

*Source: Poje & Zaman Groff (2021).*

For the analysis purpose, we divided the articles into three time periods (decades): 1991–2000, 2001–2010 and 2011–2020. The first decade corresponds to the period before the major corporate scandals, the second decade coincides with the scandals, and the third decade represents the period after. The selection of time periods enables identification of the possible impact of corporate scandals and the related public mistrust in the accounting profession, on ethics education in accounting research. Table 2 presents the five most cited articles for each period.

*Table 2: The List of 5 Most Cited Articles for Each Period*

<b>1991–2000</b>		<b>2001–2010</b>		<b>2011–2020</b>	
Cit.	Article	Cit.	Article	Cit.	Article
89	Eynon et al. (1997)	150	Cohen et al. (2001)	31	Chabrak and Craig (2013)
65	Green and Weber (1997)	116	Roxas and Stoneback (2004)	22	Martinov-Bennie and Mladenovic (2015)
48	Jones and Hildebeitel (1995)	90	De Lange et al. (2006)	19	O’Leary et al. (2013)
45	Karcher (1996)	86	Dellaportas (2006)	18	Musbah et al. (2016)
44	Fischer and Rosenzweig (1995)	84	McPhail (2001)	17	Tweedie et al. (2013)

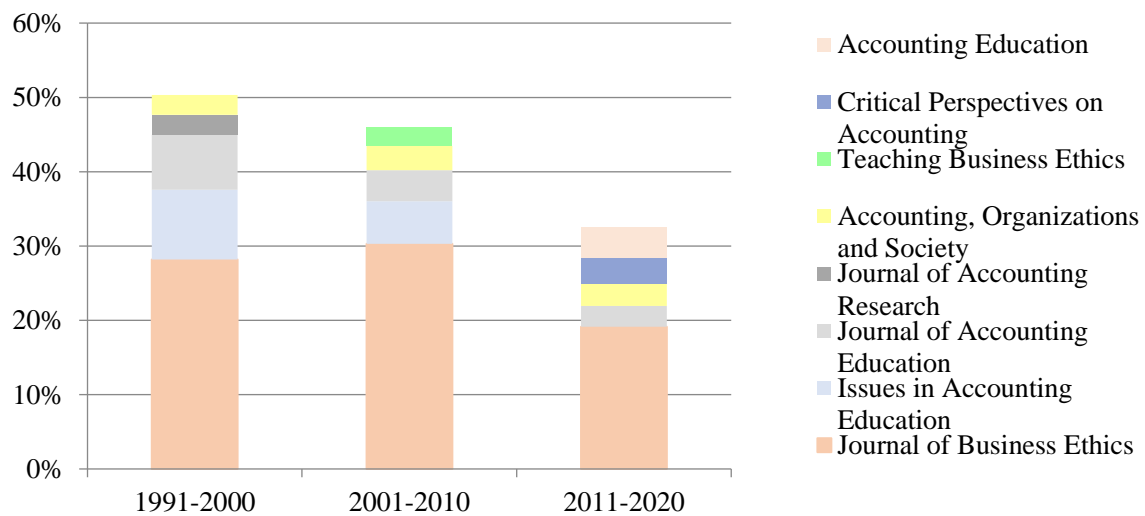
*Note: \*Cit.- citations.*

*Source: Poje & Zaman Groff (2021).*

To analyse bibliographic data, we used BibExcel that shows co-occurrences of references in articles’ bibliographies (Persson et al., 2009). We used it to analyse secondary documents (citation within citation) which are documents cited by primary articles (cited articles). The five most cited documents among secondary documents are Rest (1986; cited in 33 primary papers), Loeb (1988; cited in 24 primary papers), Dellaportas (2006; cited in 21 primary papers), Jones (1991; cited in 19 primary papers), and Blanthorne et al. (2007; cited in 18 primary papers).

In all three periods, most of the cited articles are published in the Journal of Business Ethics. In the last period, the percentage of cited papers published in the Journal of Business Ethics drops, due to the increased number of different cited sources (1991–2000: 57, 2001–2010: 185, 2011–2020: 436). Researchers in the field of ethics education in accounting are applying knowledge from other fields, such as medicine, nursing, physiology, sociology, business, innovation, law, etc. Therefore, the percentage of cited articles per journal decreases as compared to previous periods (Figure 5).

*Figure 5: List of 5 Most Cited Journals among Secondary Documents for Each Period and Its Coverage among All Citations*

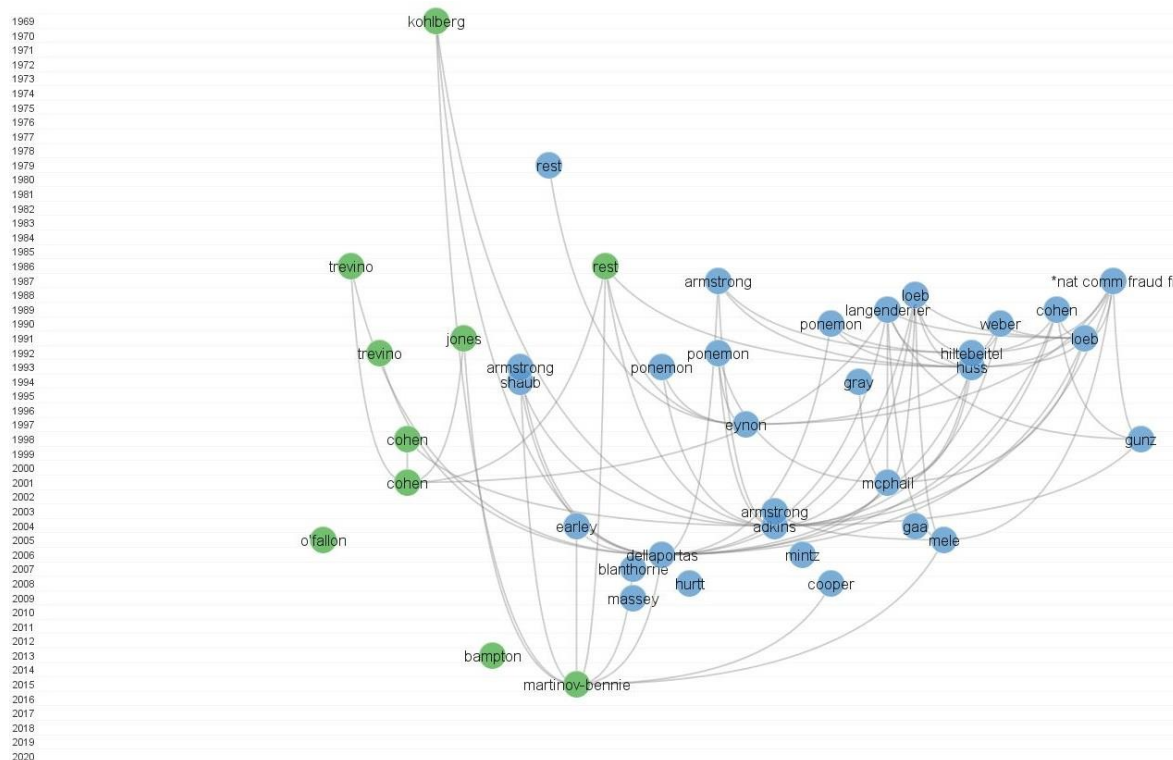


*Source: Poje & Zaman Groff (2021).*

### 2.3 Development of theoretical approaches

To understand the development of ethics education in the accounting field, we performed historiography. Historiography was conducted in CitNetExplorer (Van Eck & Waltman, 2014) on a full sample of primary papers, as described earlier. Analysing a large number of citation relations may result in unclear results, therefore, the full citation network was reduced in two ways; first, by defining the minimum number of citation relations required for a publication to be included in the analysis. We followed the procedure of Van Eck and Waltman (2014) where only publications with at least 10 citation relations (citing or being cited) are included in the analysis. The second way of reducing the full citation network was by applying a transitive reduction method, where the program distinguishes between essential and non-essential citation relations in the network. Only essential relations (no other relations are connecting two publications) are shown in the final result (for additional explanation on the transitive reduction method see Van Eck and Waltman (2014)). Figure 6 shows two main research streams (cluster 1, green; cluster 2, blue) that have been established using CitNetExplorer.

*Figure 6: Citation Network of the Evolution of Ethics Education in Accounting Research*



*Note:* \*National Commission on Fraudulent Financial Reporting. To increase visibility, only the most important articles are shown.

*Source:* Poje & Zaman Groff (2021).

The first cluster consists of 41 publications (Figure 6, green), starting with a seminal work by Kohlberg (1969) who developed the theoretical foundation of CMD. Based on it, the theory further developed with the work of Rest (1986) and Trevino (1986). Rest (1986) developed a four-step model of moral development, while Trevino (1986) built a competitive model, adding additional individual and situational variables into the model. Trevino's and Rest's models both outline CMD as crucial for judgment. A few years later, Jones (1991) developed a new model based on Rest's theory, introducing moral intensity as a factor affecting the four stages.

The first themes within this cluster were oriented towards theory development and were followed by the development of more practice-oriented themes, addressing the importance of real world dilemmas related to profession (Loeb, 1988; McPhail, 2001). Recent articles continue to add to the development of a theoretical foundation by connecting existing topics (Martinov-Bennie & Mladenovic, 2015), providing literature reviews (Bampton & Cowton, 2013; O'Fallon & Butterfield, 2005) or pointing out the current stand on the topic (Marques & Azevedo-Pereira, 2009).

The second cluster (Figure 6, blue) is the largest and consists of 96 publications. The second research stream starts with Rest's (1979) development of a measurement instrument, the *DIT*, which is a self-report measure that gives quantitative values to moral

issues. Therefore, the focus of the majority of research in the second cluster is on research using DIT, or a combination of DIT and other measurement instruments (Armstrong, 1987; Dellaportas, 2006; Eynon et al., 1997, etc.).

One of the themes that emerge in the 1990s within the second cluster is *factors affecting moral judgment*. Authors investigate the effect on moral judgment of individual factors, such as gender (Adkins & Radtke, 2004; Jones & Hildebeitel, 1995), age (Adkins & Radtke, 2004; Jones & Hildebeitel, 1995); situational factors such as social pressure (Mayhew & Murphy, 2009; O’Leary & Pangemanan, 2007) and education (Cooper et al., 2008; Halbesleben et al., 2005; Hildebeitel & Jones, 1992; McNair & Milam, 1993; Mohd Ghazali, 2015). After 2000, research on the topic of ethics education in accounting spread to non-Western countries, including Turkey (Karaibrahimoğlu et al., 2009), Malaysia (Marzuki et al., 2017; Mohd Ghazali, 2015), China (Driskill & Rankin, 2020; Liu, 2018) and Tunisia (Arfaoui et al., 2016). In the 2010s, research became more detailed and focused on different topics such as benefits of teaching ethics (Arfaoui et al., 2016) or questions related to how to develop a course (Kidwell et al., 2011; Sorensen et al., 2017; Tweedie et al., 2013), extending the accounting knowledge beyond technical skills (Gordon, 2011).

## **2.4 Research fields in ethics education in accounting**

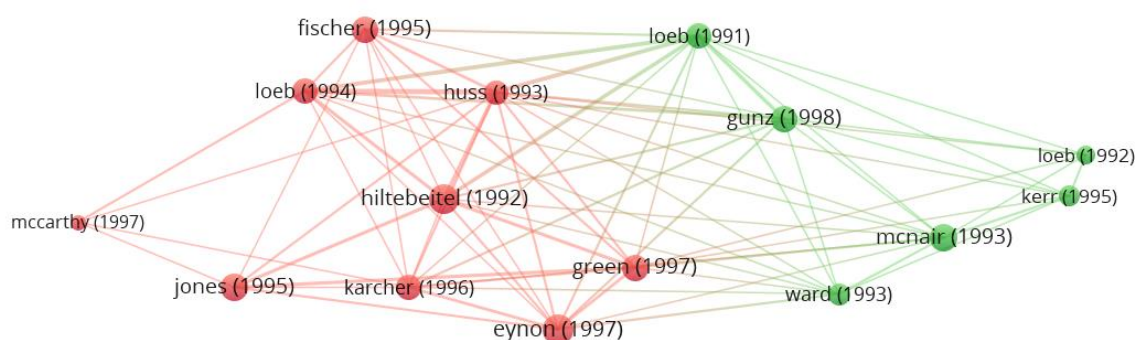
Next, we analysed the data using two bibliometric methods: co-word analysis and bibliographic coupling. We performed both methods for each period in VOSviewer software. The clustering solution depends on minimum occurrences or citations defined, resolution parameter and minimum cluster size. By defining minimum occurrences for co-word analysis, we tried to identify the 25 most used words. Due to the manageable number of published articles in the field, the minimum citations for bibliographic coupling were defined as default (0) in all three periods. As recommended by Van Eck and Waltman (2017), we performed different clustering solutions in order to achieve good explanatory power. Therefore, there might be methodological differences between periods. If not defined, resolution parameter and minimum cluster size were defined as default (1). The analysis was performed for three periods: 1991–2000, 2001–2010 and 2011–2020.

### **2.4.1 Identifying research fields for the period 1991–2000**

There is only one cluster based on the co-word analysis for the period 1991–2000 and it consists of the following words: business, education, future managers, moral development, and society course. The reason for only one cluster may be the limited number of articles in the period. Based on these words, research flow is based on the importance of teaching ethics, due to its impact on the accounting profession.

For bibliographic coupling analysis, the resolution parameter was defined as 0.8 to reduce the number of different clusters from 3 to 2 to enable better interpretation. For the 16 articles published in the period 1991–2000 (as reported in Figure 4), the largest set of connected items consists of 15 items based on bibliographic coupling (Table 3). The total number of clusters identified is 2 (Figure 7); all articles were published in the Journal of Business Ethics. The colours in Figure 7 represent individual clusters. The weight of an item determines the size of the label and the circle. Weight is defined by total link strength which is the cumulative strength of the links of an item with other items. Two documents have greater coupling strength, the more citations to other documents they share. The lines between the items represent the links between articles (Van Eck & Waltman, 2019).

*Figure 7: Period 1991–2000 Clusters for Ethics Education in Accounting Based on Bibliographic Coupling*



*Note:* a) colours represent the clusters, b) lines represent the connections between the items, c) the size of both the label and the circle represents weight of an item, and d) the distance between the items and the weight of the lines represents the relatedness between the items.

*Source: Poje & Zaman Groff (2021).*

*Table 3: Articles in Clusters for Ethics Education in Accounting – Period 1991–2000*

Cluster number	Colour (Figure 7)	Cluster label	Number of documents	Five most cited references
1	red	Factors affecting EDMP	9	Eynon et al., 1997; Fischer & Rosenzweig, 1995; Green & Weber, 1997; Jones & Hiltebeitel, 1995; Karcher, 1996
2	green	Lack of ethics topics	6	Gunz & McCutcheon, 1998; Kerr & Smith, 1995; Loeb, 1991; McNair & Milam, 1993; Ward et al., 1993

*Source: Poje & Zaman Groff (2021).*

#### *2.4.1.1 Factors affecting EDMF*

Ample research has been done related to factors affecting EDMF. Authors have mainly researched the effect of ethical education (Eynon et al., 1997; Green & Weber, 1997; Jones & Hiltebeitel, 1995), profession (McPhail, 2001) and personal characteristics (Hiltebeitel & Jones, 1992).

One of the biggest challenges facing accounting educators is how to integrate ethics topics into the curriculum (Huss & Patterson, 1993; Loeb, 1994; McCarthy, 1997), as there is no consensus on the effect of ethics courses on ethical orientation. While research by Hiltebeitel and Jones (1992) shows ethics integration affects ethical orientation (although no progress was found related to moral stages), McCarthy (1997) finds no differences. Hiltebeitel and Jones (1992) presume that the results can be explained by short treatment, as changes in moral development are hardly achieved in a short time. Short-term ethics courses therefore cannot result in large changes in moral stages.

Interpretation of research results should also consider the specifics of ethics integration. Implementation of ethics education alone is not enough, it should define why and how to integrate ethics into the curriculum. The purpose of integrating ethics into the curriculum should be to improve students' moral development (Fischer & Rosenzweig, 1995). Ethics should be taught in a way to encourage students' critical thinking about ethical dilemmas. There can be more than one right answer to ethical dilemmas, therefore, students should be evaluated based on their critical analysis.

Students need to be able to identify and react to an ethical dilemma in a certain situation (Huss & Patterson, 1993). Therefore, more effective forms of delivering ethics education need to be considered (McCarthy, 1997). Faculty needs to decide where in the curriculum ethics education can be placed, who should teach ethics, and which techniques should be used (Loeb, 1994).

Moving from students to accountants, Jones and Hiltebeitel (1995) found that personal characteristics (age, gender, education), organizational expectations, and internalized expectations affect moral reasoning. Research shows that the moral development of accountants is an ongoing process. Therefore, ethics training should also be considered after formal education. Since accountants with lower levels of moral judgment are less supportive of ethical education, Eynon et al. (1997) suggest mandatory ethical training.

While Eynon et al. (1997) report that certified accountants have lower level of moral reasoning compared to other professions, lower than the average adult and average student, Green and Weber (1997) find no differences in moral judgment when comparing junior accounting and non-accounting business students. Therefore, no consensus exists between researchers as to whether more ethical or less ethical students choose accounting as their major. On the other hand, differences are reported when comparing senior-level accounting and non-accounting business students, the latter presenting lower levels of moral judgment

(Green & Weber, 1997). Senior accounting students in the sample were exposed to a professional Code of Ethics which may have affected the moral reasoning of these students.

#### *2.4.1.2 Lack of ethics topics in the education process*

Researchers were aware of insufficient coverage of ethics topics in education even before the break of the major corporate scandals. As reported in research published between 1991–2000, ethics education was already included in some parts of the accounting curriculum but not sufficiently (Gunz & McCutcheon, 1998; Kerr & Smith, 1995; Loeb, 1991; Loeb & Rockness, 1992; McNair & Milam, 1993). McNair and Milam (1993) reported that despite ethics education being included in accounting courses, the scope is limited and needs to be broadened. Ethics should be integrated into the accounting curriculum in a way that improves the student's moral development. It should be integrated into core accounting courses instead of having separate courses dedicated to ethics (Loeb & Rockness, 1992; McNair & Milam, 1993).

One of the reasons for the lack of ethics topics is the lack of academics' commitment. This is evident from the analysis of their research topics; although there was an increase in accounting ethics articles, only limited research has been done on the topic (Gunz & McCutcheon, 1998). Professors included in the study by McNair and Milam (1993) agreed that an increased coverage of ethics topics in accounting courses was needed. They pinpoint lack of time and available materials as the main problems related to ethics education in accounting. Ethics topics should be included in higher education as well as in programs designed for professional accountants (Loeb & Rockness, 1992). Lack of ethics can have a negative impact on the accounting profession as well as on society. Although there is not enough coverage of ethics topics in accounting programs, a trend towards teaching ethics in accounting is observed (Loeb, 1991).

#### *2.4.2 Identifying research fields for the period 2001–2010*

Corporate scandals that occurred in the period 2001-2010 encouraged many researchers to pay additional attention to ethics education in accounting:

“Such scandals have again questioned the business and accounting practices of these firms and the role played by their auditors.” (Dellaportas, 2006, p. 391)

“The scandals (. . .) remind us that accounting programs still need to teach ethical conduct.” (Shawver & Sennetti, 2009, p. 663)

“Thus, considerable steps have been made in ethical accounting education, but, after the well-known recent accounting scandals, it seems absolutely essential to

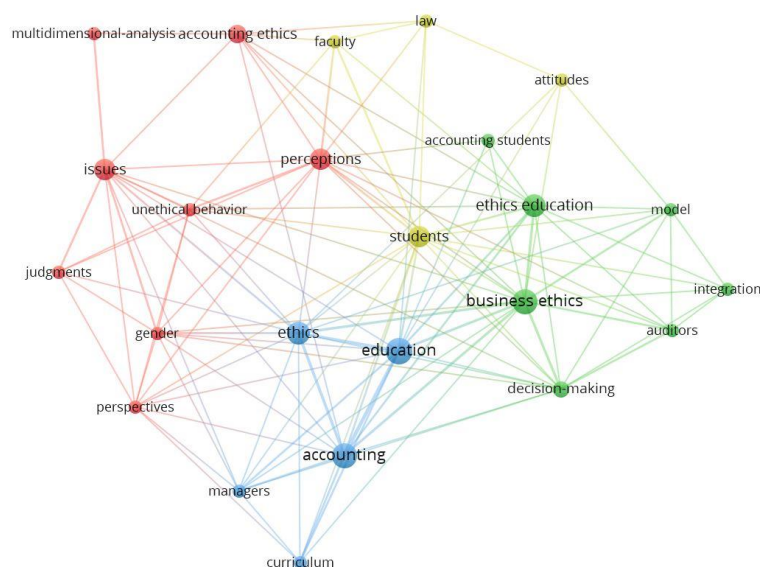


pay increasing attention to ethics in accounting and to improve ethical education for accountants.” (Melé, 2005, p. 97)

“In light of the myriad accounting and corporate ethics scandals of the early 21st century, many corporate leaders and management scholars believe that ethics education is an essential component in business school education.” (Halbesleben et al., 2005, p. 385)

The co-word analysis for the second period 2001–2010 shows a more precise picture of thematic landscape compared to the previous period. To narrow the results, the minimum number of occurrences of keywords was defined as 2. Out of 143 keywords, 24 meet the threshold. For co-word resolution, the parameter was defined as 0.9 to reduce the number of different clusters from 5 to 4 for better interpretation. The red colour in Figure 8, complements, for the same period, Clusters 1 (red) and 3 (blue) in Figure 9 and Table 4, and presents research flow related to factors affecting EDMP and ethics perception. Perception is further connected with two main themes, one related to students (Figure 8: yellow) and the other one to professionals (Figure 8: blue). It shows the importance of continuous ethics education and the need for it, as presented in Cluster 2. Teaching ethics is not enough, what is also important is how it is approached (Figure 8: green). The success of the ethics course may depend on the way ethics content is delivered. How to teach ethics is not yet identified as an individual cluster, nevertheless, many articles have already started exploring this field, indicating potential for further research.

*Figure 8: Co-Word Analysis for the Period 2001–2010*

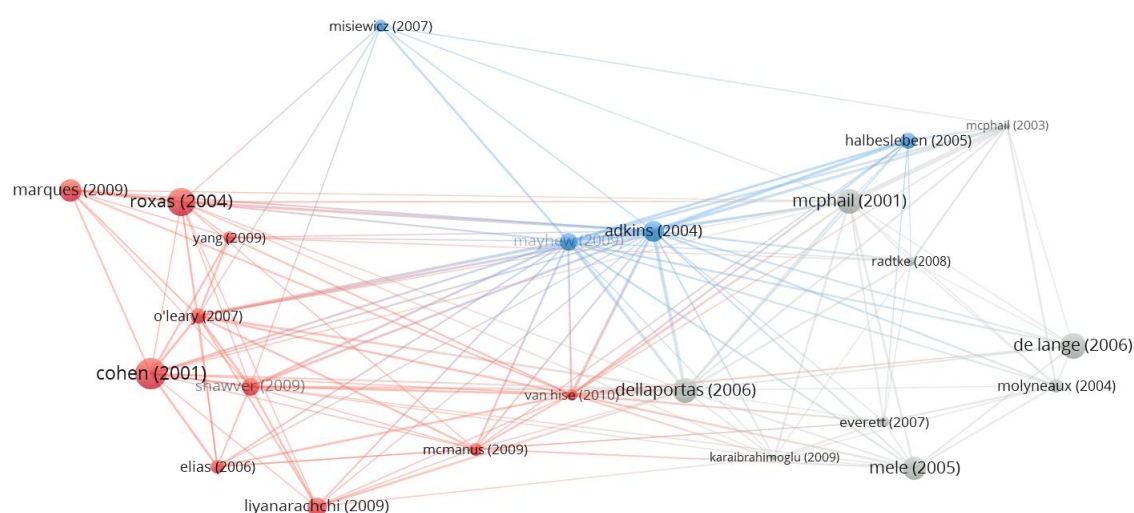


*Note:* a) colours represent the clusters, b) lines represent the connections between the selected words, c) the size of both the label and the circle represents the weight of a word, d) the distance between words and the weight of the lines represents the relatedness between the words.

*Source: Poje & Zaman Groff (2021).*

Based on 23 articles for the period 2001–2010, the largest set of connected items consists of all articles based on the bibliographic coupling (Table 4). The total number of clusters identified is three (Figure 9). The majority (19) were published in the Journal of Business Ethics.

*Figure 9: Period 2001–2010 Clusters for Ethics Education in Accounting Based on Bibliographic Coupling*



*Note:* a) colours represent the clusters, b) lines represent the connections between the items, c) the size of both the label and the circle represents weight of an item, and d) the distance between the items and the weight of the lines represents the relatedness between the items.

*Source: Poje & Zaman Groff (2021).*

*Table 4: Articles in Clusters for Ethics Education in Accounting – Period 2001–2010*

Cluster number	Colour (Figure 9)	Cluster label	Number of documents	Five most cited references
1	red	Factors affecting EDMP	10	Cohen et al., 2001; Liyanarachchi & Newdick, 2009; Marques & Azevedo-Pereira, 2009; Roxas & Stoneback, 2004; Shawver & Sennetti, 2009
2	grey	The need to teach ethics	9	De Lange et al., 2006; Dellaportas, 2006; McPhail, 2001; Melé, 2005; Molyneaux, 2004
3	blue	Perception of ethics	4	Adkins & Radtke, 2004; Halbesleben et al., 2005; Mayhew & Murphy, 2009; Misiewicz, 2007

*Source: Poje & Zaman Groff (2021).*

#### *2.4.2.1 Factors affecting EDMP*

A lot of research has been done related to factors affecting EDMP. Authors have mainly researched the effect of education (Cohen et al., 2001; Liyanarachchi & Newdick, 2009), gender (Cohen et al., 2001; Liyanarachchi & Newdick, 2009; Marques & Azevedo-Pereira, 2009; Roxas & Stoneback, 2004), study major (Cohen et al., 2001), age (Marques & Azevedo-Pereira, 2009) and professional commitment (Elias, 2006). Presented factors need to be taken into consideration when investigating EDMP.

Answers to ethics-related questions also depend on external factors such as social pressure (Cohen et al., 2001; McManus & Subramaniam, 2009; O’Leary & Pangemanan, 2007). Research by O’Leary and Pangemanan (2007) showed the ethical response is different, if a decision is made in-group compared to individual decision making. Individuals are more willing to take extreme actions (either ethical or unethical), while groups tend to take more neutral decisions. The way the decision is made (in-group or individual) affects the final decision (O’Leary & Pangemanan, 2007).

It is important to understand the factors affecting EDMP, if we want to improve the ethical behaviour of accounting professionals. If one’s values, before entering the profession, are oriented towards ethical behaviour, the probability of ethical behaviour at work increases (McManus & Subramaniam, 2009).

#### *2.4.2.2 The need to teach ethics*

To succeed as knowledgeable professionals in a highly competitive and changeable business environment, students need to learn both technical and soft skills. Among soft skills, ethics education is crucial for the accounting profession (Dellaportas, 2006; Karaibrahimoğlu et al., 2009; McPhail, 2001; Melé, 2005; Molyneaux, 2004), hence accounting educators should strive to increase students’ moral awareness. One of the ethics education objectives, as defined by McPhail (2001), is thus the development of a broader view of the profession: students should be able to understand how their profession is positioned in a broader social and political context and develop moral sensitivity for others. McPhail (2001, p. 279) states that “accountancy has become dangerously dehumanized and that one of the most important objectives for any business ethics education must be to develop an empathy with the other”.

#### *2.4.2.3 Perception of ethics*

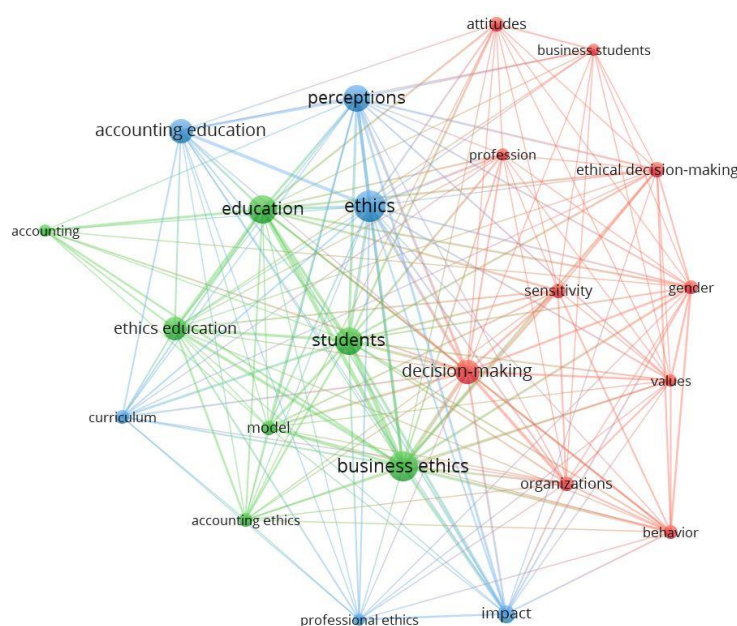
Research by Adkins and Radtke (2004) shows that students perceive ethics education as more important compared to faculty members. Participation in a variety of different business courses that include ethics content may lead to improved moral judgment and decrease pluralistic ignorance (Halbesleben et al., 2005). On the other hand, only 20% of

accounting master students believe ethics programs impact their decision strategy (Mayhew & Murphy, 2009).

### 2.4.3 Identifying research fields for the period 2011–2020

To narrow the results, the minimum number of occurrences of keywords was defined as 5. Out of 522 keywords, 23 meet the threshold. For co-word resolution, the parameter was defined as 0.9 to reduce the number of different clusters from 5 to 4 for better interpretation. The majority of clusters (1, 3, and 5 in Table 5) in the period between 2011 and 2020 focus on teaching ethics, which corresponds with the green cluster in Figure 10. Keywords indicated in the red cluster (Figure 10) correlate with *Factors affecting EDMP*, where different factors influence the sensitivity of EDMP (Table 5, Cluster 2). The last theme (Figure 10: blue) corresponds to *Perception of ethics*.

*Figure 10: Co-Word Analysis for the Period 2011–2020*

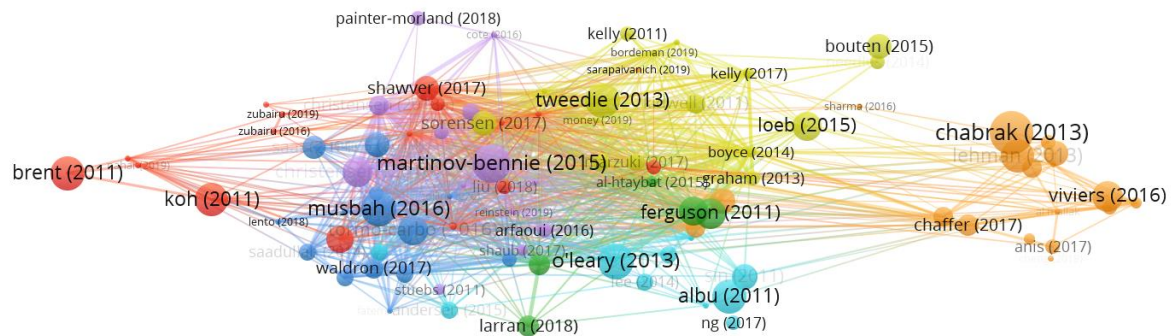


*Note:* a) colours represent the clusters, b) lines represent the connections between the words, c) the size of both the label and the circle represents the weight of a word, d) the distance between the words and the weight of the lines represents the relatedness between the words.

*Source: Poje & Zaman Groff (2021).*

Based on 94 articles for the period 2011–2020, the largest set of connected items consists of 93 items based on the bibliographic coupling (Table 5). The total number of clusters identified is seven (Figure 11, Table 5). The majority of the articles were published in the *Journal of Business Ethics* (23), followed by *Advances in Accounting Education: teaching and curriculum innovations* (8) and *Accounting Education* (7).

*Figure 11: Period 2011–2020 Clusters for Ethics Education in Accounting Based on Bibliographic Coupling*



*Note:* a) colours represent the clusters, b) lines represent the connections between the items, c) the size of both the label and the circle represents weight of an item, and d) the distance between the items and the weight of the lines represents the relatedness between the items.

*Source: Poje & Zaman Groff (2021).*

*Table 5: Articles in Clusters for Ethics Education in Accounting – Period 2011–2020*

Cluster number	Colour (Figure 11)	Cluster label	Number of documents	Five most cited references
1	orange	Accounting beyond technical skills	19	Chabrak & Craig, 2013; Gordon, 2011; Lehman, 2013; Lehman, 2014; Viviers et al., 2016
2	red	Factors affecting EDMP	16	Brent & Atkisson, 2011; Hummel et al., 2018; Koh et al., 2011; Liu, 2018; Shawver & Miller, 2017
3	yellow	Integration of ethics in accounting education	16	Bouten & Hoozée, 2015; Kidwell et al., 2011; Loeb, 2015; Sorensen et al., 2017; Tweedie et al., 2013
4	blue	Perception of ethics	14	Jones et al., 2014; Musbah et al., 2016; Saat et al., 2014; Tormo-Carbó, Seguí-Mas et al., 2016; Waldron & Fisher, 2017
5	purple	Use of developed ethics frameworks	13	Christensen et al., 2018; Christensen et al., 2016; Martinov-Bennie & Mladenovic, 2015; Painter-Morland & Slegers, 2018; Parvin et al., 2011
6	turquoise	Professional values	10	Albu et al., 2011; Andersen et al., 2015; Krambia-Kapardis & Zopiatis, 2011; O'Leary et al., 2013; Sin et al., 2011
7	green	Lack of ethics topics	5	Al-Htaybat & Von Alberti-Alhtaybat, 2015; Cameron & O'Leary, 2015; Ferguson et al., 2011; Larrán Jorge et al., 2015; Larrán et al., 2018

*Source: Poje & Zaman Groff (2021).*

#### *2.4.3.1 Accounting beyond technical skills*

Technical skills are required in the accounting profession. Students first need to understand the subject/problem before they can critically assess it (Pierre & Rebele, 2014). Pierre and Rebele (2014) believe the primary objective of accounting education should remain the development of technical skills. After the primary objective is achieved, educators should start with the development of other competencies. Although soft skills are very important in the workplace, students receive only limited skills through the education process and an expectation gap can be observed between students' skills and firms' expectations (Anis, 2017; Chaffer & Webb, 2017).

Although accounting educators are aware of the importance of soft skills, their efforts mostly do not achieve the desired results (Pierre & Rebele, 2014). Improvement of soft skills is a complex process. Viviers et al. (2016) recommend the use of innovative teaching methods that provide good results for the development of soft skills. Another recommendation is the development of soft skills by using real-life cases in courses (Keevy, 2020). Chabrak and Craig (2013) state that accounting topics should be connected with the social world to challenge students' ideology.

Since accounting students value career growth and are willing to develop professional skills that are essential for the profession, ethical issues should be integrated into accounting programs (Sarapaivanich et al., 2019).

#### *2.4.3.2 Factors affecting EDMF*

Moral judgment as the second step in Rest's (1986) model of moral development has been studied extensively in the last period. Research particularly outlines the effect of pressure (Koh et al., 2011), importance of outcome (Koh et al., 2011), self-selected effect (Hummel et al., 2018), treatment effect (Hummel et al., 2018; Liu, 2018; Mladenovic et al., 2019; Ramirez, 2017; Shawver & Miller, 2017), intensity of moral problem (Shawver & Miller, 2017), culture (Driskill & Rankin, 2020), personal characteristics (Nahar, 2018; Rodriguez Gomez et al., 2020), teaching methods (Taplin et al., 2018) and religion (Nahar, 2018).

#### *2.4.3.3 Integration of ethics in accounting education*

In the last research period, researchers continue to study the efficiency of diverse innovative teaching approaches for teaching ethics, such as thematic approach (Tweedie et al., 2013), active learning (Loeb, 2015), virtue ethics (Sorensen et al., 2017) and role-playing (Bouten & Hoozée, 2015). Another field of research focuses on the question whether ethics should be taught as a separate course or integrated into the curriculum (Blanthorne, 2017; Kelly & Earley, 2011; Needles Jr, 2014; Sugahara & Boland, 2011). As the importance of ethics education in accounting has already been outlined by previous

research, it raises concerns that the results of the study by Sugahara and Boland (2011) reveal that only 55% of accounting academics agree that they should incorporate ethics topics in their classes.

#### *2.4.3.4 Perception of ethics*

This cluster includes articles researching overall ethics perception, an individual's stand on the topic. Costa et al. (2016) report students have negative perception of their peers: students believe their peers have lower ethical standards than themselves.

When comparing students and professional accountants, students were found to be less critical of morally questionable action (Waldron & Fisher, 2017). Similarly, research by Barrainkua and Espinosa-Pike (2018) shows students have lower levels of moral judgments compared to auditors but are, on the other hand, more committed to the public interest and independence enforcement. Differences between accounting students and professionals are reported for both moral judgment and personal values, thus attention needs to be paid if students are used in research as a substitute for accounting professionals.

Age and gender are important determinants of students' perceptions of the importance of accounting ethics (Tormo-Carbó, Seguí-Mas et al., 2016). This perception is further influenced by education: students who have taken an ethics course show interest in including ethics topics into curricula (Tormo-Carbó, Seguí-Mas et al., 2016).

#### *2.4.3.5 Use of developed ethics frameworks*

Existing research provides no consensus on what content should be included in ethics courses and how it should be implemented. Miller and Shawver (2018) researched to what extent the *Ethics Education Framework*<sup>2</sup> is being used in curriculums. They find that the use of this framework is still at a low level, but is increasing. Results of their study reveal a lack of current ethics training. The goal of training should be clearly defined and supported by the use of relevant frameworks. Ethics is a complex topic and there is no unique approach to teach it: the educator needs to decide which framework is the most suitable to achieve ethics goals. Ethics decision-making frameworks should also be included in the codes of conduct of professional bodies (e.g. IFAC, APESB) and presented not only to professionals but also to students, since they influence moral judgment (Martinov-Bennie & Mladenovic, 2015).

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<sup>2</sup> The framework was developed by Cooper et al. (2008) and expanded by Dellaportas et al. (2011). It is based on Rest's (1986) four-component model of ethical decision making. The framework "provides university students and professional accountants a structure to learn to identify, analyse, and resolve ethical issues to the point of action" (Dellaportas et al., 2011, p. 63).



Another suggested improvement in ethics education is an innovative approach to values-driven leadership development in business education; *Giving Voice to Values*, where students develop critical thinking to ethical dilemmas compared to the use of traditional methods (Christensen et al., 2018; Painter-Morland & Slegers, 2018). *Giving Voice to Values* provides tools to move from awareness to action, if confronted with ethical dilemmas (Cote & Latham, 2016). Information technology provides further value-added in ethics education, due to the student's increased participation and commitment to the course (Parvin et al., 2011).

#### 2.4.3.6 Professional values

Due to the corporate scandals at the turn of the century, the credibility of accountants has dropped, rendering professional values a prominent area of research. The work of accountants is not only related to preparation of financial statements but also to corporate social responsibility (Albu et al., 2011; Ng et al., 2017).

Research of Andersen et al. (2015) shows that students mostly focus on moral foundation fairness. Ethics education should broaden their view and expand the number of moral foundations they use when confronted with ethical dilemmas. Educators need to move beyond teaching theory and standards to the development of students' attitudes towards the importance of values and ethics (Caglio & Cameran, 2017). Accounting educators need to be aware that perceived professional ethics is an important factor influencing students' intention to major in accounting (Lee & Schmidt, 2014). Ethical values and professional identity should be developed within the university learning and the process should continue in their professional career. Individuals need to understand their role within the wider economic and social system (Sin et al., 2011).

#### 2.4.3.7 Lack of ethics topics in education process

Larrán Jorge et al. (2015) researched whether accounting programs have incorporated an ethics or a corporate social responsibility stand-alone course. The result shows that only half of the business schools in the sample are offering at least one of them. There is a negative relationship between school size and incorporation of the course. Bigger schools are more robust and their transformation takes more time. Although limited training related to corporate social responsibility is observed, students are aware of its importance and could claim more ethical and social themes in the future (Larrán et al., 2018).

The prevailing view of accounting students is that accounting information is prepared for shareholder's needs (Ferguson et al., 2011). The author explains that "accounting and business education fails to address the ethical assumptions that it is underpinned by and fails to acknowledge alternative ethical frameworks" (Ferguson et al., 2011, p. 24). Schools need to be aware of their involvement in educating ethical accountants. The



importance of such awareness increased significantly after the corporate scandals at the turn of the century that did not just affect stakeholders, but instead had a much wider impact. A need to redesign accounting education (Al-Htaybat & Von Alberti-Alhtaybat, 2015) can consistently be observed in this research cluster.

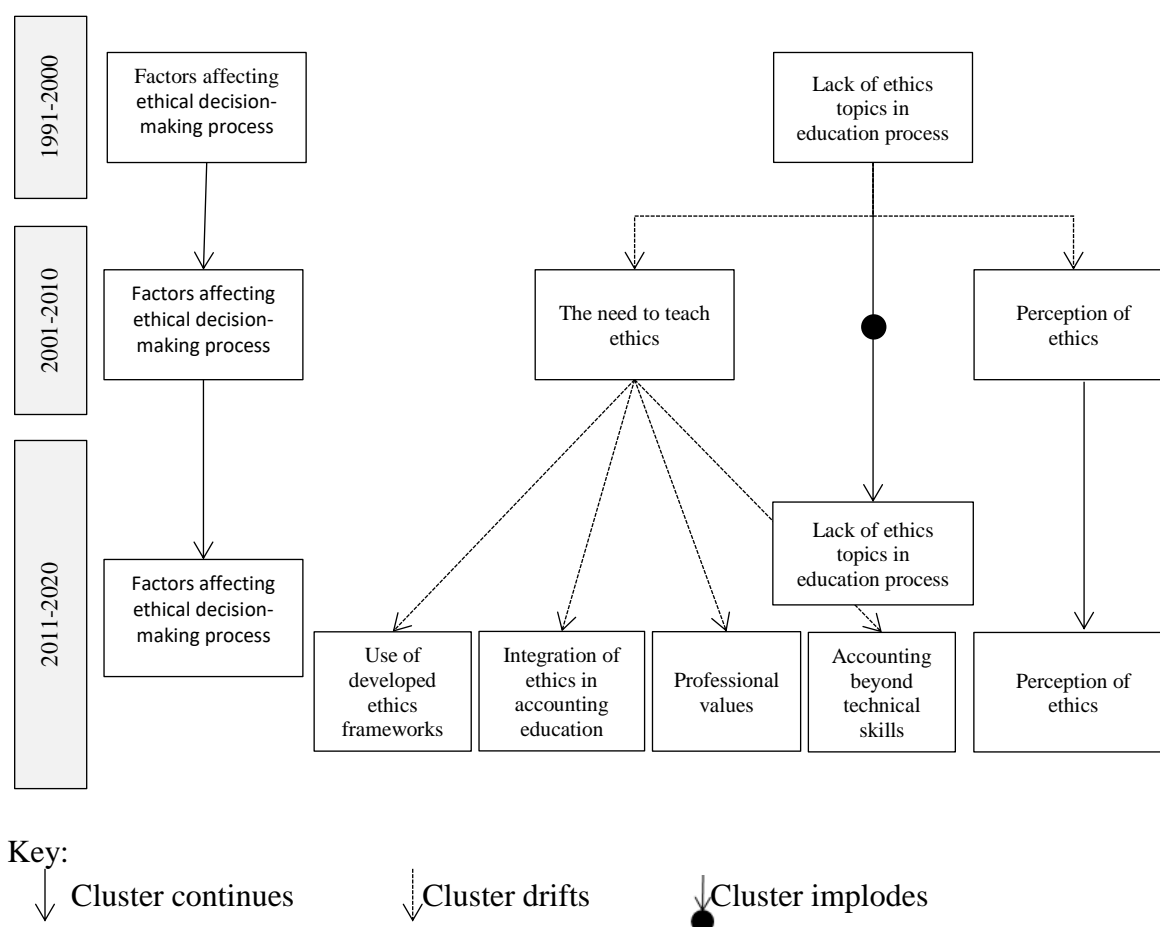
## **2.5 Discussion**

Using *historiography*, we analysed the chronological development of ethics education in the field of accounting research. The theoretical background started with Kohlberg (1969) who identified the nature of morality. Decades later Rest (1986) developed a four-step model of moral development. Both Kohlberg's moral development and the neo-Kolbergian model (Rest) theories were also outlined by DeTienne et al. (2021) as two of the main streams of research in moral development in business ethics. Historiography analysis reveals that the other streams of moral development research identified by DeTienne et al. (2021), including moral identity, domain theory, moral automaticity, moral schemas and moral heuristic, are not referenced in ethics education in accounting research, which pinpoints a narrower research focus as compared to the broader research field of business ethics.

Besides research development, historiography reveals an overlap of shared knowledge between different research areas. Relatedly, the vast majority of articles (131 out of 133) were included in the bibliographic coupling analysis, showing bibliographic connections to other documents in the network. This development indicates that information and knowledge are shared across the scientific community.

Bibliographic coupling analysis reveals that the number of clusters for ethics education in accounting research has been increasing, along with the number of primary articles (1991–2000: 15 connected items, 2 clusters; 2001–2010: 23 connected items, 3 clusters; 2011–2020: 93 connected items, 7 clusters). While some clusters persist and expand throughout the observed periods, others evolve as new research fields with a more specific focus. The latter, despite representing a novel stream of research, build on and further develop previous knowledge. Using the results of the bibliographic coupling analysis, we depict the development patterns of ethics education in accounting research in Figure 12.

Figure 12: Development Patterns of Ethics Education in Accounting Research



Source: Poje & Zaman Groff (2021).

*Factors affecting EDMP* is identified as a continuing cluster of research. In the first period (1991–2000), this field of research prevailed with 9 primary articles (out of 15 connected items). Moreover, all articles from the list of 5 most cited articles in this period (Table 2) belong to this research cluster (Eynon et al., 1997; Fischer & Rosenzweig, 1995; Green & Weber, 1997; Jones & Hiltebeitel, 1995; Karcher, 1996). In the first period, this stream of research focused on the effects on the EDMP of gender (Eynon et al., 1997; Jones & Hiltebeitel, 1995), age (Eynon et al., 1997; Jones & Hiltebeitel, 1995; Karcher, 1996), education (Eynon et al., 1997; Green & Weber, 1997; Jones & Hiltebeitel, 1995) and study major (Green & Weber, 1997). In the second period (2001–2010), this was still a prominent field of research with 10 primary articles (out of 23 connected items). However, only 2 articles from this cluster (Cohen et al., 2001; Roxas & Stoneback, 2004) appear among the 5 most cited articles in this period. In addition to factors studied in the previous period, the researchers studied the effect of professional commitment (Elias, 2006) and social pressure (Cohen et al., 2001; McManus & Subramaniam, 2009; O’Leary & Pangemanan, 2007). In the last research period (2011–2020), only 16 primary papers (out of 93 connected papers), additionally considering the effect of pressure and importance of outcome (Koh et al., 2011), self-selected effect (Hummel et al., 2018), treatment effect

(Hummel et al., 2018; Liu, 2018; Mladenovic et al., 2019; Ramirez, 2017; Shawver & Miller, 2017), intensity of moral problem (Shawver & Miller, 2017), culture (Driskill & Rankin, 2020), personal characteristics (Nahar, 2018; Rodriguez Gomez et al., 2020), teaching methods (Taplin et al., 2018) and religion (Nahar, 2018), are identified in the *Factors affecting EDMP* cluster. None of these appear on the list of the 5 most cited papers in the period, rendering *Accounting beyond technical skills* the dominant field of research in the third research period.

The development pattern reveals that significant changes in research coincide with the major corporate scandals that took place during the second research period. The research field *Lack of ethics topics in education process* was already identified in the first research period (1991–2000), but more specific fields of research, namely *The need to teach ethics* and *Perception of ethics*, evolved during the period of corporate scandals (2001–2010). In this period, 9 primary papers (out of 23 connected items) were identified in *The need to teach ethics* cluster, three of them among 5 most cited in the period (De Lange et al., 2006; Dellaportas, 2006; McPhail, 2001), indicating the importance of ethics education to prevent similar occurrences in the future and regain public trust in the accounting profession. The last research period (2011–2020) has seen research field *The need to teach ethics* evolve to an array of more specific research fields, including *Integration of ethics in accounting education*, *Use of developed ethics frameworks*, *Accounting beyond technical skills* and *Professional values*. Combined, the four clusters derived from *The need to teach ethics* comprise of 58 primary papers (out of 93 connected items), four of them among the 5 most cited in the period (Chabrak & Craig, 2013; Martinov-Bennie & Mladenovic, 2015; O’Leary & Stewart, 2013; Tweedie et al., 2013). Among the four newly evolved clusters, *Accounting beyond technical skills* reports the highest number of primary papers (19). All in all, the increased number of clusters identified with the bibliographic coupling analysis and the increased number of articles within the clusters, indicate the rising importance of teaching ethics in accounting.

The trend of an increased number of articles in the field of ethics in accounting was also outlined in the accounting education literature review by Apostolou et al. (2010). The majority of the available literature reviews focus on accounting education (Apostolou et al., 2010, 2017; Rebele et al., 1991; Watson et al., 2007) or ethics in accounting (Uysal, 2010). To the best of our knowledge, the present study is novel in the sense that it combines both fields and gives a comprehensive overview of the historical development of the existing research in the field of ethics education in accounting.

### **3 ETHICAL PREDISPOSITIONS OF ACCOUNTING STUDENTS**

#### **3.1 Introduction**

The effectiveness of business decisions of numerous financial statements users depends on the quality of these financial statements. To enhance the users' confidence in financial statements and facilitate business decision making, the principles of professional ethics should be respected in accounting profession. Since corporate scandals, the credibility of accounting profession has declined (Low et al., 2008) and to restore it, special attention should be paid to ethics education (Ponemon, 1990). The awareness of the importance of ethics education has been increasing since the seminal work of Kohlberg (1958, 1969) on the theory of CMD which supports the position that moral judgments result from reasoning. In an ample review of the empirical ethical decision-making literature, O'Fallon and Butterfield (2005) confirm a positive relationship between CMD and moral judgment. To encourage students' moral improvement, top graduate business schools have implemented business ethics in their programs (Christensen et al., 2007; Rasche et al., 2013). However, the outcome of the implementation is limited (Poje & Zaman Groff, 2021). To implement ethics education effectively, the ethical predispositions of accounting students should not only be well understood but also taken into consideration. The main aim of this chapter is therefore to investigate how the pre-dispositional moral judgment differs between accounting and non-accounting business students. In the study by Leonard et al. (2017), ethical behaviour of students across different majors was outlined as one of three understudied research areas in business ethics in academia, along with the ethical behaviour of students in different countries and a comparison between undergraduate and graduate programmes.

Study by Rodriguez Gomez et al. (2020) confirms that the students' personal characteristics should be taken into account when designing instruction. The perception of accounting as precise and thorough leads less creative students to choose accounting as their major (Saemann & Crooker, 1999; Tang & Seng, 2016). Students who do not study accounting perceive accounting profession as boring and too numerical (Alanezi et al., 2016, Cohen & Hanno, 1993; Heiat et al., 2007). Accordingly, students with good mathematical skills enrol in accounting (Cohen & Hanno, 1993). Students who enrol in accounting are interested in the subject and value career opportunities and prestige (Alanezi et al., 2016; Awadallah & Elgharbawy, 2021). Another important factor in choosing study major is the influence of teachers, family, and peers (Alanezi et al., 2016; Awadallah & Elgharbawy, 2021).

### 3.2 Hypotheses development

Moral judgment is a decision about the extent to which a morally questionable action is right or wrong. It is a multidimensional construct, where moral judgment is a function of moral philosophies (Reidenbach & Robin, 1988, 1990). Moral philosophies represent an important factor in determining EDMP (Hunt & Vitell, 1986; Kara et al., 2016), as they tell us “*why one may do the right thing*” (Shawver & Sennetti, 2009, p. 666).

Justice refers to universal principles and rules that ensure fair and equal treatment for all (Botes, 2000). Individuals make moral judgment autonomously (Edwards, 1996), based on individual moral priorities (Skitka et al., 2008). Therefore, preferences are subjective (Skitka et al., 2008). The moral philosophy justice focuses on evaluating morally questionable actions in terms of justice, fairness, and moral rightness. Therefore, the more just, fair and morally right a morally questionable action is, the less it is expected to be considered unethical.

On the other hand, moral judgments founded on utilitarianism are based on well-being, on social utility. The utilitarian approach is often used in business ethics, because actions such as tax fraud, gender discrimination, racism, and dishonest bookkeeping are considered unethical also because these activities harm the greater good. Using the examples of Enron or WorldCom, discussed earlier in the doctoral dissertation, negative social consequences are constantly outlined as evidence of wrongdoing (Gustafson, 2013). According to utilitarianism, the interest of humanity is the most important thing, when it comes to moral judgment. Therefore, it is expected that the more a morally questionable action produces the greatest utility and maximizes benefits while minimizing harm, the less it is considered unethical.

Egoism is related to the pursuit of individual needs and desires. It is often promoted in a business, where the term utility maximisation is used more often than egoism or self-interest. In order for egoism to exist, some conditions must be met, such as freedom of choice, constant concern and consistency. If egoists maintain these requirements for themselves, then they apply to others as well. And for this reason, egoists believe that egoism is good for everyone (Debeljak & Krkač, 2008). Adam Smith pointed out that egoism is good for the development of the economy. When individuals pursue their interests, their decisions often advance the interests of society as well (Smith, 1776, p. 293). The more self-promoting and personally satisfying a morally questionable action is, the less it is expected to be considered unethical. It must be clarified that egoism as defined by Adam Smith does not mean gaining benefits for oneself at the expense of others.

Relativists believe that moral judgment cannot be objective, because what is right or wrong cannot be judged independently of justification, which is why more than one moral judgment, even if contradictory, can be recognized (Lyons, 1976). A relativist’s moral judgment is determined by culture or context (Healy, 2007) and is based on experience

(Stedham et al., 2007). There are no universally accepted ethical standards, so moral judgment is not objective. Relativism “is the view that, whether or not it varies across different worlds and different times, the truth-value of a proposition can vary across the points of view of different subjects” (Merlo & Pravato, 2021, p. 8152). Since ethical principles are presented as relative to the individual or culture, the more acceptable a morally questionable act is to the family, culture, and tradition, the less it is expected to be considered unethical.

A contract can be conceived as a promise or a series of promises. Therefore, in contractualism, promises are considered as the basis for the rightness and duties. Wrongdoing is examined in terms of the impact that the action has on the promise (Kontos, 2009). When an action is in line with the given promises, others can reasonably accept our moral judgment (Freeman, 1991). “This gives rise to the contractualist idea that the norms we rely on to justify as well as to regulate our actions and expectations are the product of an ideal agreement” (Freeman, 1991, p. 285). Moral judgment is not based on well-being, but on the violation of a promise. Therefore, the more a morally questionable action violates contracts or promises, the less it is expected to be considered ethical.

Moral philosophes are related to different epistemical believes and provide justification for individuals’ moral judgment (Scanlon et al., 1982). Individuals can make their decisions based on multiple moral philosophies that may vary depending on the context, which was confirmed by Bartels et al. (2015) and Kara et al. (2016). The results of the latter indicate that there is negative relation between all five moral philosophies (justice, relativism, egoism, utilitarianism and contractualism) and moral judgment, confirming our expectations that the higher the scores on moral philosophies, the less inclined the individual is to perceive the morally questionable action as unethical and vice versa. The more an action is perceived as just (justice), contextually acceptable (relativism), promoting self-interest (egoism), bringing the greatest good to the greatest number of people (utilitarianism) and not violating promises (contractualism), the less it is perceived as unethical (moral judgment), and vice versa. Therefore, our first hypotheses are as follows:

- H1a: The more a morally questionable action is just (justice), the less it is perceived as unethical (moral judgment).*
- H1b: The more a morally questionable action is contextually acceptable (relativism), the less it is perceived as unethical (moral judgment).*
- H1c: The more a morally questionable action promotes self-interest (egoism), the less it is perceived as unethical (moral judgment).*
- H1d: The more a morally questionable action brings the greatest good to the greatest number of people (utilitarianism), the less it is perceived as unethical (moral judgment).*
- H1e: The more a morally questionable action does not violate promises (contractualism), the less it is perceived as unethical (moral judgment).*

Next, we develop the hypotheses to address the second research question (*RQ2*): *How do the ethical predispositions of students who enrol in accounting differ compared to non-accounting business students?*

The work of accountants and auditors is based largely on professional standards and other regulations. The results of their work provide an important basis for many stakeholders in their decision-making process, making accountants and auditors accountable to the public. They are therefore expected to demonstrate a high level of ethicality and professionalism in their work. Ethical behaviour is one of the foundations of the accounting profession (Ionescu, 2016). As regards study majors, only scarce empirical evidence exists on the differences in the moral judgment of students in different study majors, in addition, the studies provide mixed results. Borkowski and Yusuf (1992) examine the differences in moral judgment between accounting and non-accounting business majors, but find no significant differences. Green and Weber (1997) also find no differences in the ethical predispositions between accounting and non-accounting students, yet do report significant differences between the moral reasoning of higher-level accounting and non-accounting students. In contrast, recent research by Sweeney and Costello (2009) reports that accounting students are more likely to recognize ethical dilemmas than non-accounting students. Beekun et al. (2017) investigated the differences in ethical behaviour between business and non-business students. The results reveal that business students, when faced with ethical dilemmas, more often base their decisions on egoism than their non-business counterparts. The authors explained the finding as a reflection of capitalism, a concept more familiar to business students. On the other hand, no differences between business and non-business students were found as regards justice and relativism. On a sample of business students, Kara et al. (2016) showed that justice, followed by egoism and contractualism, had the greatest influence on the assessment of ethical behaviour. The differences may arise from self-selection bias, as students with certain characteristics are more inclined to choose accounting as their study major.

To date, several authors have explored the factors influencing students' decision to major in accounting, reporting that career opportunities, career characteristics (Alanezi et al., 2016; Ali & Tinggi, 2013; Awadallah & Elgharbawy, 2021; Dalcı et al., 2013) and characteristics of study major (Alanezi et al., 2016; Awadallah & Elgharbawy, 2021; Owusu et al., 2019; Tan & Laswad, 2006) are among most important. Decisions of students to enrol in a particular study major are based on different motivation. While students choose accounting major, because they believe it is an important factor for career success, students majoring in management believe it will help them with their own business (Kim et al., 2002). Skills and prior knowledge in mathematics are not found an influencing factor for the accounting students' decision, however, it is a hold-back for non-accounting students (Tan & Laswad, 2006) who "believe accounting is too quantitative and boring" (Cohen & Hanno, 1993, p. 219). Landry (2004) reports that accounting students are more analytical than non-accounting business students, which is reflected in the former

making more ethical decisions. Moreover, perceiving the accounting profession as very precise and thorough leads less creative people to choose this major (Azevedo & Sugahara, 2012; Saemann & Crooker, 1999). In relation to creativity, the experiments by Gino and Ariely (2012) show that creativity increases dishonest behaviour. Given these results, it can be assumed that, due to their lower creativity, accounting students are less likely to engage in dishonest behaviour than non-accounting business students.

The self-selection bias described results from the different characteristics and preferences that exist between accounting and non-accounting business students. We believe this is also reflected in moral judgment and thus propose to test the following hypothesis:

*H2: Accounting students perceive morally questionable actions as more unethical than non-accounting business students.*

Individuals might have different strategies of problem solving (Haan, 1986). Moral philosophies used in EDMP are among predictors of moral judgment. Although the direction of the influence of moral philosophies is the same (Kara et al., 2016), their magnitude might differ, resulting in a different moral judgment based on the prevailing moral philosophy (Thomas, 2012).

Accountants are known for being focused on technical accuracy (Frémeaux et al., 2020), and it is because of the required accuracy and compliance with legislation, regulations and professional accounting and auditing standards that contractualism is expected to be more prevalent among accounting students than non-accounting students. Douglas et al. (2001) report that professional codes of conduct and orientation to companies rules are also among the factors that influence the EDMP of accountants. Rule-orientated moral judgment is not surprising, given the observation of Velayutham (2003, p. 483) who argues that the Code of Ethics of the accounting profession “has moved from a focus on moral responsibility for a public good to that of technical specification”. Given the importance of laws, regulations, standards, and other rules in the accounting profession, we hypothesize the following:

*H3a: Contractualism interacts with study major to predict moral judgment in morally questionable dilemmas, such that contractualism effect is stronger for accounting students compared to non-accounting business students.*

Relativism refers to the fact that ethical rules are contextual and not universal. It refers to decisions based on what is acceptable in a particular setting rather than on individual considerations. Some researchers (Chan & Leung, 2006; Ismail, 2014) provide evidence of a negative influence of relativism on EDMP. This finding, along with the self-selection argument put forward that accounting students are more ethical than non-accounting students, implies that accounting students are less affected by relativism. However, the reasons why students enrol in accounting suggest otherwise. Tan and Laswad (2006) report that accounting students are more influenced by their family in choosing their major than



non-accounting business students. Not only family members but also peers have an important influence (Awadallah & Elgharbawy, 2021), which shows that family and peer acceptance as an essential element of moral philosophy relativism does play an important role. We therefore propose to test the following hypothesis:

*H3b: Relativism interacts with study major to predict moral judgment in morally questionable dilemmas, such that relativism effect is stronger for accounting students compared to non-accounting business students.*

Accountants are expected to serve the public interest (Bromell, 2017) by placing community interests before the interests of corporate clients or their own (Mitchell et al., 1994). Mitchell et al. (1994, p. 49) argue that “we live in a world dominated by market pressures in which accountants (. . .) are competing for business and are accountable for their contribution to the performance of the firms for which they work.” A series of scandals proves that public interest has been replaced by self-interest in the accounting profession (Davenport & Dellaportas, 2009).

In addition to the self-selection argument, family and peer influence presented so far, self-interest factors, such as financial rewards and career opportunities, are just as important determinants in students’ choice of accounting major (Laksmi & Al Hafis, 2019). Among the factors that influence high school students to choose accounting major, earnings opportunities have been identified as important determinants (Khalid et al., 2018). These factors persist even when students decide to pursue a chartered accountancy career. Financial and market factors (e.g. job availability, career prospects), as well as perceived benefit-cost factors, are more important for students intending to become chartered accountants than for those pursuing non-accounting careers (Ahmed et al., 1997). Career opportunities and financial benefits have been reported as crucial factors for choosing accounting as major worldwide, including in the United States (Lowe & Simons, 1997), Iran (Dalcı et al., 2013), New Zealand (Ahmed et al., 1997), Kuwait (Alanezi et al., 2016), Bangladesh (Kumar, 2017), Indonesia (Laksmi & Al Hafis, 2019), and Malaysia (Khalid et al., 2018), implying similar decision criteria in different countries. Since egoism refers to the promotion of an individual’s self-interest and involves self-promotion and personal satisfaction, we hypothesize the following:

*H3c: Egoism interacts with study major to predict moral judgment in morally questionable dilemmas, such that egoism effect is stronger for accounting students compared to non-accounting business students.*

The concept of justice perceives a morally questionable action as ethical, if it is just, fair and morally right (Reidenbach & Robin, 1990). Some parallels can be drawn between justice and levels of moral development. The post-conventional level represents the highest level of moral development where individuals develop their own principles, while moral judgment is determined by universally held principles of justice (Nguyen et al., 2008b).

Since we do not expect students to have highly developed moral judgment at the beginning of their higher education, we do not expect differences between students of different majors. The principles of utilitarianism resemble those of Kohlberg's (1969) conventional level (second out of three levels) of moral development, in which the individuals are motivated by mutual relations and expectations. We do not expect differences between first-year students of different majors, similar to justice.

### **3.3 Research methodology**

#### **3.3.1 Method**

The main aim of this study is to investigate *RQ2: How do the ethical predispositions of students who enrol in accounting differ compared to non-accounting business students?*. A survey is an effective research design to approach this question, because the data are collected directly from the respondents and provide reliable answers. For this reason, it is the most commonly used research design in social and behaviour science. Since we are interested in the attitudes and beliefs of individuals, a survey is an efficient research technique (Vogt et al., 2012). Some valid scales have already been developed to measure moral judgment, DIT and MES being used most frequently.

The *DIT*, developed by Rest (1979), might really be one of the most widely used instruments for assessing an individual's CMD, nevertheless, *MES* is one of the most commonly used instruments in research on the reasons that influence EDMP. While *DIT* measures the *level* of moral reasoning, *MES* provides the *understanding* of moral reasoning by measuring individual ethical preferences. With *MES*, individuals not only indicate their decisions about morally questionable actions, but also disclose the reasons that contribute to their decisions. The reasons that contribute to the individual's decision are the focus of this study, as we are interested in how ethical predispositions of students who enrol in accounting differ compared to non-accounting business students. The *MES* questionnaire developed by Cohen et al. (1998) is used to measure the variables (Appendix 3).

Each participant is presented with a set of eight vignettes (Appendix 4), as developed by Cohen et al. (2001) and also used by Shawver and Sennetti (2009). Vignettes present different ethical dilemmas, all followed by a morally questionable action. An example of Vignette 1 is presented below.

Example of Vignette 1: "A firm has been hard hit by recessionary times and the partners realize that they must scale back. An analysis of productivity suggests that the person most likely to be terminated is a long time employee with a history of absenteeism due to illness in the family. Action: instead, the partner in charge lays off a younger, but very competent, and recently hired employee" (Cohen et al., 2001, p. 333).

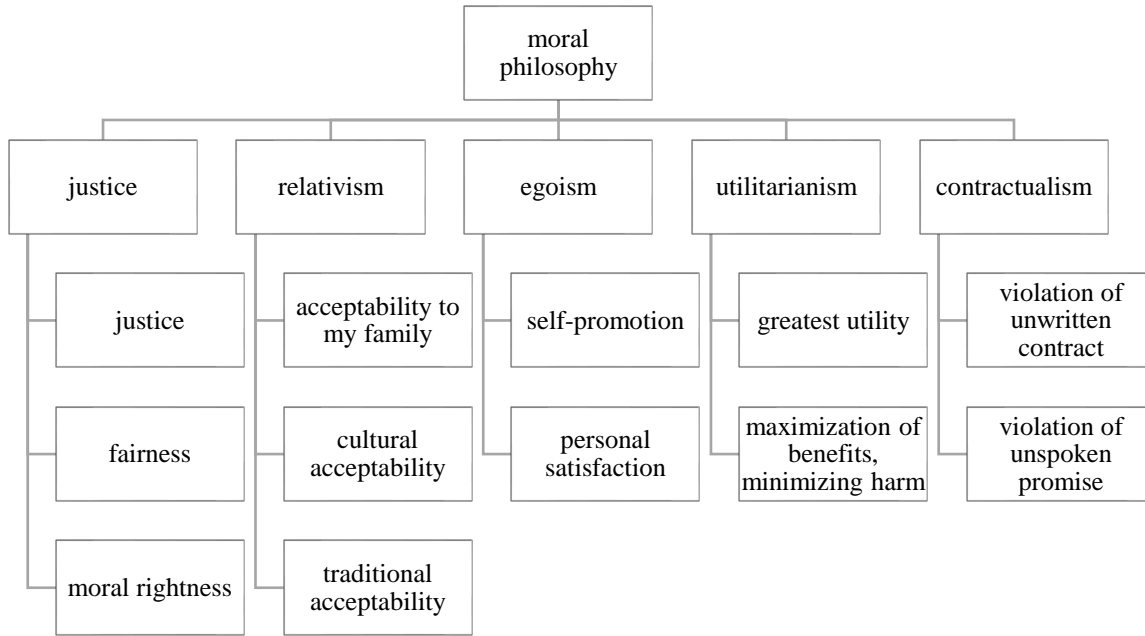
To summarize, Vignette 1 concerns a young worker who is about to be unfairly fired, a so-called Sophie's Choice vignette (Mudrack & Mason, 2013), in which no matter what one chooses, someone is hurt, with no gain for the decision maker. Vignette 2 deals with product safety, where there is not enough product testing, but the sales manager continues to promote the product anyway, because the likelihood of safety problems is low. Vignette 3 is about bribery for expanding business into a new country, where this practice is considered normal. Vignette 4 represents an infringement of software copyrights, while Vignette 5 refers to manipulation of dates and describes a situation where early shipment of products results in inflated sales and achievement of bonus targets. Further, Vignette 6 describes the extension of a loan to a friend uncompliant with the bank's lending criteria, Vignette 7 outlines the issue of spending company money on personal gifts, and Vignette 8 deals with an unjustified reduction of bad debt with the goal of increasing reported net income.

According to Shawver and Sennetti (2009), the listed vignettes are based on three thematic groups: *accounting-related* (vignettes 3 and 7), *earnings management* (vignettes 5, 6 and 8), and *self-interest* (vignettes 1, 2 and 4). In our analysis, the vignettes are likewise classified into these three groups.

For each of the vignettes, the respondents needed to answer MES that consist of twelve questions (Appendix 3) related to the five philosophical constructs (Figure 13), namely justice (questions 1–3: justice, fairness, moral rightness), relativism (questions 4–6: acceptability to my family, cultural acceptability, traditional acceptability), egoism (questions 7–8: self-promotion, personal satisfaction), utilitarianism (questions 9–10: greatest utility, maximization of benefits while minimizing harm), and contractualism (questions 11–12: violation of unwritten contract, violation of unspoken promise). The answers provided are measured on a Likert scale from 1 to 7. The scores for each moral philosophy close to 7 indicate that an action is perceived as just (justice), contextually acceptable (relativism), promoting self-interest (egoism), bringing the greatest good to the greatest number of people (utilitarianism) and not violating promises (contractualism).

Moral judgment is evaluated with direct questions asking the participants whether they perceive a morally questionable action as ethical and is also measured on a Likert scale from 1 to 7. As a result, moral judgment responses closer to 1 indicate an ethical action, and responses closer to 7 indicate an unethical action.

Figure 13: Moral Philosophies Construct in MES



Source: Adapted from Cohen et al. (1998).

To obtain the five moral philosophies defined in the literature, we perform exploratory factor analysis using principal axis factoring on the 12 question items and the varimax rotation in SPSS.

Next, to analyse whether the ethical predispositions of students who enrol in accounting differ from those of non-accounting business students, multiple linear regressions were performed. Since the data on the effect of study major were obtained for 8 dilemmas grouped into three types, we analyse moral judgment (MJ) using multiple linear regression, estimated within a linear mixed-effects framework with moral philosophies (factor scores for justice (J), relativism (R), egoism (E), utilitarianism (U), and contractualism (C)), study major (M), and gender (G) as fixed effects, and dilemmas as random effects, using lme4 package for R (Bates et al., 2015). The use of the linear mixed-effects framework was essential to address the problem of non-independent variables. The model described is without interactions, as this is the most commonly used approach (equation (1)). In addition, we analyse the interaction between study major and moral philosophies (equation (2)), as it simultaneously analyses how these factors are related to the outcome variable moral judgment. Although hypotheses are developed only for the interaction between study major and moral philosophies contractualism, relativism, and egoism, we also control for justice and utilitarianism.

Model without interactions: Model 1M

$$MJ = \beta_0 + \beta_1 \times M + \beta_2 \times J + \beta_3 \times R + \beta_4 \times E + \beta_5 \times U + \beta_6 \times C + \beta_7 \times G + \mathcal{E} \quad (1)$$

Model with interactions: Model 2M

$$MJ = \beta_0 + \beta_1 \times M + \beta_2 \times J + \beta_3 \times R + \beta_4 \times E + \beta_5 \times U + \beta_6 \times C + \beta_7 \times G + \beta_8 \times M \times J + \beta_9 \times M \times R + \beta_{10} \times M \times E + \beta_{11} \times M \times U + \beta_{12} \times M \times C + \mathcal{E} \quad (2)$$

MJ – moral judgment

M – study major

J – justice

R – relativism

E – egoism

U – utilitarianism

C – contractualism

G – gender

Next, we run ANOVA for regression, which provides information about the level of variability within a regression model and provides a basis for tests of significance. By adding interactions to the model, we also add some correlation between the variables. Adding interactions to the regression model could be problematic for interpretive reasons, as the predictors are no longer uncorrelated. The ANOVA model, on the other hand, disregards other variables and deals only with differences in variance.

### 3.3.2 Sample

The questionnaire was distributed to undergraduate business students at the SEB LU<sup>3</sup> at the end of the first year of study. Research was approved by the Ethics Committee of the SEB LU (2-2020). In the first year, students of all study majors attended the same courses, as the choice of the study major is made at the time of enrolment in the second year (only a few weeks after the questionnaire was distributed). First-year students were therefore asked to indicate their intended study major in the questionnaire. We were interested in the pre-dispositional differences between accounting and non-accounting business students (who major in: Bank and financial management, Management, International business, Entrepreneurship, Business logistics, Business informatics, Marketing and Tourism), i.e. the differences that exist prior to specialized accounting education. In total, 456 students submitted the questionnaire. Among which, seventeen students were excluded from the analysis, because they had not yet decided on a specific major. Among the remaining students seven were excluded, due to the missing data. The students stopped completing the questionnaire in the middle. Because, the demographic questions are asked at the end of the questionnaire, we did not use partially completed questionnaires. Additional six students were excluded from further analysis for the reason of being older than 22 years. A

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<sup>3</sup> The first institution in Slovenia and in the region that attained the Triple Crown accreditation, holding the three most renowned international accreditations EQUIS, AACSB and AMBA.

total of 426 participants were included in the analysis (age  $M = 19.8$ ,  $SD = 0.71$ , range = 19–22 years, 65.7% female).

Students were further divided into two groups based on intended study major: accounting ( $N = 84$ , age  $M = 19.8$ ,  $SD = 0.65$ , range = 19–22 years, 72.6% female) and non-accounting business ( $N = 342$ , age  $M = 19.8$ ,  $SD = 0.72$ , range = 19–22 years, 64.0% female). Students in both major groups took the same courses and did not take any specialized business ethics or elective courses.

There are no missing data in the final sample. We check whether there are outliers in the data. First, we try to detect outliers by applying the standard deviation method, using 3 standard deviations as a threshold. A value that falls outside the three standard deviations is treated as an outlier. None of the values in the sample was detected as an outlier based on the threshold. Second, we check whether students completed the questionnaire thoroughly. We look for straight lines (whether the respondent marks all the answers with the same score), diagonal lines, and extreme pole responses. Again, no outliers were found.

### **3.4 Results**

#### **3.4.1 Measurement of the variables**

To obtain the five moral philosophies defined in the literature, we perform exploratory factor analysis using principal axis factoring on the 12 question items and the varimax rotation in SPSS. Analyse show item 3 (Q3) and 4 (Q4) load on two factors (values greater than 0.4) (Appendix 5). Due to the cross loading we firstly reran an exploratory factor analysis without item 4 (Appendix 6). The analyse show item 3 (Q3) is still cross-loading and is for this reason deleted from further analyse. The final results are presented in the Table 6.

Table 6: MES Factors for Ethical Predisposition Study without Q3 and Q4

Items		Rotated factor loadings				
		C	R	J	U	E
Q1	Just	0.270	0.307	<b>0.791</b>	0.200	0.158
Q2	Fair	0.304	0.294	<b>0.817</b>	0.155	0.122
Q5	Culturally acceptable	0.219	<b>0.803</b>	0.288	0.124	0.149
Q6	Traditionally acceptable	0.219	<b>0.805</b>	0.222	0.102	0.144
Q7	Self-promoting for me	0.067	0.100	0.070	0.154	<b>0.601</b>
Q8	Personally satisfying me	0.037	0.113	0.110	0.267	<b>0.705</b>
Q9	Produces the greatest utility	0.047	0.088	0.103	<b>0.789</b>	0.331
Q10	Maximizes benefits while minimizes harm	0.195	0.125	0.184	<b>0.753</b>	0.210
Q11	Does not violate an unwritten contract	<b>0.849</b>	0.220	0.236	0.088	0.047
Q12	Does not violate an unspoken promise	<b>0.826</b>	0.198	0.225	0.151	0.093
Cronbach's $\alpha$		0.90	0.88	0.93	0.83	0.65

Note: C-contractualism, R-relativism, J-justice, U-utilitarianism, E-egoism. Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations. Factor Scores Method: Anderson-Rubin. Factor loadings greater than 0.40 appear in bold (Field, 2009).

Source: Own work.

The sampling adequacy of the model, measured with the Kaiser-Meyer-Olkin (KMO), was  $KMO = 0.785$  which is good according to Field (2009). The KMO values for each variable are above the minimum of 0.5 (Field, 2009), they vary between 0.731 and 0.820. Further, Bartlett's test of sphericity ( $\chi^2(45) = 20163.5, p < 0.001$ ) shows that the variables are correlated and therefore suitable for principal axis factoring (Field, 2009). To ensure that the factor scores are uncorrelated, we use Anderson-Rubin as the factor scores method. The items that load on the same factor suggest that factor 1 represents contractualism, factor 2 relativism, factor 3 justice, factor 4 utilitarianism, and factor 5 egoism (Table 6). Cronbach's  $\alpha$  for egoism (0.65) reveals moderate but still acceptable reliability (minimum stands at 0.6). All other factors have high reliabilities, with Cronbach's  $\alpha$  above 0.8. The extracted factors of moral philosophies are used in the hypotheses testing.

In the Cohen et al. (1998) MES scale item 4 (acceptable to family) is a measure of relativism, whereas in the Reidenbach and Robin (1990) scale, the same item is a measure of moral equity, along with other measurement items of justice from the Cohen et al. (1998) scale<sup>4</sup>. To ensure that there was no cross-loading due to the scale chosen, we reran

<sup>4</sup> For a comparison of items in the Cohen et al. (1998) and Reidenbach and Robin (1990) scales, see Appendix 2.

the principal axis factoring for the Reidenbach and Robin (1990) scale. The results are presented in Appendix 7. Same items (item 3 and 4) cross load even when we use this scale.

### 3.4.2 Descriptive statistics

Table 7 presents descriptive statistics of moral philosophies and moral judgment, depending on the type of the dilemma (*accounting-related* vs. *earnings management* vs. *self-interest*) and major (*accounting* vs. *non-accounting business*). The mean scores for each moral philosophy close to 7 indicate that an action is perceived as just (justice), contextually acceptable (relativism), promoting self-interest (egoism), bringing the greatest good to the greatest number of people (utilitarianism) and not violating promises (contractualism). Further, responses related to moral judgment close to 1 suggest that an action is perceived as ethical and responses close to 7 as unethical. Descriptive statistics is graphically presented in Appendix 8.

Students perceive all types of dilemmas (*accounting-related*:  $t(851) = 9.46$ ,  $p < 0.001$ ; *earnings management*  $t(1277) = 24.79$ ,  $p < 0.001$ ; *self-interest*  $t(1277) = 14.50$ ,  $p < 0.001$ ) as slightly unethical (moral judgment values above 4), but with a statistically significant difference observed between them ( $F(2, 3405) = 26.20$ ,  $p < 0.001$ ). Among the three types of dilemmas, morally questionable actions related to *earnings management* are perceived as most unethical ( $M = 5.04$ ), and those related to accounting as least unethical ( $M = 4.54$ ). No differences in moral philosophies exist between study majors (all  $p > 0.107$ ). As for moral judgment, the difference between the two groups of students is significant only for *earnings management* dilemmas ( $t(391) = 2.11$ ,  $p = 0.035$ ). Accounting students perceive them as more unethical than non-accounting business students ( $M_{\text{accounting}} = 5.21$ ,  $M_{\text{non-accounting business}} = 5.00$ ).



Table 7: Descriptive Statistics for Ethical Predisposition Study

			Study major				Total		Differences between study majors			
			Accounting		Non-accounting business							
			(N=84)		(N=342)		(N=426)					
			Mean	SD	Mean	SD	Mean	SD	t	df	p	sig
Three types of moral dilemmas	Accounting-related	Justice	3.60	1.71	3.63	1.73	3.62	1.73	-0.20	257.7	0.845	
		Relativism	3.82	1.58	3.80	1.67	3.80	1.65	0.11	266.2	0.909	
		Egoism	4.82	1.25	4.71	1.44	4.73	1.40	0.96	284.9	0.336	
		Utilitarianism	4.97	1.31	4.78	1.55	4.82	1.51	1.61	294.4	0.107	
		Contractualism	3.91	1.81	3.97	1.95	3.96	1.92	-0.39	270.5	0.697	
		Moral judgment	4.48	1.65	4.56	1.68	4.54	1.67	-0.57	258.4	0.571	
	Earnings management	Justice	2.97	1.44	3.08	1.58	3.06	1.56	-0.99	412.9	0.323	
		Relativism	3.30	1.52	3.37	1.50	3.36	1.51	-0.68	381.4	0.497	
		Egoism	4.77	1.50	4.69	1.53	4.70	1.52	0.80	390.0	0.426	
		Utilitarianism	4.39	1.51	4.37	1.51	4.38	1.51	0.13	385.1	0.894	
		Contractualism	3.04	1.59	3.18	1.65	3.15	1.64	-1.20	394.5	0.230	
		Moral judgment	5.21	1.47	5.00	1.50	5.04	1.50	2.11	390.5	0.035	*
	Self-interest	Justice	3.28	1.61	3.34	1.60	3.32	1.60	-0.50	382.0	0.620	
		Relativism	3.86	1.58	3.91	1.49	3.92	1.58	-0.62	384.3	0.533	
		Egoism	4.25	1.46	4.20	1.53	4.21	1.52	0.53	398.6	0.595	
		Utilitarianism	4.02	1.72	4.02	1.78	4.02	1.76	0.01	393.0	0.992	
		Contractualism	3.54	1.75	3.46	1.76	3.48	1.76	0.61	384.8	0.542	
		Moral judgment	4.85	1.76	4.67	1.74	4.71	1.74	1.39	381.1	0.165	

Note: Responses close to 1 indicate that a morally questionable action is perceived as unjust (justice), contextually unacceptable (relativism), not promoting self-interest (egoism), bringing the least good to the greatest number of people (utilitarianism), violating promises (contractualism), and ethical (moral judgment). Responses close to 7 indicate that an action is perceived as just (justice), contextually acceptable (relativism), promoting self-interest (egoism), bringing the greatest good to the greatest number of people (utilitarianism), not violating promises (contractualism), and unethical (moral judgment). The mean score represents the responses for each moral philosophy. \*  $p < 0.05$ .

Source: Own work.

Mean scores of all five moral philosophies are significantly negatively correlated with moral judgment (Table 8, all  $p < 0.001$ ), indicating that the more a morally questionable action is perceived as just (justice), contextually acceptable (relativism), promoting self-interest (egoism), bringing the greatest good to the greatest number of people (utilitarianism) and not violating promises (contractualism), the less it is perceived as unethical, and vice versa. Study major is not correlated with moral philosophies or moral judgment.

Table 8: Pearson Correlation Matrix for Ethical Predisposition Study

	Justice	Relativism	Egoism	Utilitar.	Contract.	Moral judgment
<b>Relativism</b>	0.601***	1				
<b>Egoism</b>	0.298***	0.294***	1			
<b>Utilitarianism</b>	0.400***	0.315***	0.464***	1		
<b>Contractualism</b>	0.564***	0.481***	0.192***	0.304***	1	
<b>Moral judgment</b>	-0.666***	-0.572***	-0.175***	-0.263***	-0.575***	1
<b>Study major<sup>a</sup></b>	0.016	0.012	-0.021	-0.013	0.008	-0.031

Note: \*\*\*  $p < 0.001$ ; <sup>a</sup> 1 = accounting, 2 = non-accounting business;  $N = 426$  (number of students).

Source: Own work.

### 3.4.3 Hypotheses testing

In  $H1(a-e)$ , we hypothesize that the more a morally questionable action is just (justice), contextually acceptable (relativism), promoting self-interest (egoism), bringing the greatest good to the greatest number of people (utilitarianism) and not violating promises (contractualism), the less it is perceived as unethical (moral judgment). The results of Model 1M (Table 9) reveal a significant main effect of all moral philosophies in all three types of moral dilemmas, i.e. *accounting-related*, *earnings management*, and *self-interest*. Overall, the results show that the more a morally questionable action is just, the more it is contextually acceptable, the more it promotes self-interest, the more it brings the greatest good to the greatest number of people and the more it does not violate promises, the less it is perceived as unethical (Figure 14), which is in line with the results of Pearson correlation matrix in descriptive statistics (Table 8). The results confirm all  $H1(a-e)$  in all types of dilemmas. Although the *direction* of the effect is the same for all moral philosophies, the *magnitude* differs. As shown in Figure 14, the effects of egoism and utilitarianism on moral judgment are the smallest.

With  $H2$ , we hypothesize that accounting students perceive morally questionable actions as more unethical than non-accounting business students. The main effect of major is not significant in any type of the dilemmas, therefore, we cannot confirm the second hypothesis.

Table 9: Model 1M of Hypotheses Testing

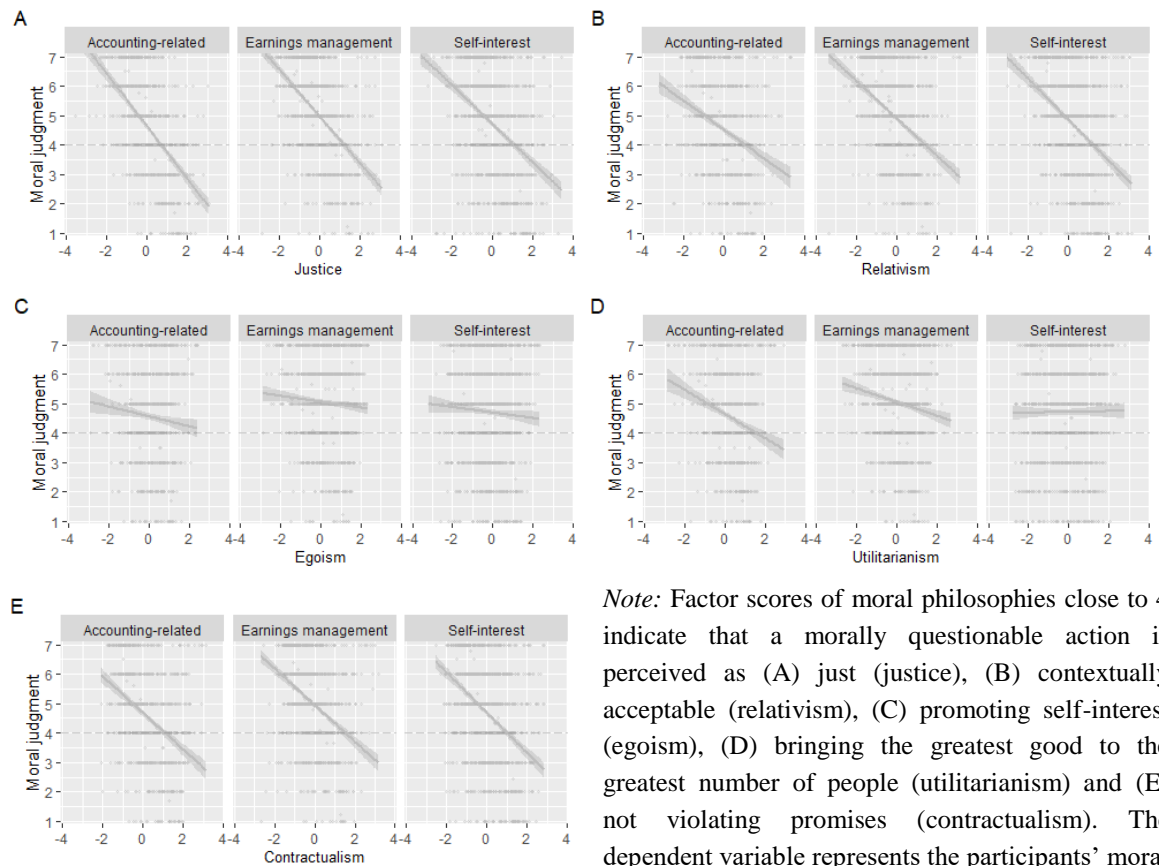
Model 1M Dependent variable: Moral judgment	Three types of moral dilemmas								
	Accounting-related			Earnings management			Self-interest		
	<i>F</i>	<i>p</i>	<i>sig</i>	<i>F</i>	<i>p</i>	<i>sig</i>	<i>F</i>	<i>p</i>	<i>sig</i>
Major	0.93	0.338		2.82	0.094		2.23	0.136	
Justice	505.81	<0.001	***	577.68	<0.001	***	563.12	<0.001	***
Relativism	185.00	<0.001	***	308.48	<0.001	***	475.06	<0.001	***
Egoism	9.16	0.003	**	4.25	0.039	*	12.49	<0.001	***
Utilitarianism	21.34	<0.001	***	55.52	<0.001	***	12.56	<0.001	***
Contractualism	211.54	<0.001	***	378.88	<0.001	***	470.26	<0.001	***
Gender	0.50	0.441		2.95	0.087		3.02	0.083	
R <sup>2</sup>	0.644			0.664			0.588		

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ;  $N = 426$  (number of students).

Source: Own work.

As a control variable, the main effect of gender is also analysed and not found significant in any type of the dilemmas.

Figure 14: Main Effect of Moral Philosophies on Moral Judgment for Each Type of Moral Dilemma for Ethical Predisposition Study



Note: Factor scores of moral philosophies close to 4 indicate that a morally questionable action is perceived as (A) just (justice), (B) contextually acceptable (relativism), (C) promoting self-interest (egoism), (D) bringing the greatest good to the greatest number of people (utilitarianism) and (E) not violating promises (contractualism). The dependent variable represents the participants' moral judgment on a scale from 1 (ethical) to 7 (unethical).

Source: Own work.

The descriptive statistics and Model 1M of the hypotheses testing provide a rather basic analysis instead of a comprehensive overview of the topic, since they do not account for the interactions between the variables. Thus, we extend Model 1M by additionally testing for the interaction effects of study major  $\times$  moral philosophies. The interactions are presented in Model 2M (Table 10). Adding the interactions into the model nevertheless proves not to affect the main effects. Instead, results continue to show the significant main effects of all moral philosophies in all three types of moral dilemmas. The results related to testing hypotheses  $H1(a-e)$  and  $H2$  in Model 2M are consistent with Model 1M, thus confirming all hypotheses  $H1(a-e)$ , while hypothesis  $H2$  is not confirmed.

Table 10: Model 2M of Hypotheses Testing

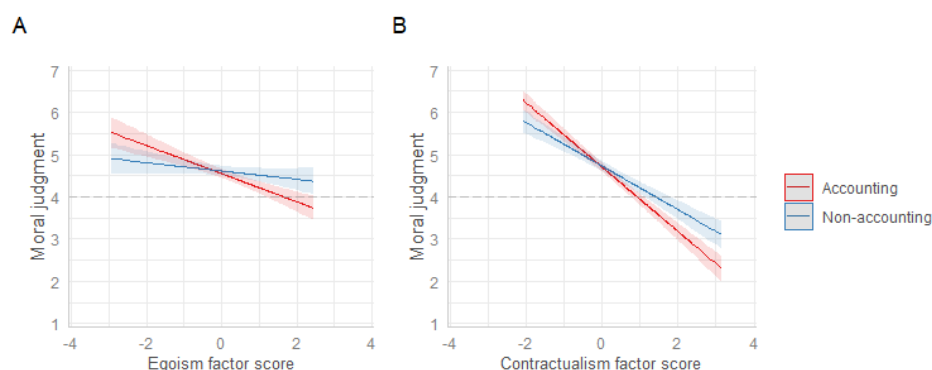
Model 2M <i>Dependent variable:</i> <i>Moral judgment</i>	Three types of moral dilemmas								
	Accounting-related			Earnings management			Self-interest		
	<i>F</i>	<i>p</i>	<i>sig</i>	<i>F</i>	<i>p</i>	<i>sig</i>	<i>F</i>	<i>p</i>	<i>sig</i>
Major	0.94	0.333		2.80	0.095		2.24	0.136	
Justice	514.58	< <b>0.001</b>	***	573.16	< <b>0.001</b>	***	561.03	< <b>0.001</b>	***
Relativism	192.55	< <b>0.001</b>	***	308.21	< <b>0.001</b>	***	475.72	< <b>0.001</b>	***
Egoism	10.09	<b>0.002</b>	**	4.27	<b>0.039</b>	*	12.45	< <b>0.001</b>	***
Utilitarianism	23.61	< <b>0.001</b>	***	55.67	< <b>0.001</b>	***	12.60	< <b>0.001</b>	***
Contractualism	218.52	< <b>0.001</b>	***	375.37	< <b>0.001</b>	***	466.78	< <b>0.001</b>	***
Gender	0.60	0.440		2.96	0.086		2.88	0.090	
Major $\times$ Justice	0.06	0.805		0.90	0.343		0.64	0.425	
Major $\times$ Relativism	3.45	0.064		0.81	0.368		0.05	0.827	
Major $\times$ Egoism	4.05	<b>0.045</b>	*	0.00	0.972		1.03	0.310	
Major $\times$ Utilitarianism	1.19	0.275		0.03	0.855		0.53	0.468	
Major $\times$ Contractualism	6.65	<b>0.010</b>	*	0.48	0.488		1.00	0.317	
R <sup>2</sup>		0.652			0.666			0.589	

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ,  $N = 426$  (number of students).

Source: Own work.

Additionally, Model 2M (Table 10) reveals statistically significant interaction effects between the study major and moral philosophies egoism and contractualism, but only for *accounting-related* dilemmas. A change in the egoism and contractualism score implies a larger impact on moral judgment for accounting students than for non-accounting business students (Figure 15). As for other types of dilemmas, the interaction between study major and moral philosophies does not significantly affect moral judgment. Accordingly, the results confirm some of the hypotheses  $H3$ :  $H3a$  stating that contractualism and  $H3c$  egoism interact with study major to predict moral judgment in morally questionable dilemmas, such that the moral philosophies effect is stronger for accounting students compared to non-accounting business students, however, only for *accounting-related* dilemmas. The results do not confirm  $H3b$  stating that relativism interacts with study major to predict moral judgment in any dilemma. See Appendix 9 for additional analysis explaining the direction of the significant interaction effects.

*Figure 15: Interaction Effects of Study Major and Moral Philosophies Egoism and Contractualism on Moral Judgment for Accounting-Related Dilemmas*



*Note:* Factor scores of moral philosophies close to 4 indicate that a morally questionable action is perceived as (A) promoting self-interest (egoism) and (B) not violating promises (contractualism). The dependent variable represents the participants' moral judgment on a scale from 1 (ethical) to 7 (unethical).

*Source:* Own work.

### 3.5 Discussion

In the business ethics literature, researchers have focused on the effects of different variables (e.g. gender, age, culture, and education) on moral judgment. Some researchers also acknowledge the role of study major, however, the results are not consistent. This chapter focuses on the less explored differences between the ethical predispositions of business students in different study majors.

The most existing studies on moral judgment (Gill, 2010; Kara et al., 2016; Landry, 2004) are focused on investigating the main effects, and similar to that are the descriptive statistics and Model 1M presented in this chapter. The main contribution of this study relates to the findings presented in Model 2M, in which interactions between the variables are considered, in addition to the main effects. To show how ethical predispositions differ across study majors (*RQ2*), i.e. before the effect of specialization education takes place, we compare first-year undergraduate business students who intend to major in accounting with first-year undergraduate non-accounting business students.

Regarding the main effect of moral philosophies, our study reveals that moral philosophies, i.e. justice, relativism, egoism, utilitarianism and contractualism, strongly affect moral judgment, suggesting that the more a morally questionable action is perceived as just, contextually acceptable, not violating promises, promoting self-interest, and bringing the greatest good to the greatest number of people, the less it is perceived as unethical. A similar correlation between moral philosophies and moral judgment is also found by Kara et al. (2016). The authors prove that all moral philosophies affect moral judgment. The predominant moral philosophy in their research depends on the dilemma, which turns out

as justice influencing moral judgment in 7 out of 8 cases, followed by relativism, contractualism and egoism (4 out of 8), and utilitarianism (2 out of 8). The main difference of our study is that our findings show that all moral philosophies significantly affect moral judgment in all types of dilemmas. The reason for the differences might be due to the inclusion of the factor scores instead of the mean scores (see additional analysis in Appendix 10). We used factors instead of means, because this allows us to account for factor loadings, that is, correlations of a variable with a factor (Kline, 1994).

The main effect of study major on moral judgment is not significant. The results of our study are similar to Green and Weber (1997), who also find no differences between accounting and non-accounting business students. Although the main effect is not significant, study major interacts with moral philosophies influencing moral judgment, showing that ethical predispositions of accounting students differ from those of non-accounting business students, but only for the dilemmas related to accounting.

Effects of contractualism and egoism on moral judgment are higher among accounting students than among non-accounting business majors. Our study therefore provides evidence that, even before specialized accounting education, students who intend to major in accounting evaluate *accounting-related* dilemmas from a different standpoint than their non-accounting peers. In addition, we controlled for the influence of gender on moral judgment and found no differences.

In previous research, self-interest factors have been found to be important determinants of choosing accounting as study major (Khalifa & Quattrone, 2008; Laksmi & Al Hafis, 2019). Since egoism refers to the promotion of an individual's self-interest and includes self-promotion and personal satisfaction, it is not surprising that it has a stronger influence on accounting students compared to their non-accounting business peers. Ge and Thomas (2008) highlight that egoism is the most common basis for ethical decision making among Canadian and Chinese undergraduate accounting students and outline the importance of understanding the current state in order to make necessary improvements, such as using post-conventional ethical reasoning.

Given the technical accuracy of accountants (Frémeaux et al., 2020) and the requirements to follow a broad set of regulations and professional standards, it is not surprising that contractualism has a stronger impact on moral judgment of accounting than non-accounting business students. For the former, violation of contracts and/or promises decreases perceived ethicality more than for non-accounting business students. Moreover, the results of the present study show that students who intend to major in accounting are more influenced by contractualism even before taking specialized professional courses. This finding is consistent with the self-selection argument that students with certain characteristics are more likely to choose accounting as their study major.

Moral judgment is influenced by variation in the context (dilemmas) (Haan, 1986). Students have different strategies of solving different problems and this study confirms that the context of a dilemma is a source of variation, as differences between accounting and non-accounting business students exist only for *accounting-related* dilemmas.

## **4 EFFECT OF ACCOUNTING EDUCATION ON MORAL JUDGMENT**

### **4.1 Introduction**

Ethical behaviour is one of the foundations of the accounting profession (Ionescu, 2016), as it provides information for decision making and evaluation of decisions to a broad range of stakeholders. The reliance upon the work of accountants is based on trust, which, in turn, builds on ethical behaviour and ethical choices. Trust in the accounting profession has declined, following a series of major corporate scandals at the turn of the century in the US (e.g. Enron, WorldCom and Lehman Brothers), Europe (e.g. Parmalat and Royal Ahold), and elsewhere. These revealed a lack of ethics within the accounting profession, since it was accountants and auditors who were among those held responsible (European Commission, 2010). The financial crisis that followed the period of the corporate scandals emphasized even more the purpose of the financial sector, which was and still is to serve and benefit people and not to rule (Lagarde, 2014), which can just as well be applied to the accounting profession.

To prevent, or at least mitigate, further corporate scandals, regulatory changes<sup>5</sup> were enacted in the US, the EU and globally. Although regulatory measures were necessary, they were nevertheless not sufficient (Lail et al., 2017). Along with the ethics-related improvements requested by legislators, regulators and the general public, institutional accreditation requirements (e.g. AACSB, AMBA, EQUIS) further contributed to increasing the awareness on the importance of the ethics education in higher education and an accelerated implementation of ethics courses into the schools' curricula. Changes in education were needed as an essential element to not only properly address the ethical crisis facing the accounting profession (Jackling et al., 2007), but also to ensure practical skills and professional identity in addition to technical knowledge (Wilkerson Jr., 2010).

Accountants cannot be expected to make good ethical decisions, if they are unable to evaluate ethical dilemmas in a situation. For that reason, the role of the university is to teach ethical issues in a way that enables the students and future professionals when confronted with ethical dilemmas to not only recognise all alternative choices but also choose the most appropriate option (Langenderfer & Rockness, 1989). After all, it is the

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<sup>5</sup> e.g. Sarbanes-Oxley Act, Directive 2006/43/EC, Directive 2014/56/EU and Regulation 537/2014

act of recognizing and properly evaluating ethical dilemmas that is an essential prerequisite for making good ethical decisions (Rest, 1986).

## 4.2 Hypotheses development

Having understood the predispositions of students who enrol in accounting, described in the chapter *Ethical predispositions of accounting students*, we are next interested to answer third research question (RQ3): *What influence does the accounting education have on students' moral judgment?*

The importance of ethics education was highlighted by the AACSB in the 1980s, when it required inclusion of ethics topics in the business schools' curriculum. The importance continued to grow after corporate scandals in the beginning of the 21th century, as the public questioned the ethical standards of accounting professionals. In addition to regulatory responses, ethics education in accounting plays a vital role in restoring credibility of accounting profession (McPhail, 2001).

There are many factors that influence the effect of education on moral judgment, including how ethics is taught. Universities can incorporate ethics education in different ways, some by developing separate ethics courses and others by integrating ethics topics into existing courses. Although the research by Hurtt and Thomas (2008) shows that 60% of educators would prefer a combination of a stand-alone course and integrated ethics topics, empirical evidence reveals that universities prefer to embed ethics topics into existing courses rather than develop stand-alone courses (Anzeh & Abed, 2015; Ghaffari et al., 2008; Miller & Shawver, 2018), mostly due to a lack of specialization in ethics and motivation to teach ethics (Dellaportas et al., 2014). However, it has been confirmed that both approaches can lead to improved moral judgment (Blanthorne et al., 2007; Dellaportas, 2006; Loeb, 1991; Martinov-Bennie & Mladenovic, 2015).

EDMP begins with moral awareness, which is a recognition of ethical dilemma (Rest, 1986). Ethics education (stand-alone or integrated) can increase moral awareness and influence EDPM (Nerandzić et al., 2012; Ramirez & Palos-Sanchez, 2018; Swenson-Lepper, 2005; Tormo-Carbó, Seguí-Mas et al., 2016). The study by Tormo-Carbó, Seguí-Mas et al. (2016) reveals that students who participated in ethics education have a need for further ethics education. They better understand the importance of ethics in relation to their professional responsibilities. According to Ramirez and Palos-Sanchez (2018), students who have participated in ethics education courses are more afraid of the consequences of unethical behaviour and more willing to associate illegal actions with consequences, which in the end leads to better compliance with the law. In addition to the ethics education, numerous studies demonstrate that formal education also influences the level of moral reasoning. Swenson-Lepper (2005) reports that educational level is an important determinant of moral awareness, since individuals with higher educational level are more sensitive to ethical dilemmas. Level of education can explain 30 to 50% of the variance in



moral development (Rest et al., 1999). However, a positive relationship between education and moral development has not always been confirmed (Arfaoui et al., 2016; Cohen et al., 2001; Hummel et al., 2018; Jewe, 2008; Odar et al., 2017).

We claim that progress in moral judgment can be achieved through accounting education and thus propose testing the following hypothesis:

*H4: Third-year accounting students perceive morally questionable actions as more unethical than first-year accounting students.*

Besides the influence of accounting education, moral philosophies are also an important factor influencing moral judgment (Thomas, 2012). In the moral dilemmas where the senior accounting students based their decisions on justice, utilitarianism, and contractualism, their decisions were more ethical than those of the first-year accounting students. In contrast, for the dilemmas in which the senior accounting students chose relativism and egoism as the basis for their decisions, no differences in moral judgment compared to the first-year students were found. Masten (2012) asserts that utilitarianism is one of the dominant philosophies in accounting, while Borkowski and Yusuf (1992) report that freshmen are more justice-oriented than MBA graduates. Research by Collin and Schmidt (2020) shows that second-year accounting students do not consider welfare of others as strongly as first-year students, while at the same time there are no differences in relativism. Overall, they report no differences between second- and third-year accounting students.

Accounting education across different countries could have a different impact on students' moral judgment and philosophies, as it is guided by different financial reporting standards. The International Financial Reporting Standards are principle-based standards, while the US Generally Accepted Accounting Principles are more rule-based standards. The problem with rule-based accounting is the interpretation of those rules. Some people look for ways to get around the rules or even try to take advantage of the rules, because they know their disadvantages. The problem is that rules can only cover a limited number of circumstances and auditors only focus on the form and do not keep the big picture in mind (Kershaw, 2005). Kershaw (2005, p. 595) even claims that "it is the principled form of UK regulation that kept our markets intact". Satava et al. (2006), among others, recommend the principle-based approach as the basis of accountants' judgment in order for a company to be an ongoing entity and interesting to future investors. To demonstrate the importance of principle-based accounting and the drawbacks of rule-based accounting, some authors have used Enron as an example, laying the groundwork for the normative shift towards principle-based accounting (Bratton, 2003; Eaton, 2005; Kershaw, 2005). The main focus of rule-based accounting is on technical skills, while principle-based accounting also considers the broader ethical implications. This study is conducted in a principle-based environment.

Regardless of the basis for the accounting profession, it is well known that accountants focus on technical accuracy (Frémeaux et al., 2020), which leads the students who are more analytical, accurate and adherent to regulation to enrol in accounting. However, it is crucial that students throughout the education process understand that accounting is more than just following rules. They need to understand the broader social and political context of the accounting profession (McPhail, 2001), thus accounting courses should be designed to help students understand the big picture, the social aspect of accounting, its flexibility, and the importance of professional judgment. Therefore, we expect that accounting education reduces the influence of contractualism by highlighting the importance of the broader aspect of the consequences of ethical decisions.

*H5a: Contractualism interacts with study year to predict moral judgment in morally questionable dilemmas, such that contractualism effect is stronger for first-year compared to third-year accounting students.*

Accountants and auditors need to include not only rule-based, closely related to contractualism, but also principle-based assessments in order for a company to be an ongoing entity and to be interesting for further investors (Satava et al., 2006). Moreover, it is crucial for students to understand the broader social and political context of the accounting profession (McPhail, 2001). Educators often expose students to utilitarian concepts, e.g. by cost-benefit analysis. One should engage in projects if benefits are greater than the costs and seek for the greatest good for the greatest number of people (Armstrong et al., 2003). As Brandt (1992) stated, in the utilitarianistic approach individuals understand their duties toward society and rules that help solve conflicts when duties are not the same among shareholders. Third-year students are expected to better understand the broader social and political context of an action and therefore be able to analyse actions on the basis of the greatest good. Thus, we expect the influence of utilitarianism on moral judgment to be greater for third-year than for first-year accounting students.

*H5b: Utilitarianism interacts with study year to predict moral judgment in morally questionable dilemmas, such that utilitarianism effect is stronger for third-year compared to first-year accounting students.*

Since a higher level of moral development is reflected in less dependence on the outside influences and a more independent resolution of ethical dilemmas, we expect accounting education to reduce the influence of relativism on moral judgment. *Relativism* refers to no universal right or wrong and actions can only be judged in relation to a particular cultural setting. It refers to actions that follow the guidelines and requirements of particular environment, and instead of individual considerations, moral judgments are based on family acceptance, cultural acceptance and traditional acceptance. We expect that because of accounting education, individuals rely less on the opinions of those around them and develop their own moral standards, and therefore rely less on relativism.

*H5c: Relativism interacts with study year to predict moral judgment in morally questionable dilemmas, such that relativism effect is stronger for first-year compared to third-year accounting students.*

Egoism is based on the consequences that an action has for the individual. If the action promotes self-interest, it is perceived as ethical (Reidenbach & Robin, 1990). It is closely related to the pre-conventional level of moral development, because individuals at this level are concerned with themselves and are egocentric. Individuals at this level do not yet understand what is right or wrong, but base their decisions primarily on the consequences to the individual. During accounting education, students understand a broader social and political context and develop a moral sensitivity to others, therefore we hypothesize:

*H5d: Egoism interacts with study year to predict moral judgment in morally questionable dilemmas, such that egoism effect is stronger for first-year compared to third-year accounting students.*

At this point, we do not expect students to reach the highest level of moral development after accounting education. Since there is still room for improvement in moral development, we do not expect changes in moral philosophy justice just yet. Justice is closely related to the post-conventional level of moral development, the highest level at which individuals develop their own principles, while moral judgment is determined by universally held principles of justice.

### **4.3 Research methodology**

#### **4.3.1 Method**

The main aim of this study is to investigate moral judgment. A survey is an effective research design to approach this question, because the data are collected directly from the respondents and provide reliable answers, making a survey the most commonly used research design in social and behaviour science. Since we are interested in the attitudes and beliefs of individuals, a survey is an efficient research technique (Vogt et al., 2012). Some valid scales have already been developed to measure moral judgment, the best known are probably the already mentioned DIT and MES.

As in the third chapter MES questionnaire developed by Cohen et al. (1998) is used to measure the variables. MES provides the *understanding* of moral reasoning by measuring individual ethical preferences. With MES, individuals not only indicate their decisions about morally questionable actions, but also disclose the reasons that contribute to their decisions. The reasons that contribute to individual's decision are the main concern of this study, as we are interested in the influence of accounting education on students' moral judgment. The MES questionnaire is in Appendix 3.

Each participant is presented with a set of eight vignettes (Appendix 4), as developed by Cohen et al. (2001). Vignettes present different ethical dilemmas, all followed by a specific morally questionable action. A summary of vignettes can be found in chapter 3.3.1. According to Shawver and Sennetti (2009), the listed vignettes are based on three thematic groups: *accounting-related* (vignettes 3 and 7), *earnings management* (vignettes 5, 6 and 8), and *self-interest* (vignettes 1, 2 and 4). In our analysis, the vignettes are likewise classified into these three groups.

For each of the vignettes, the respondents needed to answer twelve questions related to the five philosophical constructs (Figure 13), namely justice (questions 1–3: justice, fairness, moral rightness), relativism (questions 4–6: acceptability to my family, cultural acceptability, traditional acceptability), egoism (questions 7–8: self-promotion, personal satisfaction), utilitarianism (questions 9–10: greatest utility, maximization of benefits, minimizing harm), and contractualism (questions 11–12: violation of unwritten contract, violation of unspoken promise). The answers provided are measured on a Likert scale from 1 to 7. The scores for each moral philosophy close to 7 indicate that an action is perceived as just (justice), contextually acceptable (relativism), promoting self-interest (egoism), bringing the greatest good to the greatest number of people (utilitarianism) and not violating promises (contractualism). To obtain the five moral philosophies defined in the literature, we perform exploratory factor analysis using principal axis factoring on the 12 question items and the varimax rotation in SPSS.

Moral judgment is evaluated with direct questions asking the participants whether they perceive a morally questionable action as ethical and is measured on a Likert scale from 1 to 7. As a result, moral judgment responses closer to 1 indicate an ethical action, and responses closer to 7 indicate an unethical action.

Next, to analyse the influence of accounting education on students' moral judgment multiple linear regressions were performed. Since the data were obtained for 8 dilemmas grouped into three types, we analyse moral judgment (MJ) using multiple linear regression, estimated within a linear mixed-effects framework with moral philosophies (factor scores for justice (J), relativism (R), egoism (E), utilitarianism (U), and contractualism (C)), study year (Y), and gender (G) as fixed effects, and dilemmas as random effects, using lme4 package for R (Bates et al., 2015). The use of the linear mixed-effects framework was essential to address the problem of non-independent variables. The model described is without interactions, as this is the most commonly used approach (equation (3)). In addition, we analyse the interaction between study year and moral philosophies (equation (4)), as it simultaneously analyses how these factors are related to the outcome variable moral judgment. Although hypotheses are not developed for the interaction between study year and justice, we control for it.

Model without interactions: Model 1Y

$$MJ = \beta_0 + \beta_1 \times Y + \beta_2 \times J + \beta_3 \times R + \beta_4 \times E + \beta_5 \times U + \beta_6 \times C + \beta_7 \times G + \mathcal{E} \quad (3)$$

Model with interactions Model 2Y

$$MJ = \beta_0 + \beta_1 \times Y + \beta_2 \times J + \beta_3 \times R + \beta_4 \times E + \beta_5 \times U + \beta_6 \times C + \beta_7 \times G + \beta_8 \times Y \times J + \beta_9 \times Y \times R + \beta_{10} \times Y \times E + \beta_{11} \times Y \times U + \beta_{12} \times Y \times C + \mathcal{E} \quad (4)$$

MJ – moral judgment

Y – study year

J – justice

R – relativism

E – egoism

U – utilitarianism

C – contractualism

G – gender

As in the third chapter, we run ANOVA for regression, which provides information about the level of variability within a regression model and provides a basis for tests of significance. By adding interactions to the model, we also add some correlation between the variables. Adding interactions to the regression model could be problematic for interpretive reasons, as the predictors are no longer uncorrelated. The ANOVA model, on the other hand, disregards other variables and deals only with differences in variance.

#### 4.3.2 Sample

The sample consists of undergraduate students at the SEB LU<sup>6</sup> majoring in accounting, enrolled in first and third year of study. First-year students attend the same courses as all other business students, while third-year students have specific accounting courses in their second and third year of study. At the undergraduate level, the accounting program integrates ethics-related content into the syllabi of individual accounting courses.

A total of 187 students participated in the survey. In order to obtain a homogeneous group, we excluded from further analysis one first-year student for the reason of being older than 22 years and five third-year students for the reason of being older than 24 years. Three students were excluded due to missing data. The students stopped completing the questionnaire in the middle. Because the demographic questions are asked at the end of the questionnaire, we could not use partially completed questionnaires.

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<sup>6</sup> SEB LU is a Triple Accredited Business School. To obtain the three accreditations (AACSB, AMBA, EQUIS), the school had to meet all the requirements, including ethics-related standards and criteria.

Thus, a total of 178 students (age  $M = 20.9$ ,  $SD = 1.33$ , range: 19–24 years,  $N_{females} = 130$ ) were included in the final analysis. There are no missing data in the final sample. We check whether there are outliers in the data. First, we try to detect outliers by applying the standard deviation method, using 3 standard deviations as a threshold. A value that falls outside the three standard deviations is treated as an outlier. None of the values in the sample was detected as an outlier based on the threshold. Second, we check whether students completed the questionnaire thoroughly. We look for straight lines (whether the respondent marks all the answers with the same score), diagonal lines, and extreme pole responses. Again, no outliers were found.

The sample was divided into two groups of students based on their study year, more specifically, first-year undergraduate accounting students ( $N = 84$ , age  $M = 19.8$ ,  $SD = 0.65$ , range = 19–22 years, 72.6% female) and third-year accounting undergraduate students ( $N = 94$ , age  $M = 21.9$ ,  $SD = 0.96$ , range: 20–24 years, 72.3% female).

## **4.4 Results**

### **4.4.1 Measurement of the variables**

As in previous chapter we perform exploratory factor analysis using principal axis factoring on the 12 question items and the varimax rotation in SPSS to obtain the five moral philosophies defined in the literature. Analyse show item 3 (Q3) and 4 (Q4) load on two factors (values greater than 0.4) (Appendix 11). Due to the cross loading we firstly reran an exploratory factor analysis without item 4 (Appendix 12). The analyse show item 3 (Q3) is still cross-loading and is for this reason deleted from further analyse. The final results are presented in the Table 11.

Table 11: MES Factors for Accounting Education Study without Q3 and Q4

Items		Rotated factor loadings				
		C	R	J	U	E
Q1	Just	0.261	0.281	<b>0.824</b>	0.187	0.141
Q2	Fair	0.317	0.296	<b>0.794</b>	0.141	0.093
Q5	Culturally acceptable	0.215	<b>0.826</b>	0.300	0.112	0.117
Q6	Traditionally acceptable	0.218	<b>0.824</b>	0.209	0.071	0.177
Q7	Self-promoting for me	0.083	0.103	0.033	0.139	<b>0.560</b>
Q8	Personally satisfying me	0.000	0.105	0.137	0.296	<b>0.683</b>
Q9	Produces the greatest utility	0.047	0.060	0.092	<b>0.789</b>	0.361
Q10	Maximizes benefits while minimizes harm	0.165	0.105	0.171	<b>0.775</b>	0.190
Q11	Does not violate an unwritten contract	<b>0.863</b>	0.212	0.247	0.078	0.042
Q12	Does not violate an unspoken promise	<b>0.846</b>	0.206	0.233	0.142	0.093
Cronbach's $\alpha$		0.92	0.90	0.92	0.83	0.61

Note: C-contractualism, R-relativism, J-justice, U-utilitarianism, E-egoism. Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations. Factor Scores Method: Anderson-Rubin. Factor loadings greater than 0.40 appear in bold (Field, 2009).

Source: Own work.

The sampling adequacy of the model, measured with the KMO, was 0.770 which is good according to Field (2009). The KMO values for each variable are above the minimum of 0.5 (Field, 2009), they vary between 0.708 and 0.820. Further, Bartlett's test of sphericity ( $\chi^2(45) = 8764.1, p < 0.001$ ) shows that the variables are correlated and therefore suitable for principal axis factoring (Field, 2009). To ensure that the factor scores are uncorrelated, we use Anderson-Rubin as the factor scores method. The items that load on the same factor suggest that factor 1 represents contractualism, factor 2 relativism, factor 3 justice, factor 4 utilitarianism, and factor 5 egoism (Table 11). Cronbach's  $\alpha$  for egoism (0.61) reveals moderate but still acceptable reliability (minimum stands at 0.6). All other factors have high reliabilities, with Cronbach's  $\alpha$  above 0.8. The extracted factors of moral philosophies are then used in the hypotheses testing.

#### 4.4.2 Descriptive statistics

Table 12 presents descriptive statistics on moral philosophies and moral judgment depending on the type of the dilemma and study year. Each respondent answered 12 questions, which can be grouped into five moral philosophies: justice, relativism, egoism, utilitarianism, and contractualism.

Students perceive all types of dilemmas as unethical (values above 4): *accounting-related*:  $t(355) = 7.14, p < 0.001$ ; *earnings management*  $t(533) = 17.61, p < 0.001$ ; and *self-interest*  $t(533) = 9.21, p < 0.001$ . Moral judgment differs across dilemmas  $F(2, 1421) = 13.47, p < 0.001$  (also within students of the same year of study: first-year  $F(2, 669) = 10.54, p < 0.001$ , and third-year students  $F(2, 749) = 5.96, p = 0.003$ ). Students in both study years perceive morally questionable actions related to *earnings management* as most unethical ( $M_{\text{first-year}} = 5.21, M_{\text{third-year}} = 5.08$ ). While first-year students perceive *accounting-related* dilemmas as least unethical ( $M = 4.48$ ), their older peers perceive *self-interest* dilemmas as least unethical ( $M = 4.60$ ). There are no statistically significant differences in moral judgment between first- and third-year students for any type of dilemma (all  $p > 0.111$ ). Among moral philosophies, a statistically significant difference between study years exists only for egoism in *accounting-related* dilemmas ( $t(354) = 2.43, p = 0.016$ ). First-year students perceive them as more self-promoting ( $M_{\text{first-year}} = 4.82, M_{\text{third-year}} = 4.48$ ) than third-year students. Descriptive statistics is graphically presented in Appendix 13.



Table 12: Descriptive Statistics for Accounting Education Study

			Study year				Total		Differences between study years			
			First year		Third year							
			(N=84)		(N=94)		(N=178)					
			Mean	SD	Mean	SD	Mean	SD	t	df	p	sig
Three types of moral dilemmas	Accounting-related	Justice	3.60	1.71	3.49	1.66	3.54	1.68	0.63	347.1	0.532	*
		Relativism	3.82	1.58	3.78	1.72	3.80	1.65	0.18	353.7	0.860	
		Egoism	4.82	1.25	4.48	1.40	4.64	1.34	2.43	354.0	0.016	
		Utilitarianism	4.97	1.31	4.76	1.59	4.86	1.46	1.35	351.7	0.179	
		Contractualism	3.91	1.81	3.70	2.05	3.80	1.94	1.03	353.9	0.303	
		Moral judgment	4.48	1.65	4.76	1.64	4.62	1.65	-1.60	349.1	0.111	
	Earnings management	Justice	2.97	1.44	2.88	1.47	2.92	1.46	0.78	527.5	0.436	
		Relativism	3.30	1.52	3.28	1.57	3.29	1.54	0.16	528.6	0.875	
		Egoism	4.77	1.50	4.55	1.56	4.65	1.53	1.69	529.3	0.091	
		Utilitarianism	4.39	1.51	4.33	1.50	4.36	1.50	0.48	525.0	0.631	
		Contractualism	3.04	1.59	2.82	1.65	2.93	1.62	1.55	529.1	0.122	
		Moral judgment	5.21	1.47	5.08	1.53	5.14	1.50	1.05	529.1	0.294	
	Self-interest	Justice	3.28	1.61	3.39	1.66	3.34	1.64	-0.75	528.7	0.452	
		Relativism	3.86	1.58	4.01	1.66	3.94	1.62	-1.13	530.0	0.257	
		Egoism	4.25	1.46	4.24	1.55	4.25	1.50	0.13	530.5	0.900	
		Utilitarianism	4.02	1.72	4.02	1.81	4.02	1.76	-0.02	529.8	0.982	
		Contractualism	3.54	1.75	3.43	1.86	3.48	1.81	0.67	530.5	0.502	
		Moral judgment	4.85	1.76	4.60	1.82	4.72	1.80	1.59	529.0	0.113	

Note: Responses close to 1 indicate that a morally questionable action is perceived as unjust (justice), contextually unacceptable (relativism), not promoting self-interest (egoism), bringing the least good to the greatest number of people (utilitarianism), violating promises (contractualism), and ethical (moral judgment). Responses close to 7 indicate that an action is perceived as just (justice), contextually acceptable (relativism), promoting self-interest (egoism), bringing the greatest good to the greatest number of people (utilitarianism), not violating promises (contractualism), and unethical (moral judgment). The mean score represents the responses for each moral philosophy. \*  $p < 0.05$ .

Source: Own work.

Mean scores of all five moral philosophies are statistically significantly negatively correlated with moral judgment (Table 13, all  $p < 0.001$ ), indicating that the more a morally questionable action is perceived as just (justice), contextually acceptable (relativism), promoting self-interest (egoism), bringing the greatest good to the greatest number of people (utilitarianism) and not violating promises (contractualism), the less it is perceived as unethical, and vice versa. The Pearson correlation matrix (Table 13) also shows a negative correlation between year of study and moral philosophy egoism. Third-year students perceive morally questionable actions as less self-interest promoting.

Table 13: Pearson Correlation Matrix for Accounting Education Study

	Justice	Relativism	Egoism	Utilitar.	Contract.	Moral judgment
Relativism	0.585***	1				
Egoism	0.268***	0.281***	1			
Utilitarianism	0.361***	0.268***	0.465***	1		
Contractualism	0.569***	0.478***	0.175***	0.274***	1	
Moral judgment	-0.679***	-0.597***	-0.206***	-0.283***	-0.589***	1
Study year <sup>a</sup>	-0.014	0.008	-0.058*	-0.022	-0.050	-0.018

Note: \*  $p < 0.05$ , \*\*\*  $p < 0.001$ ; <sup>a</sup> 1 = first year, 2 = third year;  $N = 178$  (number of students).

Source: Own work.

#### 4.4.3 Hypotheses testing

Model 1Y (Table 14) shows the main effects of moral philosophies, study year and gender on moral judgment. Since moral philosophies are latent variables, factor scores are used in the model. The results reveal a significant main effect of all five moral philosophies for all three types of moral dilemmas. The more a morally questionable action is perceived as just, the more it is contextually acceptable, the more it promotes self-interest, the more it brings the greatest good to the greatest number of people and the more it does not violate promises, the less it is perceived as unethical (Figure 16). The results related to moral philosophies are similar to those in the previous descriptive statistics section. The main effect of study year is only significant for the *earnings management* dilemmas. Third-year students perceive this type of dilemma as less unethical than first-year students (Figure 17). Further, the main effect of gender is significant for the *earnings management* dilemmas, indicating that females perceive these morally questionable actions as less unethical than males (Figure 18).

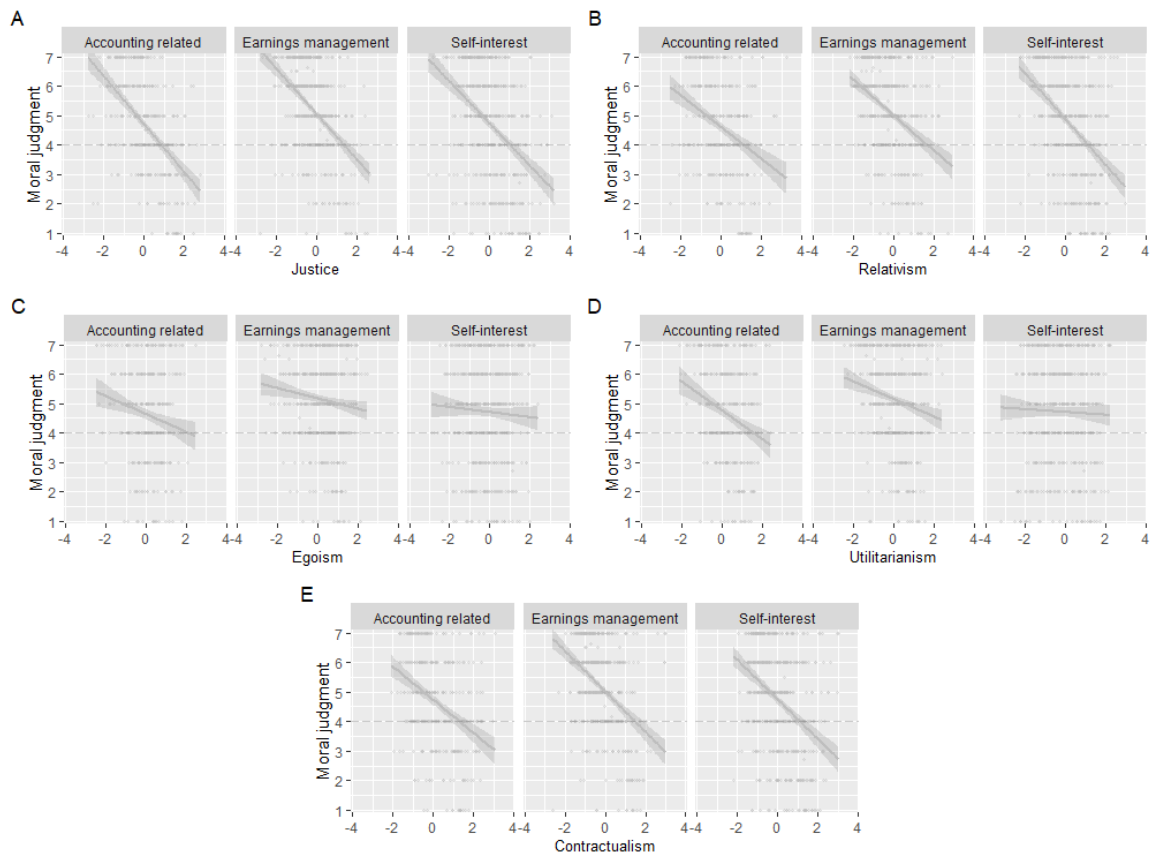
Table 14: Model 1Y of Hypotheses Testing

Model 1Y Dependent variable: Moral judgment	Three types of moral dilemmas								
	Accounting-related			Earnings management			Self-interest		
	<i>F</i>	<i>p</i>	<i>sig</i>	<i>F</i>	<i>p</i>	<i>sig</i>	<i>F</i>	<i>p</i>	<i>sig</i>
Study year	1.79	0.182		4.87	<b>0.019</b>	*	2.10	0.149	
Justice	237.36	< <b>0.001</b>	***	240.61	< <b>0.001</b>	***	257.92	< <b>0.001</b>	***
Relativism	125.48	< <b>0.001</b>	***	137.23	< <b>0.001</b>	***	227.71	< <b>0.001</b>	***
Egoism	19.85	< <b>0.001</b>	***	3.88	<b>0.046</b>	*	8.87	<b>0.003</b>	**
Utilitarianism	28.89	< <b>0.001</b>	***	27.69	< <b>0.001</b>	***	9.48	<b>0.002</b>	**
Contractualism	113.10	< <b>0.001</b>	***	196.66	< <b>0.001</b>	***	183.88	< <b>0.001</b>	***
Gender	2.02	0.157		5.77	<b>0.018</b>	*	0.01	0.971	
R <sup>2</sup>		0.647			0.696			0.664	

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ;  $N = 178$  (number of students).

Source: Own work.

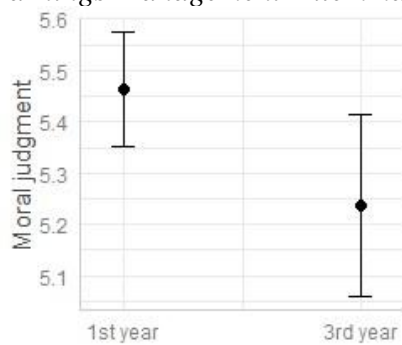
*Figure 16: Main Effect of Moral Philosophies on Moral Judgment for Each Type of Moral Dilemma for Accounting Education Study*



*Note:* Factor scores of moral philosophies close to 4 indicate that a morally questionable action is perceived as (A) just (justice), (B) contextually acceptable (relativism), (C) promoting self-interest (egoism), (D) bringing the greatest good to the greatest number of people (utilitarianism) and (E) not violating promises (contractualism). The dependent variable represents the participants' moral judgment on a scale from 1 (ethical) to 7 (unethical).

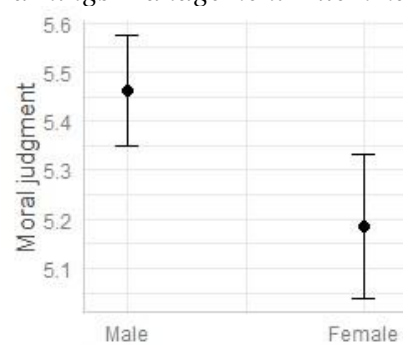
*Source: Own work.*

*Figure 17: Main Effect of Study Year for Earnings Management Dilemmas*



*Source: Own work.*

*Figure 18: Main Effect of Gender for Earnings Management Dilemmas*



*Source: Own work.*

To obtain further insight on how factors interact with each other, we develop Model 2Y (Table 15). The results regarding the main effect of moral philosophies remain. Significant main effects of all five moral philosophies are reported for all three types of moral dilemmas. Thus, the results support all *H1(a-e)*, developed in chapter 3, which states that the more a morally questionable action is just (justice), the more it is contextually acceptable (relativism), the more it promotes self-interest (egoism), the more it brings the greatest good to the greatest number of people (utilitarianism) and the more it does not violate promises (contractualism), the less it is perceived as unethical.

The significant main effect of study year and gender remains in Model 2Y for the *earnings management* dilemmas. Although students in both study years perceive morally questionable actions as unethical, third-year students perceive this type of dilemma as less unethical than first-year students. Thus, the results do not confirm *H4*, which states that third-year accounting students perceive morally questionable actions as more unethical than first-year accounting students.

For the *accounting-related* dilemmas, there is a significant interaction effect between study year and contractualism (Table 15 and Figure 19). A change in the contractualism score implies a smaller impact on the moral judgment for third-year than for first-year students. Consequently, the results support *H5a*, which states that contractualism interacts with study year to predict moral judgment in morally questionable dilemmas, such that contractualism effect is stronger for first-year compared to third-year accounting students, however only for *accounting-related* dilemmas. See Appendix 14 for additional analysis explaining the direction of the significant interaction effect.

As expected, interaction effect between study year and justice is not significant (Table 15). Moreover, interactions between study year and utilitarianism, relativism and egoism are also not significant. The results do not confirm any of the following: *H5b*: Utilitarianism interacts with study year to predict moral judgment in morally questionable dilemmas, such that utilitarianism effect is stronger for third-year compared to first-year accounting students; *H5c*: Relativism interacts with study year to predict moral judgment in morally questionable dilemmas, such that relativism effect is stronger for first-year compared to third-year accounting students; and *H5d*: Egoism interacts with study year to predict moral judgment in morally questionable dilemmas, such that egoism effect is stronger for first-year compared to third-year accounting students.

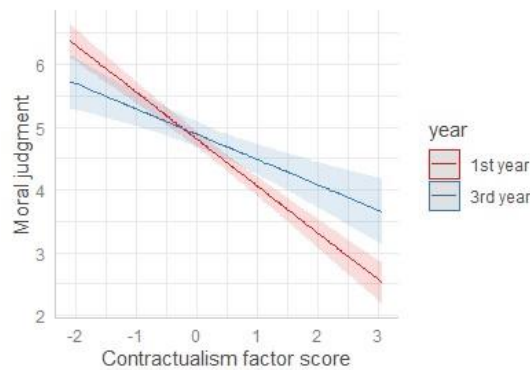
Table 15: Model 2Y of Hypotheses Testing

Model 2Y Dependent variable: Moral judgment	Three types of moral dilemmas								
	Accounting-related			Earnings management			Self-interest		
	<i>F</i>	<i>p</i>	<i>sig</i>	<i>F</i>	<i>p</i>	<i>sig</i>	<i>F</i>	<i>p</i>	<i>sig</i>
Study year	1.78	0.184		4.91	<b>0.028</b>	*	2.10	0.149	
Justice	240.68	<b>&lt;0.001</b>	***	239.73	<b>&lt;0.001</b>	***	253.64	<b>&lt;0.001</b>	***
Relativism	134.85	<b>&lt;0.001</b>	***	137.25	<b>&lt;0.001</b>	***	225.23	<b>&lt;0.001</b>	***
Egoism	20.59	<b>&lt;0.001</b>	***	4.48	<b>0.035</b>	*	8.95	<b>0.003</b>	**
Utilitarianism	29.19	<b>&lt;0.001</b>	***	28.12	<b>&lt;0.001</b>	***	9.55	<b>0.002</b>	**
Contractualism	109.35	<b>&lt;0.001</b>	***	195.05	<b>&lt;0.001</b>	***	180.43	<b>&lt;0.001</b>	***
Gender	1.22	0.269		6.15	<b>0.014</b>	*	0.00	0.977	
Study year × Justice	0.23	0.633		0.93	0.335		1.37	0.242	
Study year × Relativism	0.07	0.799		0.73	0.393		0.07	0.793	
Study year × Egoism	0.16	0.690		1.10	0.294		0.00	0.991	
Study year × Utilitarianism	0.24	0.622		1.45	0.229		0.03	0.861	
Study year × Contractualism	10.59	<b>0.001</b>	**	0.02	0.888		0.25	0.615	
R <sup>2</sup>		0.676			0.696			0.664	

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ;  $N = 178$  (number of students).

Source: Own work.

Figure 19: Interaction Effect of Study Year and Contractualism on Moral Judgment for Accounting-Related Dilemmas



Note: Contractualism factor score close to 4 indicates that a morally questionable action is perceived as not violating promises (contractualism). The dependent variable represents the participants' moral judgment on a scale from 1 (ethical) to 7 (unethical).

Source: Own work.

## 4.5 Discussion

The present study answer RQ3: *What influence does the accounting education have on students' moral judgment?* It explores how moral judgment of undergraduate accounting students develops from first to third year of study. Ample research that has been done so

far in the field reports that the effect of education depends upon different variables. However, most of the existing research (Gill, 2010; Marques & Azevedo-Pereira, 2009; Montenegro & Rodrigues, 2020; Mubako et al., 2020) focuses only on the main effect of the variables and at the same time completely neglecting the interactions, which could be one of the reasons for the inconsistency in the research findings.

To gain a comprehensive insight of the accounting students' moral development, we included into the research model besides main effects also interactions. Comparing the main effects of the model without interactions (Model 1Y) with the model with interactions (Model 2Y) reveals no differences. All main effects, either significant or non-significant, as revealed by Model 1Y, persist in Model 2Y. In the continuation, discussion is based on the comprehensive model that considers main effects as well as interaction effects.

In the present study, the participating students perceived the *earnings management* dilemmas as most unethical in both years of study. Accounting students are familiar with the issues raised in the *earnings management* dilemmas and are aware of the unfair benefits and the consequences of such actions. It is therefore reasonable to expect them to be most critical when discussing these issues. Although students were most critical of the *earnings management* dilemmas, the surprising finding, which is completely contrary to our expectations, is that study year has a negative impact on the critical assessment of these moral choices. Research by Rosenzweig and Fischer (1994) reveals a negative influence of experience and position on the moral judgment of earnings management. Respondents rated accounting manipulation as morally less acceptable than earnings management manipulation. Our study confirms the negative influence of education on moral judgment of *earnings management* dilemmas. Although first- and third-year students are most critical in evaluating *earnings management* dilemmas, third-year students become more lenient as they progress through their education. If this continues, it is possible that after years of experience, earnings management manipulations become more morally acceptable than accounting manipulation, similar to the research by Rosenzweig and Fischer (1994). The reason for this may be the perception that managers' performance evaluations are based on how well the results meet expectations rather than how accurate they are. A study by Elias (2002) on earnings management behaviour shows that individuals who believe that social responsibility affects short-term gains evaluate questionable earnings management actions more leniently compared to other individuals. The author points out that accounting faculty need to educate students about the potential consequences of earnings management manipulations.

Moreover, gender was included in the research as a control variable and has a significant impact on moral judgment in the *earnings management* dilemmas. Although both genders perceive *earnings management* dilemmas as unethical, female students perceive them as less unethical than male students. In any case, the results of our study are contrary to most previous research showing that females are more critical (Cohen et al., 2001; Mubako et

al., 2020; Stedham et al., 2007). The results can be explained by the fact that moral awareness is issue-based (Cohen et al., 2001), which was also evidenced by Loo (2003), who showed that males can be more ethical than females in certain situations. The present study reveals that *earnings management* may in fact represent such a specific setting.

An important finding of this study is also that study year and moral philosophy contractualism interact when discussing *accounting-related* dilemmas. The argumentation behind the higher impact of contractualism, reported for first-year, compared to third-year, accounting students in the *accounting-related* dilemmas, may be most closely related to the breadth and depth of the absorbed accounting knowledge in the accounting study program. Freshmen enrol in accounting major because of its precision and thoroughness (Saemann & Crooker, 1999) and are focused on compliance (Byrne & Willis, 2005). They in addition prefer clear standards and procedures. And although technical skills are of course necessary for the accounting profession, students should also comprehend the broader view of the profession (McPhail, 2001). First-year students who participated in our research attended only one (introductory) accounting course that delivered the basic accounting concepts, such as the basic accounting equation, the rules of debits and credits, journals, accounts and an introduction to basic financial statements. More than on the broader view of the profession, the introductory courses in accounting are focused on the development of technical skills. During their studies, students become familiar with the broader view of the profession, discuss the contemporary issues in accounting and critically assess different accounting choices. It is therefore plausible to expect that a better understanding of the social context, among many other study achievements, affects one's orientation towards the underlying moral philosophies. Our results, reporting that the impact of contractualism on the perceived ethicality of moral choices declines when *accounting-related* dilemmas are considered, confirm this reasoning. On the other hand, *earnings management* and *self-interest* dilemmas are not related to technical accounting skills, so these interactions were not found to be significant.

Based on the results, we can see that ethics education in accounting still needs a lot of improvement as students' moral judgment does not improve as expected. Researchers have already addressed some of the reasons why teaching ethics is not meeting expectations such as lack of ethics topics in accounting textbooks (Tweedie et al., 2013), lack of qualified staff (Dellaportas et al., 2014), time constraints (Dellaportas et al., 2014), low academic research interest on the topic (Dellaportas et al., 2014; Gunz & McCutcheon, 1998). In the next chapter, we analyse whether these problems, along with the improvement of moral judgment, can be overcome through the use of EET.

## **5 EFFECT OF ETHICS EDUCATION ON MORAL JUDGMENT**

### **5.1 Introduction**

The integrity of accounting profession has been compromised after the corporate scandals at the turn of the century. In response, a number of legislative changes, including the Sarbanes-Oxley Act (in the US) and the Directive on statutory audits of annual accounts and consolidated accounts (in the EU) have been adopted. Changes in accounting education and training have been outlined as another essential element to restore public trust. Many researchers argue that ethical content should be increased in accounting education (Jackling et al., 2007; Low et al., 2008; Massey & Van Hise, 2009; McPhail, 2001; Mintz, 2007). Existing studies show that in the last decade researchers have moved further from the original research question *Can ethics be taught?* (LaGrone et al., 1996; Ponemon, 1993; Ritter, 2006), to more specific questions such as *How can ethics be incorporated into the curriculum?* (Hartman & Werhane, 2009; Jonson et al., 2015; Klimek & Wenell, 2011) and *What is the effectiveness of specific interventions?* (Blanthorne, 2017; Loeb, 2015; Martinov-Bennie & Mladenovic, 2015; Tweedie et al., 2013).

The need for increased focus on ethics in the educational process has been supported by the requirements of international program accreditations such as the AACSB, AMBA, and EQUIS. The accreditations mandate ethics-related content, but propose no standardization of ethics education. While this could help overcome problems related to the presence of ethics topics (Larrán Jorge et al., 2015), it does not necessarily contribute to quality improvement.

For ethics education to be effective, the desired outcome should be clearly defined. Fisher and Murphy (1995) believe that the outcome of ethics education should be the improvement of students' moral development. Students must be able to recognize ethical dilemmas and act accordingly (Huss & Patterson, 1993). The lack of a clear approach or guideline that guarantees the desired outcome is problematic, especially given the lack of qualified educators for teaching ethics (Dellaportas et al., 2014), and leads to low engagement of educators in the field (Mintz, 2007). Lack of training leads educators to avoid ethics in their courses or to treat the topic only superficially (Owens, 1983). Tools already developed for teaching ethics could be a step toward overcoming these problems. They provide a guided assistance to teach ethics and develop ethics skills. The tools provide an accessible and engaging collection of teaching materials that encourage students to think critically about ethics and engage in debates about ethical dilemmas.



## **5.2 Hypotheses development**

The work of accountants influences the business decisions of many users of annual reports, making the effectiveness of the users' decisions dependant on the quality of the financial statements. The importance of ethics in accounting, defined as a philosophical concept based on moral principles and reflective decision making that addresses the issues of right and wrong behaviour (Onyebuchi, 2011), has increased since the corporate scandals at the turn of the century that reflected a lack of ethics in both public accountability and financial reporting.

The importance of ethics in accounting has raised many research questions related to education. Beginning with the question of whether ethics can be taught, many researchers have shown that ethics education improves moral development (Mohd Ghazali, 2015; Ponemon, 1993; Shawver, 2009; Wang & Calvano, 2015). The field of research has continued to evolve in the area of incorporating ethics into the curriculum (Hartman & Werhane, 2009; Jonson et al., 2015; Klimek & Wenell, 2011) and measuring the effectiveness of specific teaching approaches (Blanthorne, 2017; Loeb, 2015; Martinov-Bennie & Mladenovic, 2015; Tweedie et al., 2013). A comprehensive literature review on ethics education in accounting research reveals that the number of published articles on this topic is increasing, along with research subfields (Poje & Zaman Groff, 2021).

The literature review on ethics education by Liu et al. (2012) points out many shortcomings in ethics education in accounting, as compared to the ethics education in medicine and law. These include lack of ethics coverage, less systematic formal training, lack of collaboration with practitioners, and lack of informal training. Some of the recommendations made by the authors to overcome the deficiencies include the need to broaden students' perspectives on responsibilities and ethical practice, development of stand-alone ethics courses, active learning, a greater emphasis on practice, the use of case studies, and increased partnership with practitioners.

Although researchers agree that ethics education is essential in accounting, there is no consensus on how ethics should be taught. For decades researchers have investigated whether a stand-alone course or integrating ethics content into existing courses is more appropriate (Dellaportas, 2006; Eynon et al., 1997; Hartman & Werhane, 2009; Jonson et al., 2015; Martinov-Bennie & Mladenovic, 2015). There is also no consensus on which teaching technique is the best. Educators should consider the characteristics of learners and develop the course accordingly. Research shows that different teaching approaches such as case studies (Burton et al., 1991; Cagle & Baucus, 2006; Laditka & Houck, 2006), active learning (Loeb, 2015), thematic approach (Tweedie et al., 2013), philosophical approach (Burton et al., 1991) and role-playing (Bouten & Hoozée, 2015; Taplin et al., 2018) have a positive impact on moral judgment.

As outlined in the *Effect of accounting education on moral judgment* chapter, there is lack of specialization in ethics and motivation to teach ethics (Dellaportas et al., 2014). To overcome these barriers, educators could reach for already developed tools, the use of which does not demand specialization in the field and may spare a lot of time for the course preparation. One viable example of such tools is EET. This chapter addresses the following research questions: *What is the impact of using EET on students' moral judgment? (RQ4a)* and *How do students perceive education with EET? (RQ4b)*.

In 2003, IFAC published a paper titled *Rebuilding Public Confidence in Financial Reporting: An International Perspective*, which makes recommendations to strengthen the accounting and auditing profession. Among other recommendations, the paper advocates more effective corporate codes of ethics and an improved EDMP (IFAC, 2003). Three years later, IFAC, more specifically IAESB, an independent standard-setting body within IFAC, published a paper titled *Approaches to the Development and Maintenance of Professional Values, Ethics and Attitudes in Accounting Education Programs*. The paper is a result of numerous research projects, aimed at supporting the implementation of ethics education programs for professional accountants (IAESB, 2006). A prominent result of one of these research projects is the development of EET, designed to assist IFAC bodies in achieving good practice in accounting ethics education and development. Teaching with EET is based on active learning and case studies, which are methods also recommended by Liu et al. (2012). It is designed to structure ethics lessons and develop ethical competencies. As existing research reports positive effect of both approaches on moral judgment, we set the following hypothesis:

*H6: Students who participated in ethics education with EET perceive morally questionable action as more unethical than students who did not participate.*

To fully answer the *RQ4a: What is the impact of using EET on students' moral judgment?*, we also investigate the impact of the development of moral philosophies on moral judgment through ethics education. Evidence shows that using different moral philosophies in EDMP can lead to different decisions (Reynolds, 2006).

The concept of *justice* is based on the work of Aristotle who defined justice as a principle of equal treatment of equals. It refers to the belief that an action is ethical if it is just, fair and morally right (Reidenbach & Robin, 1990). It can be further divided into the fairness of the procedure and the fairness of the outcome, with empirical findings suggesting that people are more concerned with the former (Lind & Tyler, 1988). Some parallels can be drawn between justice and levels of moral development. The post-conventional level represents the highest level of moral development where individuals develop their own principles, while moral judgment is determined by universally held principles of justice (Nguyen et al., 2008b). The main goal of teaching ethics is to improve students' moral judgment and make them reach a higher level of moral development. Because students in this study participate in ethics education at the end of undergraduate study, by when a

certain level of development in moral judgment as a result of accounting education should already have occurred, we hypothesize that the additional ethics education will enhance the effect of justice on moral judgment.

*H7a: Justice interacts with ethics education to predict moral judgment in morally questionable dilemmas, such that justice effect is stronger for students who participated in ethics education.*

*Relativism* refers to the fact that there is no universal right or wrong, but that actions can only be judged in relation to a particular cultural setting. The concept of cultural relativism has been expanded to include individual relativism, which also recognizes the differences between individuals. Since a higher level of moral development is reflected in less dependence on outside influences and more independent resolution of ethical dilemmas, we expect ethics education to reduce the influence of relativism on moral judgment. This is important, because “even if a belief or behaviour is accepted in a society, that doesn't mean it is right” (Reidenbach & Robin, 1990, p. 651).

*H7b: Relativism interacts with ethics education to predict moral judgment in morally questionable dilemmas, such that relativism effect is weaker for students who participated in ethics education.*

*Utilitarianism* considers the consequences of an action: if an action brings the greatest benefit to the greatest number of people, it is ethical. Individuals must weigh the effects of an action on society. The concept of utilitarianism is closely related to democratic process, which focuses on the selection of alternatives that have a majority (Reidenbach & Robin, 1990). The general principles of utilitarianism are similar to those of Kohlberg's (1969) conventional level (second out of three levels) of moral development, in which the individuals are motivated by mutual relations and expectations and accepts social rules about what is right or wrong. By reaching higher levels of moral development, we expect that utilitarianism will be replaced by justice, so we set the following hypothesis:

*H7c: Utilitarianism interacts with ethics education to predict moral judgment in morally questionable dilemmas, such that utilitarianism effect is weaker for students who participated in ethics education.*

*Contractualism* is a rule-based moral philosophy. Judgment is based on act itself, on adherence to rules, while the outcome is less emphasized. It refers to written and unwritten contracts (Reidenbach & Robin, 1990). This can be related to the preparation of financial statements that should be without material misstatements and should accurately present the financial performance of the company in compliance with the appropriate financial reporting framework. EET outlines the importance of the Code of Ethics for Professional Accountants and introduces students to the variety of different principles that can be used to make moral judgments. Teaching with EET could broaden the perception of a (written or unwritten) contract to include the Code of Ethics. Since adherence to professional rules

and codes is essential to the accounting profession, and teaching with EET could extend the awareness of what accountants must adhere to, we make the following hypothesis:

*H7d: Contractualism interacts with ethics education to predict moral judgment in morally questionable dilemmas, such that contractualism effect is stronger for students who participated in ethics education.*

Since the moral philosophy egoism is not included in the empirical part of the research (as described in chapter 5.4.1 *Measurement of the variables*), we do not develop a related hypothesis.

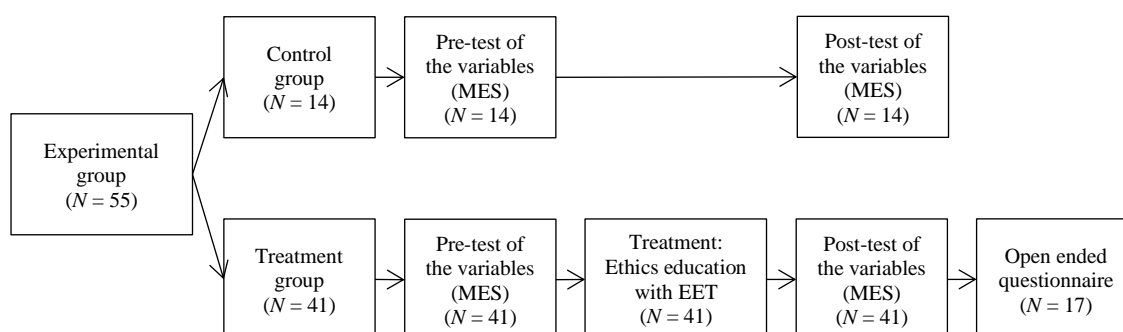
### 5.3 Research methodology

#### 5.3.1 Method

The experimental study addresses the question of whether, and how, teaching ethics in accounting using EET affects students' moral judgment. The experimental design is used to determine the effects of teaching ethics with EET on moral judgment. It enables testing the cause-effect relationship by manipulating the educational process. Manipulation of the educational process enables controlling for the cause in the cause-and-effect relationship.

Permission to teach ethics using EET and to conduct a study based on it was obtained from IFAC. The sample consists of a homogeneous group of third-year accounting students. Students were divided into two experimental groups: treatment group and control group (Figure 20). Students in both groups had already been exposed to some ethics content within accounting courses, but had not taken a stand-alone ethics course. The treatment group attended lectures that followed the guidelines of EET. The latter includes videos with five scenarios and a guide for facilitating discussions with the aim of identifying ethical issues, seeking for alternative actions and determining their consequences. The control group received no additional ethics education.

*Figure 20: Experimental Design*



*Source: Own work.*

Teaching ethics using EET was conducted in two sessions of three hours (one session per week). The objective was to develop ethics knowledge leading to the development of moral awareness and moral judgment. We aim to increase students' awareness to moral issues that they may face during their career as a professional accountant. Students need to understand not only the need for standards and codes of conduct, but also the responsibilities of accountants and the impact of their decisions on various stakeholders.

Teaching with EET encourages the use of innovative teaching methods, as it focuses on case studies and active learning. The case studies are presented in the form of videos. Video-case studies consist of five different ethical dilemmas: What a plan, What a waste, Country practice, No control, and A new job. Students are expected to consider various aspects of accountability and responsibility of the individuals in the videos. See Appendix 15 for a description of the cases.

EET is organized as a toolkit that guides the educator through the educational process. Before showing the video to the students, educator first gives a brief introduction to the case. In the second step, students watch a video to familiarize themselves with the case, which is followed by the discussion. Details of the discussion can be found in Table 16. The educator repeats these steps for each of the five cases.

*Table 16: EET Structure of the Discussion*

1. Determine the facts
•What? Who? Where? When? How?
2. Define ethical issues
•List the significant stakeholders. Define the ethical issues.
3. Identify the major principles, rules, values
•For example: integrity, quality, respect for persons, profit
4. Specify the alternatives
•List the major alternative courses of action, including those that represent some form of compromise or point between simply doing or not doing something.
5. Compare values and alternatives
•Determine if there is one principle or value, or combination, which is so compelling that the proper alternative is clear.
6. Assess the consequences
•Identify the short and long run, positive and negative consequences for the major alternatives.
7. Make your decision
•Balance the consequences against your primary principles or values and select the alternative that best fits.

*Source: Adapted from IAESB (2015).*

To avoid response bias in the treatment group, due to the students' pressure to answer the questionnaire differently after the treatment, we used the same scale to measure the variables in the pre-test (before treatment) and post-test (after treatment), but the dilemmas were different. This enabled us to test the differences between groups resulting from the treatment. Because ethical issues are context specific, we distributed the questionnaire for five ethical dilemmas (Bribe, Early shipment, Loan, Gifts, and Bad debt in the Appendix 4) in the pre-test to capture a wide range of dilemmas and to demonstrate that, regardless of the dilemma, no differences exist between the treatment and control groups before the treatment. Originally, 8 dilemmas were developed by Cohen et al. (2001), of which five dilemmas most closely related to accounting were used.

In the post-test, each participant completed the questionnaire for three new ethical dilemmas developed by Uddin and Gillett (2002) (Appendix 16). In their study, they developed five dilemmas, of which each participant was randomly given only one. From these five developed dilemmas, we selected three which the students in the sample were most familiar with, and each student received all three dilemmas.

For each of the vignettes (in pre-test and post-test), the respondents needed to answer MES questionnaire that consist of twelve questions (Appendix 3) related to the five philosophical constructs namely justice, relativism, egoism, utilitarianism, and contractualism. The answers provided are measured on a Likert scale from 1 to 7. The scores for each moral philosophy close to 7 indicate that an action is perceived as just (justice), contextually acceptable (relativism), promoting self-interest (egoism), bringing the greatest good to the greatest number of people (utilitarianism) and not violating promises (contractualism).

Moral judgment is evaluated with direct questions asking the participants whether they perceive a morally questionable action as ethical and is measured on a Likert scale from 1 to 7. As a result, moral judgment responses closer to 1 indicate an ethical action, and responses closer to 7 indicate an unethical action.

To obtain the five moral philosophies defined in the literature, we perform exploratory factor analysis using principal axis factoring on the 12 question items and the varimax rotation in SPSS.

We proceed by analysing the impact of using EET on students' moral judgment based on the experimental data. Moral judgment (dependent variable, MJ) was analysed using multiple linear regression, with moral philosophies (factor scores for justice (J), relativism (R), utilitarianism (U), and contractualism (C)), experimental group (Exp), and gender (G) as independent variables. Gender is included as control variable. The variable egoism was excluded for the reasons described in the *5.4.1 Measurement of the variables* subsection. The model described is without interactions, as this is the most commonly used approach (equation (5)). In addition, we analyse the interaction between experimental group and

moral philosophies (equation (6)), as it simultaneously analyses how these factors are related to the outcome variable moral judgment.

Model without interactions: Model 1Exp

$$MJ = \beta_0 + \beta_1 \times Exp + \beta_2 \times J + \beta_3 \times R + \beta_4 \times U + \beta_5 \times C + \beta_6 \times G + \mathcal{E} \quad (5)$$

Model with interactions: Model 2Exp

$$MJ = \beta_0 + \beta_1 \times Exp + \beta_2 \times J + \beta_3 \times R + \beta_4 \times U + \beta_5 \times C + \beta_6 \times G + \beta_7 \times Exp \times J + \beta_8 \times Exp \times R + \beta_9 \times Exp \times U + \beta_{10} \times Exp \times C + \mathcal{E} \quad (6)$$

MJ – moral judgment

Exp – experimental group

J – justice

R – relativism

U – utilitarianism

C – contractualism

G – gender

In the final step, as in the previous two chapters, moral judgment was analysed using factorial ANOVA for multiple linear regression.

To obtain information about students' perception of the treatment, an additional questionnaire with open-ended questions was distributed to the treatment group three weeks after the treatment, so that they were not under the immediate impression. In total, experiment lasted 5 weeks.

### 5.3.2 Sample and experimental setting

The experiment was conducted at the SEB LU, a Triple Crown accredited school, holding three most prestigious international accreditations EQUIS, AACSB and AMBA. Students were informed about the ethics class with EET within accounting course at the beginning of the second semester of the third year. The course is taken only by students majoring in accounting. 72 accounting students are enrolled in the third-year course, 60 of whom were willing to participate in the experiment. Lectures using EET represent additional contact hours (lectures) for the students who participated in the experiment and were part of the treatment group. We expected that not all students in the experimental group would fully attend the additional lectures. Therefore, because of the expected decrease in attendance, we assigned more students to the treatment group (42) than to the control group (18). Students were randomly assigned to the experimental group. However, as our expectations were not met, the experimental group is larger than the control group. Students in both groups had already been exposed to some ethics content within accounting courses, but had not taken a stand-alone ethics course.

The sample consists of 60 third-year accounting students, comprising 43 female and 17 male students. Five students who did not meet the age criteria (under 25) were not included in further analysis. Thus, the final sample consists of 55 students (age  $M = 22.1$ ,  $SD = 1.10$ , range: 21–24 years, 75.4% female). The sample is further divided into two groups of students based on the treatment, more specifically, treatment group ( $N = 41$ , age  $M = 21.8$ ,  $SD = 0.96$ , range: 21–24 years,  $N_{\text{females}} = 33$ ) and control group ( $N = 14$ , age  $M = 22.9$ ,  $SD = 1.24$ , range: 21–24 years,  $N_{\text{females}} = 9$ ).

There are no missing data in the final sample. We check whether there are outliers in the data. First, we try to detect outliers by applying the standard deviation method, using 3 standard deviations as a threshold. A value that falls outside the three standard deviations is treated as an outlier. None of the values in the sample was detected as an outlier based on the threshold. Second, we check whether students completed the questionnaire thoroughly. We look for straight lines (whether the respondent marks all the answers with the same score), diagonal lines, and extreme pole responses. Again, no outliers were found.

Ethics was taught using active learning, meaning that students actively engage in discussion, use course material for discussing case studies, and identify and solve problems. Prior to the discussion, the educator played a video followed by a discussion. Since all students were required to actively participate in the discussion, the educator could control whether students were following the lesson, which is the manipulation check of the experiment. If the students did not actively watch the video and participate in the discussion, the educator would detect this.

Only third-year accounting students participated in the experiment. Experiment was conducted at the beginning of the second semester of the third year of study. In the first and the second year, students attended in total two accounting courses (Principles of accounting, Fundamentals of financial and management accounting), while in the first semester of the third year they attended additional two accounting courses (Budgeting, Advanced financial accounting).

## **5.4 Results**

### **5.4.1 Measurement of the variables**

As in previous analyses we perform exploratory factor analysis using principal axis factoring on the 12 question items and the varimax rotation in SPSS to obtain the five moral philosophies defined in the literature. Analyse show item 4 (Q4) load on two factors (values greater than 0.4) (Appendix 17). Due to the cross loading we firstly reran an exploratory factor analysis without item 4 (Appendix 18). Secondly, because items of egoism could not be loaded uniquely on factor egoism, and due to its lower reliability, Cronbach's  $\alpha$  0.53, and eigenvalue of 0.2 (below the minimum of 1), we excluded two



items related to egoism from further analysis, similar to the study of Cohen et al. (2001). The final results are presented in the Table 17.

*Table 17: MES Factors for Ethics Education Study without Q4, Q7, and Q8*

Items		Rotated factor loadings			
		J	C	R	U
Q1	Just	<b>0.820</b>	0.246	0.199	0.219
Q2	Fair	<b>0.890</b>	0.253	0.135	0.189
Q3	Morally right	<b>0.747</b>	0.232	0.319	0.141
Q5	Culturally acceptable	0.252	0.134	<b>0.824</b>	0.140
Q6	Traditionally acceptable	0.161	0.156	<b>0.792</b>	0.157
Q9	Produces the greatest utility	0.101	0.184	0.099	<b>0.600</b>
Q10	Maximizes benefits while minimizes harm	0.241	0.162	0.176	<b>0.785</b>
Q11	Does not violate an unwritten contract	0.297	<b>0.817</b>	0.196	0.213
Q12	Does not violate an unspoken promise	0.314	<b>0.792</b>	0.163	0.289
Cronbach's $\alpha$		0.93	0.91	0.85	0.70

*Note:* J-justice, C-contractualism, R-relativism, U-utilitarianism. Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 5 iterations. Factor Scores Method: Anderson-Rubin. Factor loadings greater than 0.40 appear in bold (Field, 2009).

*Source: Own work.*

The sampling adequacy of the model, measured with the KMO, was 0.801 which is good according to Field (2009). The KMO values for each variable are above the minimum of 0.5 (Field, 2009), they vary between 0.761 and 0.853. Further, Bartlett's test of sphericity ( $\chi^2(36) = 959.6, p < 0.001$ ) shows that the variables are correlated and therefore suitable for principal axis factoring (Field, 2009). To ensure that the factor scores are uncorrelated, we use Anderson-Rubin as the factor scores method. The items that load on the same factor suggest that factor 1 represents justice, factor 2 contractualism, factor 3 relativism, and factor 4 utilitarianism (Table 17). The extracted factors of moral philosophies are then used in the hypotheses testing.

#### 5.4.2 Pre-test

No statistically significant differences are found in the moral judgment between the treatment and control groups on the pre-test data (Table 18) before the experiment. There are also no statistically significant differences in moral philosophies between the groups, with the exception for the mean utilitarianism score for the *Gifts* dilemma. There is also no correlation between experimental group and moral philosophies or moral judgment (Table 19).

Table 18: Pre-test Descriptive Statistics for Ethics Education Study

		Experimental group				Total		Differences between experimental groups				
		Control group		Treatment group								
		(N=14)		(N=41)		(N=55)		<i>t</i>	<i>df</i>	<i>p</i>	<i>sig</i>	
		<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>					
Moral dilemma	Bribe	Justice	3.95	1.61	3.34	1.40	3.50	1.47	1.27	20.1	0.220	
		Relativism	4.04	1.34	3.94	1.64	3.96	1.56	0.22	27.5	0.828	
		Utilitarianism	5.54	1.26	5.44	1.44	5.46	1.38	0.24	25.4	0.813	
		Contractualism	4.61	2.25	4.60	2.01	4.60	2.05	0.01	20.6	0.989	
		Moral judgment	4.79	1.63	4.61	1.64	4.65	1.62	0.35	22.7	0.730	
	Early shipment	Justice	3.29	1.63	3.35	1.85	3.33	1.78	-0.12	25.3	0.904	
		Relativism	3.46	1.42	3.63	1.85	3.59	1.74	-0.36	29.3	0.725	
		Utilitarianism	4.32	1.50	4.77	1.53	4.65	1.52	-0.96	23.0	0.349	
		Contractualism	3.36	1.92	3.54	2.07	3.49	2.01	-0.30	24.2	0.770	
		Moral judgment	4.79	1.63	4.80	1.79	4.80	1.74	-0.04	24.7	0.971	
	Loan	Justice	2.45	1.14	2.44	1.61	2.44	1.49	0.03	31.7	0.973	
		Relativism	2.50	1.19	3.33	1.96	3.12	1.82	-1.88	37.6	0.068	
		Utilitarianism	3.89	1.70	4.24	1.65	4.15	1.65	-0.67	21.9	0.509	
		Contractualism	2.86	1.86	2.54	1.73	2.62	1.75	0.57	21.2	0.578	
		Moral judgment	5.71	1.33	5.20	1.81	5.33	1.70	1.15	30.7	0.261	
	Gifts	Justice	2.69	1.25	2.97	1.71	2.90	1.61	-0.64	30.2	0.528	
		Relativism	2.86	1.52	3.50	1.74	3.34	1.70	-1.31	25.5	0.201	
		Utilitarianism	3.21	1.34	4.17	1.67	3.93	1.63	-2.16	27.9	0.040	*
		Contractualism	2.36	1.29	2.80	1.91	2.69	1.77	-0.98	33.5	0.333	
		Moral judgment	5.64	1.34	5.00	1.69	5.16	1.62	1.45	28.3	0.159	
	Bad debt	Justice	2.74	1.25	2.60	1.25	2.64	1.24	0.35	22.5	0.727	
		Relativism	2.79	1.37	3.24	1.57	3.13	1.52	-1.04	25.6	0.308	
		Utilitarianism	4.25	1.48	4.23	1.70	4.24	1.64	0.04	25.8	0.970	
		Contractualism	2.75	1.61	2.55	1.35	2.60	1.41	0.42	19.5	0.680	
		Moral judgment	5.21	1.42	5.17	1.30	5.18	1.32	0.10	20.9	0.921	

Note: Responses close to 1 indicate that a morally questionable action is perceived as unjust (justice), contextually unacceptable (relativism), bringing the least good to the greatest number of people (utilitarianism), violating promises (contractualism), and ethical (moral judgment). Responses close to 7 indicate that an action is perceived as just (justice), contextually acceptable (relativism), bringing the greatest good to the greatest number of people (utilitarianism), not violating promises (contractualism), and unethical (moral judgment). The mean score represents the responses for each moral philosophy. \*  $p < 0.05$ .

Source: Own work.

Table 19: Pre-test Pearson Correlation Matrix for Ethics Education Study

	Justice	Relativism	Contractualism	Utilitarianism	Moral judgment
Justice	1				
Relativism	0.670***	1			
Contractualism	0.628***	0.537***	1		
Utilitarianism	0.324***	0.274***	0.332***	1	
Moral judgment	-0.751***	-0.638***	-0.603***	-0.297***	1
Experiment <sup>a</sup>	-0.017	-0.078	-0.020	-0.045	0.036

Note: \*\*\*  $p < 0.001$ . <sup>a</sup> 0 = control group, 1 = treatment group;  $N = 55$  (number of students).

Source: Own work.

In addition, the results presented in Table 20 confirm that the experimental group (treatment or control) does not significantly predict moral judgment in any of the dilemmas. Moral philosophies, on the other hand, are an important predictor of moral judgment in all dilemmas. Except for dilemmas *Bribe* and *Early shipment* (where utilitarianism is not significant), all four moral philosophies are significant. The interaction between moral philosophies and experimental group is not significant. This confirms that the experimental group has no effect on moral judgment before treatment, that is, there are no differences in moral judgment between treatment and control group before treatment.

Table 20: Pre-test Model 2Exp

Model 2Exp Dependent variable: Moral judgment	Five types of moral dilemmas									
	Bribe		Early shipment		Loan		Gifts		Bad debt	
	F	p	F	p	F	p	F	p	F	p
Experiment	1.09	0.303	0.31	0.581	1.26	0.268	0.29	0.592	0.09	0.761
Justice	28.27	<0.001***	21.68	<0.001***	10.95	0.002**	40.68	<0.001***	20.05	<0.001***
Relativism	22.33	<0.001***	7.65	0.008**	13.47	<0.001***	17.97	<0.001***	13.79	<0.001***
Utilitarianism	3.83	0.057	3.27	0.077	8.22	0.006**	11.88	0.001**	17.66	<0.001***
Contractualism	11.70	0.001**	11.64	0.002**	21.96	<0.001***	17.64	<0.001***	18.53	<0.001***
Gender	2.63	0.112	0.12	0.726	1.44	0.237	0.23	0.636	0.02	0.880
Exp × Justice	0.00	0.989	0.16	0.690	0.17	0.682	0.05	0.821	0.94	0.337
Exp × Relativism	0.05	0.830	0.59	0.448	0.03	0.857	0.08	0.780	0.07	0.794
Exp × Utilitarianism	2.42	0.127	0.16	0.695	0.76	0.388	0.59	0.445	0.12	0.728
Exp × Contractualism	1.86	0.180	0.59	0.447	2.71	0.107	0.01	0.904	0.97	0.330
R <sup>2</sup>	0.549		0.612		0.630		0.786		0.585	

Note: \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ;  $N = 55$  (number of students).

Source: Own work.

### 5.4.3 Post-test

#### 5.4.3.1 Descriptive statistics

Following the treatment that involved presentation and discussion of ethical dilemmas using EET, we conducted the post-test in both experimental groups of students. In this step, we investigated whether, and how, teaching ethics using EET affects moral judgment of accounting students.

Students perceive all dilemmas (*Moderating revenues*:  $t(54) = 5.85$ ,  $p < 0.001$ ; *Reclassifying assets*:  $t(54) = 8.92$ ,  $p < 0.001$ ; *Hiding information*:  $t(54) = 10.32$ ,  $p < 0.001$ ) as slightly unethical (moral judgment values above 4), with a statistically significant difference in the level of unethicality ( $F(1, 163) = 4.65$ ,  $p = 0.040$ ) between the dilemmas. Among the three dilemmas, morally questionable action related to *Hiding information* is perceived as most unethical ( $M = 5.69$ ), and that related to *Moderating revenues* is perceived as least unethical ( $M = 5.16$ ).

We then check for the differences between the control and treatment groups for each variable (Table 21). The results show that the mean scores of moral judgment are slightly higher (action is perceived as more unethical) in the treatment group compared to the control group in all three dilemmas. However, these differences are not large enough to be significant (all  $p > 0.087$ ).

Regarding moral philosophies, the mean scores for all four moral philosophies in all three dilemmas are lower for the treatment group than for the control group, except for the mean score for utilitarianism in the *Hiding information* dilemma, which is also a variable with the smallest difference between the two groups. This indicates that the treatment group perceives morally questionable actions as more unjust (justice), more contextually unacceptable (relativism), bringing less good to the greatest number of people (utilitarianism), and more violating promises (contractualism) than the control group. Testing the differences between groups for all moral philosophies shows a significant difference only for the contractualism mean score for the *Moderating revenues* dilemma, ( $t(19) = 3.79$ ,  $p = 0.001$ ). There are no other statistically significant differences in the mean scores of moral philosophies between the two groups. Descriptive statistics is graphically presented in Appendix 19.

Table 21: Post-test Descriptive Statistics for Ethics Education Study

			Experimental group				Total (N=55)		Differences between experimental groups			
			Control group (N=14)		Treatment group (N=41)							
			Mean	SD	Mean	SD	Mean	SD	t	df	p	sig
Moral dilemma	Moderating revenues	Justice	3.88	1.70	3.16	0.99	3.35	1.23	1.50	16.14	0.153	
		Relativism	4.39	1.56	3.74	1.26	3.91	1.35	1.41	19.09	0.175	
		Utilitarianism	5.11	1.39	4.65	1.15	4.76	1.22	1.12	19.41	0.277	
		Contractualism	4.68	1.73	2.74	1.39	3.24	1.70	3.79	19.10	0.001	**
		Moral judgment	4.50	2.03	5.39	1.18	5.16	1.48	-1.55	16.10	0.140	
	Reclassifying assets	Justice	3.12	1.67	2.59	0.94	2.73	1.18	1.12	15.92	0.281	
		Relativism	4.04	1.46	3.29	1.26	3.48	1.34	1.70	20.03	0.105	
		Utilitarianism	5.04	1.39	4.50	1.36	4.64	1.38	1.25	22.14	0.225	
		Contractualism	2.96	1.45	2.34	1.34	2.50	1.38	1.42	21.12	0.171	
		Moral judgment	4.93	1.69	5.80	1.10	5.58	1.32	-1.82	16.90	0.087	
	Hiding information	Justice	2.69	1.80	2.15	0.85	2.28	1.17	1.09	15.01	0.293	
		Relativism	3.32	1.58	2.83	1.33	2.95	1.40	1.05	19.71	0.308	
		Utilitarianism	3.79	1.77	3.82	1.35	3.81	1.45	-0.06	18.46	0.953	
		Contractualism	2.68	1.62	2.27	1.24	2.37	1.34	0.86	18.46	0.399	
		Moral judgment	5.36	1.78	5.80	0.95	5.69	1.22	-0.90	15.60	0.383	

Note: Responses close to 1 indicate that a morally questionable action is perceived as unjust (justice), contextually unacceptable (relativism), bringing the least good to the greatest number of people (utilitarianism), violating promises (contractualism), and ethical (moral judgment). Responses close to 7 indicate that an action is perceived as just (justice), contextually acceptable (relativism), bringing the greatest good to the greatest number of people (utilitarianism), not violating promises (contractualism), and unethical (moral judgment). The mean score represents the responses for each moral philosophy. \*\*  $p < 0.01$ .

Source: Own work.

Table 22 shows the correlations between variables moral philosophies, moral judgment, and experimental group. In line with expectations, experimental group is positively correlated with moral judgment ( $r = 0.239$ ,  $p = 0.002$ ). Students in the treatment group perceive dilemmas as more unethical compared to the control group.

As expected, moral judgment is negatively correlated with all four moral philosophies (all  $p < 0.001$ ), indicating that the more a morally questionable action is perceived as just (justice), contextually acceptable (relativism), bringing the greatest good to the greatest number of people (utilitarianism) and not violating promises (contractualism), the less it is perceived as unethical, and vice versa. The results are in line with the previous two analyses in chapters 3 and 4. Experimental treatment is negatively correlated with moral philosophies justice ( $r = -0.206$ ,  $p = 0.008$ ), relativism ( $r = -0.194$ ,  $p = 0.012$ ) and contractualism ( $r = -0.284$ ,  $p < 0.001$ ), indicating that students in the treatment group perceive dilemmas as less just and fair, less contextually acceptable, and more in violation

of promises than students in the control group. Correlation between moral philosophy utilitarianism and experimental group is not significant.

*Table 22: Post-Test Pearson Correlation Matrix for Ethics Education Study*

	Justice	Relativism	Contractualism	Utilitarianism	Moral judgment
Justice	1				
Relativism	0.469***	1			
Contractualism	0.594***	0.406***	1		
Utilitarianism	0.416***	0.337***	0.463***	1	
Moral judgment	-0.676***	-0.361***	-0.598***	-0.478***	1
Experiment <sup>a</sup>	-0.206**	-0.194*	-0.284***	-0.100	0.239**

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . <sup>a</sup> 0 = control group, 1 = treatment group;  $N = 55$  (number of students).

Source: Own work.

#### 5.4.3.2 Hypotheses testing

In Model 1Exp (Table 23), we test whether exposure to EET (treatment effect) and moral philosophies are predictors of moral judgment. We also control for gender differences. Results show that predictor variables depend on the content. For the *Moderating revenues* dilemma, the model ( $F(6, 48) = 11.79$ ,  $p < 0.001$ ) shows that experimental group and all four moral philosophies are good predictors of moral judgment, while gender effect is not significant. 60% of the variability in the moral judgment can be explained by the model. For the *Reclassifying assets* dilemma, the model ( $F(6, 48) = 8.77$ ,  $p < 0.001$ ) shows that experimental group and moral philosophies justice, relativism and utilitarianism are good predictors of moral judgment, while gender and moral philosophy contractualism are not significant. 52% of the variability in moral judgment can be explained by the model. For the *Hiding information* dilemma 39% of the variability in moral judgment is explained by the model ( $F(6, 48) = 5.14$ ,  $p < 0.001$ ). Moral philosophies justice and utilitarianism are good predictors of moral judgment. The effects of experimental group, moral philosophies relativism and contractualism, and gender are not significant.

Table 23: Model 1Exp of Hypotheses Testing

Model 1Exp Dependent variable:	Three types of moral dilemmas								
	Moderating revenues			Reclassifying assets			Hiding information		
	<i>F</i>	<i>p</i>	<i>sig</i>	<i>F</i>	<i>p</i>	<i>sig</i>	<i>F</i>	<i>p</i>	<i>sig</i>
Moral judgment									
Experiment	7.21	0.010	**	7.34	0.009	**	1.38	0.246	
Justice	28.14	< 0.001	***	28.41	< 0.001	***	12.35	< 0.001	***
Relativism	6.76	0.012	*	5.37	0.025	*	2.30	0.136	
Utilitarianism	11.34	0.002	**	11.11	0.002	**	6.86	0.011	*
Contractualism	18.32	< 0.001	***	3.49	0.068		2.89	0.095	
Gender	0.29	0.594		0.11	0.742		0.88	0.354	
R <sup>2</sup>		0.596			0.523			0.391	

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ;  $N = 55$  (number of students).

Source: Own work.

To provide a comprehensive overview of the predictors, interactions between experimental group and moral philosophies are added in Model 2Exp (Table 24). All main effects that are significant in Model 1Exp remain significant in Model 2Exp. Among the predictors, main effect of treatment remains significant in the dilemmas related to *Moderating revenues* and *Reclassifying assets*, showing a positive effect of treatment on moral judgment (Figures 21 and 22), and thus confirming hypothesis *H6* that students who participated in ethics education with EET perceive morally questionable action as more unethical than students who did not participate.

When interactions are included in the model, the proportion of variance in moral judgment that can be predicted by the independent variables improves for all dilemmas (*Moderating revenues* by 13 percentage points, *Reclassifying assets* and *Hiding information* by 14 percentage points).

In addition to main effects, we find statistically significant interaction effects between treatment and all moral philosophies (justice, relativism, utilitarianism, and contractualism). The interaction between experimental group and moral philosophy justice is significant for the *Moderating revenues* and *Reclassifying assets* dilemmas. A change in justice score implies a smaller effect on moral judgment of students in the treatment group compared to the control group (Figures 23 and 24). Hypothesis *H7a*, that justice interacts with ethics education to predict moral judgment in morally questionable dilemmas, such that justice effect is stronger for students who participated in ethics education, is therefore not confirmed.

Similar results are reported for relativism for the *Reclassifying assets* and *Hiding information* dilemmas. Relativism has a lower impact on students' moral judgment in the treatment group compared to the control group (Figures 25 and 26). This confirms hypothesis *H7b*, that relativism interacts with ethics education to predict moral judgment in morally questionable dilemmas, such that relativism effect is weaker for students who participated in ethics education, but only for the before mentioned dilemmas.

Utilitarianism also has a lower impact on students' moral judgment in the treatment group compared to the control group for the *Moderating revenues* and *Hiding information* dilemmas (Figures 27 and 28). This confirms hypothesis *H7c*, that utilitarianism interacts with ethics education to predict moral judgment in morally questionable dilemmas, such that utilitarianism effect is weaker for students who participated in ethics education, but only for the before mentioned dilemmas.

The interaction between experimental group and moral philosophy contractualism is significant only for the *Reclassifying assets* dilemma, which shows that students in the control group do not recognize the violation of unwritten contract as an unethical action, whereas students in the treatment group do (Figure 29). The hypothesis *H7d*, that contractualism interacts with ethics education to predict moral judgment in morally questionable dilemmas, such that contractualism effect is stronger for students who participated in ethics education, cannot be confirmed because the influence changes direction. See Appendix 20 for additional analysis explaining the direction of the significant interaction effects.

Table 24: Model 2Exp of Hypotheses Testing

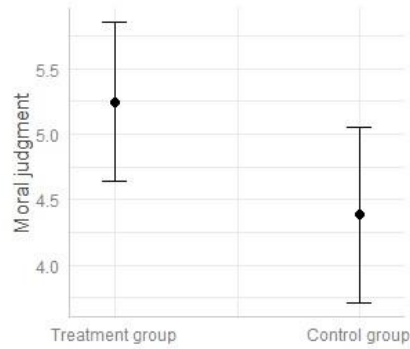
Model 2Exp Dependent variable: Moral judgment	Three types of moral dilemmas								
	Moderating revenues			Reclassifying assets			Hiding information		
	<i>F</i>	<i>p</i>	<i>sig</i>	<i>F</i>	<i>p</i>	<i>sig</i>	<i>F</i>	<i>p</i>	<i>sig</i>
Experiment	9.69	0.003	**	9.57	0.003	**	1.64	0.207	
Justice	42.06	< 0.001	***	39.96	< 0.001	***	8.39	0.006	**
Relativism	5.77	0.021	*	4.35	0.043	*	2.60	0.114	
Utilitarianism	12.46	< 0.001	***	11.79	0.001	**	8.76	0.005	**
Contractualism	22.68	< 0.001	***	2.74	0.105		2.98	0.091	
Gender	1.18	0.283		0.20	0.655		0.09	0.760	
Exp × Justice	5.31	0.026	*	7.98	0.007	**	2.22	0.143	
Exp × Relativism	2.64	0.111		4.78	0.034	*	6.30	0.016	*
Exp × Utilitarianism	12.65	< 0.001	***	2.13	0.151		8.59	0.005	**
Exp × Contractualism	0.13	0.719		7.02	0.011	*	0.94	0.338	
R <sup>2</sup>		0.724			0.665			0.530	

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ;  $N = 55$  (number of students).

Source: Own work.

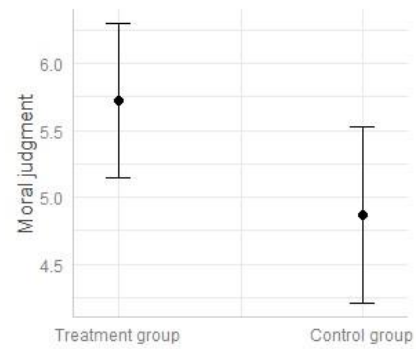


Figure 21: Main Effect of Treatment for Moderating Revenues Dilemma



Source: Own work.

Figure 22: Main Effect of Treatment for Reclassifying Assets Dilemma



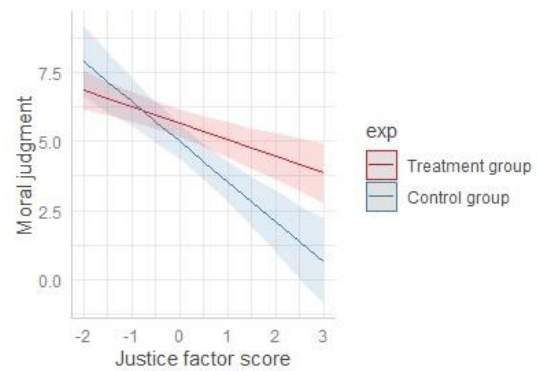
Source: Own work.

Figure 23: Interaction Effect of Treatment and Moral Philosophy Justice for Moderating Revenues Dilemma



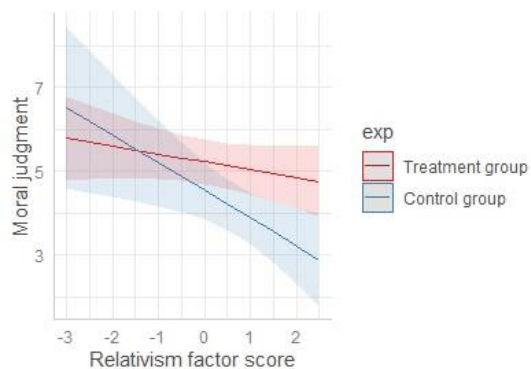
Source: Own work.

Figure 24: Interaction Effect of Treatment and Moral Philosophy Justice for Reclassifying Assets Dilemma



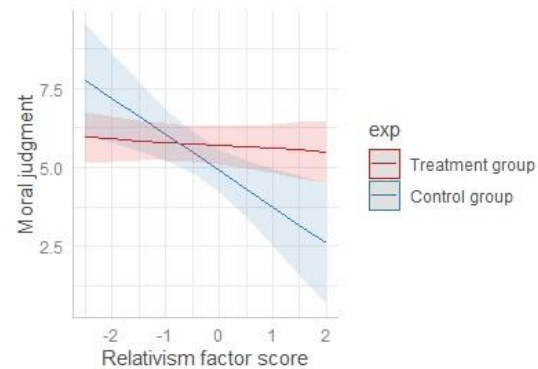
Source: Own work.

Figure 25: Interaction Effect of Treatment and Moral Philosophy Relativism for Reclassifying Assets Dilemma



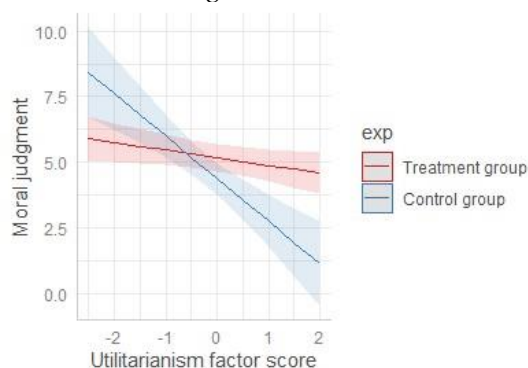
Source: Own work.

Figure 26: Interaction Effect of Treatment and Moral Philosophy Relativism for Hiding Information Dilemma



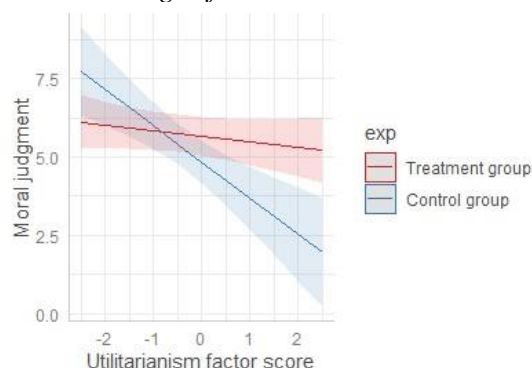
Source: Own work.

*Figure 27: Interaction Effect of Treatment and Moral Philosophy Utilitarianism for Moderating Revenues Dilemma*



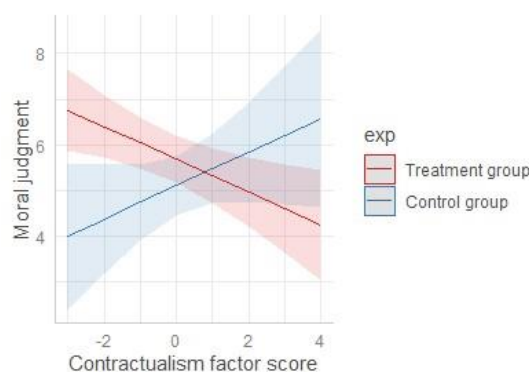
*Source: Own work.*

*Figure 28: Interaction Effect of Treatment and Moral Philosophy Utilitarianism for Hiding Information Dilemma*



*Source: Own work.*

*Figure 29: Interaction Effect of Treatment and Moral Philosophy Contractualism for Reclassifying Assets Dilemma*



*Source: Own work.*

#### *5.4.3.3 Students' perception of education based on the EET*

To answer *RQ4b: How do students perceive education with EET*, we asked students in the treatment group to complete an open question questionnaire approximately three weeks after the treatment. Teaching ethics with EET was well received by the students who believe that it has broadened their perspective on the extent of ethical decision making. They appreciate seeing the difficulties faced by the profession and would like to have more courses of this type in the future.

Seventeen students participated, 59% of whom felt that the lectures improved their awareness of the importance of ethics. They felt that the videos are good representation of the dilemmas faced by professional accountants and that the debate broadened their view of the possible responses and their implications:

“Now I see the bigger picture in situations and how one action affects others.”

“I have started to think about some additional aspects that I did not consider before, there really is a broader picture to look at and there is not only one right decision.”

“I learned that ethics is important because there are many possible scenarios where it is necessary to act ethically.”

“The lecture made me aware of how many ethical judgments can occur in accounting, as well as ways / ideas on how we can respond to them.”

35% of students think that the level of their awareness of the importance of ethics has not changed, as they believe their awareness was already high before the treatment:

“Views on the importance of ethics have not changed drastically. I think I already had a pretty good awareness before.”

“I think I was already well aware of what ethical behaviour meant, so my views have not changed much.”

“I was already aware of the importance of ethics before, but now I have received further confirmation of my thinking.”

The remaining 6% of students believe that understanding various aspects makes them more tolerant of unethical behaviour.

All in all, the results show that students found the ethics lectures interesting and useful; they stated that they would like to attend lectures with similar content in the future.

## **5.5 Discussion**

To restore integrity and public trust in accounting profession after corporate scandals, integrating ethics topics into accounting education is one of the vital solutions. Although many researchers confirm the positive effect of ethics education, no optimal or generally applicable method of how to teach ethics has been proposed. This research focuses on the implications of using EET, the education tool developed to assist IFAC bodies in achieving good practice in accounting ethics education and training of professionals at all levels. Teaching with EET is very systematic, well defined and practical, which is particularly beneficial for educators with no previous experience, who are not experts in the field. Since EET lends itself to teaching with case study based active learning, which have already been proven to be effective (Loeb, 2015), we decided to use them as teaching methods. The main aim of this study is to investigate: *What is the impact of using EET on students' moral judgment (RQ4a) and How do students perceive education with EET (RQ4b).*

As expected, the results confirm that teaching ethics with EET is positively correlated with moral judgment. Students in the treatment group perceive dilemmas as more unethical

compared to the control group. Moreover, an in-depth analysis based on the multiple linear regression model reveals that students who participated in ethics education with EET perceive a morally questionable action for *Moderating revenues* and *Reclassifying assets* dilemmas as more unethical than students who did not participate. In contrast, for the *Hiding information* dilemma, EET has no statistically significant effect on moral judgment. The results of the descriptive statistics reveal that students are most critical of this dilemma, evaluating it as the most unethical of the three dilemmas. While the morally questionable actions in the *Moderating revenues* and *Reclassifying assets* dilemmas refer to moderating business categories (revenues reported in a different period, assets classified as current instead of non-current), the morally questionable actions in the *Hiding information* dilemma refer to not disclosing information at all.

When a morally questionable action is rated as highly unethical, it means that additional training can only lead to a small (statistically insignificant) improvement in moral judgment. This important finding implies that the use of EET improves moral judgment of accounting students especially in dilemmas where they are less critical. In these scenarios, the use of case study based active learning is effective in broadening their perspective and enabling them to further reflect on the consequences of different actions.

Next, the study aims to explore whether the effect of moral philosophies on moral judgment depends on the use of EET. As expected, teaching ethics with EET reduces the influence of utilitarianism and relativism on moral judgment, which is consistent with Kohlberg's levels of moral development. In the conventional level of Kohlberg's (1969) moral development, the individual tries to please their family, partner, and colleagues, and weighs the effects of actions on society. On a higher level, the individual develops their own ethical principles, which include more abstract principles and values, independent of society, thus reducing the reliance on the principles of utilitarianism and relativism in the evaluation of ethical choices.

Utilitarianism refers to the greatest good to the greatest number of people. The *Reclassifying assets* dilemma is related to the breaking debt covenants, and the consequences of refraining from morally questionable actions have less severe consequences for stakeholders. On the other hand, the consequences of refraining from morally questionable actions for the *Moderating revenues* and *Hiding information* dilemmas would be more severe, due to the possible decline in the stock price. Therefore, the interaction between utilitarianism and experimental group is significant for the *Moderating revenues* and *Hiding information* dilemmas.

Relativism refers to a contextually acceptable action. The interaction between relativism and experimental group is significant for the *Reclassifying assets* and *Hiding information* dilemmas, but not for *Moderating revenues*. *Moderating revenues* refers to the recording revenues in the month before the work is completed (income smoothing). Important information is that the contracts for the works that will be done in January have already

been signed in December. The company had recorded a small part of these revenues in December to avoid a large drop in revenues. Graham et al. (2005) interviewed more than 400 executives and found out that 78% of managers sacrifice economic value to smooth income. Because of the widespread prevalence of the issue, students are already familiar with the problem before ethics education, so the treatment effect did not change the contextual acceptance.

The results do not confirm our predictions that teaching ethics with EET increases the influence of contractualism on moral judgment. However, significant interaction results show a similar meaning. Students in the control group do not recognize the violation of an unwritten contract as an unethical action, whereas students in the treatment group do, but only for the *Reclassifying assets* dilemma. Research by Ellis and Griffith (2000) has shown that people often fail to recognize the violation of unwritten contracts. Increasing the importance of moral philosophy contractualism in students' EDMP after treatment suggests that ethics education through active learning broadens their view of unwritten contracts and unspoken promises. Adherence to rules and codes in accounting is highly emphasized in EET. Therefore, it seems reasonable that using EET in accounting education increases influence of contractualism: on one hand, it broadens students' perspective on the existence and importance of unwritten contracts, and on the other hand, it raises students' awareness that violating codes of ethics is also considered a type of contract violation. The *Reclassifying assets* dilemma includes all information in the financial statements, but the classification is wrong (short- instead of long-term). On the other hand, the *Hiding information* dilemma refers to not reporting known information, which is understandable from a contractual perspective even for students without ethics education (control group). Similarly, the *Moderating revenues* dilemma involves contracts that have already been signed. Because the recognition problem mostly relates to the violation of unwritten contracts, the interaction effect between contractualism and treatment effect was not significant.

In line with Kohlberg's (1969) stages of moral development, we also expected an increasing importance of moral philosophy justice in students' evaluation of ethical choices. However, the results reveal that in the post-test justice is less accentuated among the students who participated in the experiment. This unexpected finding may be related to the specifics of the sample group (accounting students) and primary focus of EET on ethical dilemmas related to accounting. Along with the aforementioned emphasis on adherence to rules and codes — essential for accounting professionals in *accounting-related* dilemmas — our findings suggest that ethical choices that can be addressed with studying contracts, laws and codes of ethics leave less room for primary evaluation from the perspective of justice.

The main goal of teaching ethics should be to improve students' moral judgment (Fischer & Rosenzweig, 1995). As shown, teaching ethics with EET improves students' moral judgment. By using EET, we (educators) were able to sufficiently overcome some of the

issues related to teaching ethics outlined by researchers, such as lack of ethics topics in accounting textbooks (McNair & Milam, 1993; Tweedie et al., 2013), lack of qualified staff (Dellaportas et al., 2014), and time constraints (Dellaportas et al., 2014; McNair & Milam, 1993). Overall, teaching ethics with EET proved beneficial not only for educators, as students also found the ethics lectures interesting and useful. They even indicated that they would like to attend lectures with similar content in the future.

## 6 CONCLUSION

### 6.1 Main findings

Existing research in the field of ethics education in accounting reveals a vast amount of work that researchers have already done on the topic. Dividing the study's timeframe into three different periods, i.e. the before, during and after the major corporate accounting scandals, allowed us to see the true impact of the corporate accounting scandals on the investigated research area. Although the importance of ethics education had already been outlined even before the corporate accounting scandals, the number of published articles quadrupled while the number of different clusters doubled in the period following the scandals in comparison to the previous period. Nonetheless, the implementation of ethics topics in accounting education is not yet at a desired level, particularly due to a lack of knowledge in its implementation on one side and a lack of commitment from academics on the other. Moreover, the true impact of the implemented ethics education is still limited as a consequence of the numerous factors affecting its success. In each period, researchers describe additional *factors that affect EDMP*, among which situational factors gain in their importance. The period of the corporate accounting scandals outlined *The need to teach ethics*, which resulted in four research areas developed in the last period, namely *Integration of ethics in accounting education*, *Use of developed ethics frameworks*, *Accounting beyond technical skills*, and *Professional values*. To improve the effectiveness of ethics education, educators should pay special attention to the course design and its development, especially in terms of the content and structure of the course, the ethics frameworks use and the teaching methods, with researchers recommending the use of innovative rather than traditional methods.

In the empirical part of the doctoral dissertation, we focus on two of the aforementioned research areas: *Factors affecting EDMP* and *Use of developed ethics frameworks*. In terms of factors affecting EDMP, we focus on the effect of moral philosophies, predisposition (do students in accounting major have a different ethical perspective than students in non-accounting business majors) and accounting education on moral judgment. In relation to the *Use of developed ethics frameworks*, we chose to explore the effect of using EET on moral judgment, as it was developed with the intention of supporting good practice in accounting education and development of accounting profession. In all empirical studies,

we controlled for gender effect, as its importance in the research area *Factors affecting EDMF* has been highlighted in all three periods. While most existing studies on moral judgment (e.g. Gill, 2010; Kara et al., 2016; Landry, 2004) focus on investigating the main effects, we also consider interaction effects between variables. Neglecting the interactions could be one of the reasons for the inconsistency of the existing research results. Comparing the main effects of the models without interactions with the models with interactions reveals no differences. All main effects, either significant or not, persist when interactions are included in the model. What adds value are significant interaction effects that provide us with additional insight into the topic.

The first research question of the empirical research, which is the second research question in the doctoral dissertation (*RQ2*), addresses the differences in ethical predispositions of students who enrol in accounting compared to non-accounting business students. Three hypotheses were developed to answer this research question. The first hypothesis (*H1*) is related to the influence of moral philosophies on moral judgment, second to the differences in moral judgment between accounting and non-accounting business students (*H2*), and the third is related to the interaction effect between moral philosophies and study major on moral judgment (*H3*). The third hypothesis is further divided based on individual moral philosophies, but only for those with theoretical backgrounds. All hypotheses, along with the information on whether they were confirmed, are presented in Table 25.

Regarding the main effect of moral philosophies, our study reveals that moral philosophies, i.e. justice, relativism, egoism, utilitarianism and contractualism, strongly affect moral judgment, suggesting that the more a morally questionable action is perceived as just, contextually acceptable, not violating promises, promoting self-interest, and bringing the greatest good to the greatest number of people, the less it is perceived as unethical. A similar correlation between moral philosophies and moral judgment is also found by Kara et al. (2016). The authors prove that all moral philosophies affect moral judgment, however not necessarily all within one decision.

First-year students in both majors have the same courses, which enables us to examine the differences that exist prior to specialized accounting education. Although the main effect of study major is not significant, it interacts with moral philosophies influencing moral judgment. This confirms that accounting students have different predispositions compared to non-accounting business students, but only for the *accounting-related* dilemma, with accounting students being more influenced by egoism and contractualism when making moral judgment.

Table 25: Hypotheses Testing Summary for Ethical Predisposition Study

Hypotheses \ Type of moral dilemma		Accounting-related	Earnings management	Self-interest
<b>H1</b>	The more a morally questionable action is just (justice) ( <i>H1a</i> ), the more it is contextually acceptable (relativism) ( <i>H1b</i> ), the more it promotes self-interest (egoism) ( <i>H1c</i> ), the more it brings the greatest good to the greatest number of people (utilitarianism) ( <i>H1d</i> ) and the more it does not violate promises (contractualism) ( <i>H1e</i> ), the less it is perceived as unethical (moral judgment).	✓	✓	✓
<b>H2</b>	Accounting students perceive morally questionable actions as more unethical than non-accounting business students.	X	X	X
<b>H3a</b>	Contractualism interacts with study major to predict moral judgment in morally questionable dilemmas, such that contractualism effect is stronger for accounting students compared to non-accounting business students.	✓	X	X
<b>H3b</b>	Relativism interacts with study major to predict moral judgment in morally questionable dilemmas, such that relativism effect is stronger for accounting students compared to non-accounting business students.	X	X	X
<b>H3c</b>	Egoism interacts with study major to predict moral judgment in morally questionable dilemmas, such that egoism effect is stronger for accounting students compared to non-accounting business students.	✓	X	X

Note: ✓ hypothesis confirmed, X hypothesis not confirmed.

Source: Own work.

Next, the doctoral dissertation explores the third research question (*RQ3*): *What influence does the accounting education have on students' moral judgment?*. We explore students' moral development from first to third year of study. Two hypotheses are developed to answer this research question. The first of which (*H4*) is related to the differences in moral judgment between first- and third-year accounting students and the second is related to the interaction effect between moral philosophies and study year on moral judgment (*H5*). The fifth hypothesis is further divided based on individual moral philosophies, but only for those with theoretical backgrounds. All hypotheses along with the information on whether they were confirmed are presented in Table 26.

Although first- and third-year students are most critical in evaluating the *earnings management* dilemmas, third-year students' moral judgment becomes more lenient as they progress through their education, which is contrary to our expectations. In terms of



interactions, study year and contractualism interact when discussing *accounting-related* dilemmas, with first-year students being more influenced by contractualism when making moral judgment. The fact that the moral judgment of accounting students did not improve as expected indicates that there is room for further improvement.

*Table 26: Hypotheses Testing Summary for Accounting Education Study*

Hypotheses \ Type of moral dilemma		Accounting-related	Earnings management	Self-interest
<b>H1</b>	The more a morally questionable action is just (justice) ( <i>H1a</i> ), the more it is contextually acceptable (relativism) ( <i>H1b</i> ), the more it promotes self-interest (egoism) ( <i>H1c</i> ), the more it brings the greatest good to the greatest number of people (utilitarianism) ( <i>H1d</i> ) and the more it does not violate promises (contractualism) ( <i>H1e</i> ), the less it is perceived as unethical (moral judgment).	✓	✓	✓
<b>H4</b>	Third-year accounting students perceive morally questionable actions as more unethical than first-year accounting students.	X	X*	X
<b>H5a</b>	Contractualism interacts with study year to predict moral judgment in morally questionable dilemmas, such that contractualism effect is stronger for first-year compared to third-year accounting students.	✓	X	X
<b>H5b</b>	Utilitarianism interacts with study year to predict moral judgment in morally questionable dilemmas, such that utilitarianism effect is stronger for third-year compared to first-year accounting students.	X	X	X
<b>H5c</b>	Relativism interacts with study year to predict moral judgment in morally questionable dilemmas, such that relativism effect is stronger for first-year compared to third-year accounting students.	X	X	X
<b>H5d</b>	Egoism interacts with study year to predict moral judgment in morally questionable dilemmas, such that egoism effect is stronger for first-year compared to third-year accounting students.	X	X	X

*Note:* ✓ hypothesis confirmed, X hypothesis not confirmed, X\* significant interaction but different effect.

*Source:* Own work.

Because research on the effect of accounting education on students' moral judgment has shown that further improvements are needed, we next analysed whether specific ethics intervention could improve the results. Among the existing ethics education tools, we chose EET, which focuses on the dilemmas that accounting professionals may face. In this context, we developed two research questions: *What is the impact of using EET on*

*students' moral judgment? (RQ4a)* and *How do students perceive education with EET? (RQ4b)*. To answer the first part of the research question (*RQ4a*), two hypotheses were developed. The first related to the improvement of moral judgment through the use of EET (*H6*) and the second related to the interaction effect between moral philosophies and experimental group on moral judgment (*H7*). The seventh hypothesis is further divided based on individual moral philosophies. Egoism is not included due to the results of the factor analysis. All hypotheses along with the information on whether they were confirmed are presented in Table 27.

The results confirm that teaching ethics with EET improves moral judgment. For two (*Moderating revenues* and *Reclassifying assets*) of three moral dilemmas, students in the treatment group perceive the dilemmas as more unethical compared to students in the control group. The non-significant result for the third dilemma (*Hiding information*) can be explained by the descriptive statistics, which show that students perceive this dilemma as most unethical. Therefore, additional training can only lead to a small (statistically insignificant) improvement in moral judgment.

As for interactions, experimental group interacts with all four moral philosophies (justice, utilitarianism, relativism, and contractualism). Teaching ethics with EET reduces the influence of justice, utilitarianism, and relativism on moral judgment in two out of three dilemmas. While the directions of the influence of relativism (*H7b*) and utilitarianism (*H7c*) are consistent with the hypotheses, we expected justice (*H7a*) to have the opposite influence. Although the interaction of contractualism (*H7d*) and experimental group is significant in one of three dilemmas, hypothesis *H7d* cannot be confirmed, because the influence changes its direction. Teaching ethics with EET helps students to recognize a violation of an unwritten contract as an unethical action. While students in the control group do not recognize the violation of an unwritten contract as an unethical action for the *Reclassifying assets* dilemma, students in the treatment group do.

Table 27: Hypotheses Testing Summary for Ethics Education Study

Hypotheses	Type of accounting moral dilemma	Moderating revenues	Reclassifying assets	Hiding information
<b>H1a</b>	The more a morally questionable action is just (justice), the less it is perceived as unethical (moral judgment).	✓	✓	✓
<b>H1b</b>	The more a morally questionable action is contextually acceptable (relativism), the less it is perceived as unethical (moral judgment).	✓	✓	X
<b>H1c<sup>1</sup></b>	The more a morally questionable action promotes self-interest (egoism), the less it is perceived as unethical (moral judgment).	NA	NA	NA
<b>H1d</b>	The more a morally questionable action brings the greatest good to the greatest number of people (utilitarianism), the less it is perceived as unethical (moral judgment).	✓	✓	✓
<b>H1e</b>	The more a morally questionable action does not violate promises (contractualism), the less it is perceived as unethical (moral judgment).	✓	X	X
<b>H6</b>	Students who participated in ethics education with EET perceive morally questionable action as more unethical than students who did not participate.	✓	✓	X
<b>H7a</b>	Justice interacts with ethics education to predict moral judgment in morally questionable dilemmas, such that justice effect is stronger for students who participated in ethics education.	X*	X*	X
<b>H7b</b>	Relativism interacts with ethics education to predict moral judgment in morally questionable dilemmas, such that relativism effect is weaker for students who participated in ethics education.	X	✓	✓
<b>H7c</b>	Utilitarianism interacts with ethics education to predict moral judgment in morally questionable dilemmas, such that utilitarianism effect is weaker for students who participated in ethics education.	✓	X	✓
<b>H7d</b>	Contractualism interacts with ethics education to predict moral judgment in morally questionable dilemmas, such that contractualism effect is stronger for students who participated in ethics education.	X	X*	X

Note: <sup>1</sup> moral philosophy egoism is not included in the analysis ✓ hypothesis confirmed; X hypothesis not confirmed; X\* significant interaction but different effect; NA not applicable.

Source: Own work.

When teaching ethics, educators should aim to improve students' moral judgment (Fischer & Rosenzweig, 1995). As shown, teaching ethics with EET is a viable solution to improve

students' moral judgment. Moreover, teaching with EET was positively accepted by the students, who found the ethics lectures interesting and useful and expressed that they would like to hear more lectures of this type in the future.

## **6.2 Contribution**

### **6.2.1 Theoretical contribution**

Bibliometric analysis is widely used research method to trace research trends. The bibliometric analysis closest to ours in terms of research field was performed by Uysal (2010), who outlines ethics education in accounting as a specific research cluster within business ethics research with accounting focus. This specific area of research is further analysed in this doctoral dissertation, using historiography, bibliographic coupling and co-word analysis. To the best of our knowledge, this is the first comprehensive literature review based on bibliometric analysis in the field of ethics education in accounting research. As such, it makes a transparent and quantitative contribution to this area of research. The bibliometric methods applied successfully overcome problems of subjectivity associated with review and produce more objective results.

The doctoral dissertation takes a step towards understanding the research field of ethics education in accounting and proposes several contributions to the theory. Since the field evolves over time, this doctoral dissertation contributes a dynamic perspective on its development over the past three decades. The first decade corresponds to the period before the major corporate scandals, the second decade coincides with the scandals, and the third decade represents the period after. The selection of time periods contributes to identification of the potential impact of corporate scandals and the associated public distrust in the accounting profession on ethics education in accounting research. The results reveal that in each decade the academic focus on this field of research increased and corporate scandals are outlined as the primary motive.

The results also show an increasing number of different research clusters. We identify seven research clusters in the last decade: accounting beyond technical skills, factors affecting EDMP, integration of ethics in accounting education, perception of ethics, use of developed ethics frameworks, professional values, and lack of ethics topics. Through the resulting patterns of the development of ethics education in accounting research in conjunction with the current developments in the business environment, we contribute to the future development by pointing out underdeveloped subfields.

Moreover, historiography analysis provides an important insight into the chronological development of the research field by visualizing the most important publications and showing how articles build on each other. We have presented the most important publications in the field in chronological order and showed the citations between them.

Existing research on the effect of study major (Beekun et al., 2017; Borkowski & Yusuf, 1992; Green & Weber, 1997; Sweeney & Costello, 2009) or education (Borkowski & Yusuf, 1992; Gautschi & Jones, 1998; Marques & Azevedo-Pereira, 2009; Ramirez & Palos-Sanchez, 2018; Rosati et al., 2018; Tormo-Carbó, Oltra et al., 2016) on moral judgment focuses on the main effect and neglects interaction effects between variables, which could be one of the possible reasons for the inconsistency of the results in existing studies. This study contributes to the theory in the field of the factors affecting moral judgment by extending previous research and incorporating interactions into the model for a comprehensive investigation of accounting students' moral judgment. Contributions to the knowledge include identifying ethical predispositions of accounting students and effects of accounting education on moral judgment. An additional contribution is made by showing their simultaneous effect with underlying moral philosophies on moral judgment. We also outline the positive impact on moral development of using an existing ethics teaching tool that employs active learning through ethics-related case studies as a teaching method. The effects are explained in more detail in the discussion of the main findings section.

#### 6.2.2 Practical implication

The doctoral dissertation offers several important practical implications for accounting educators and universities. It is important to understand the factors that influence EDMP, if we are to improve the ethical behaviour of accounting professionals. When one's values are aligned with ethical behaviour prior to entering the profession, the likelihood of ethical behaviour at work increases (McManus & Subramaniam, 2009).

Educators need to understand the characteristics of students they teach. As proven in the doctoral dissertation, accounting students have a different predisposition to *accounting-related* dilemmas than non-accounting business students, with accounting students being more influenced by moral philosophies egoism, and contractualism. Education should be designed in a way to reduce the impact of egoism. Since relativism has a great influence on moral judgment of first year students, it would also be advisable to reduce that influence.

Changes in education have been needed as an essential element not only to adequately address the ethical crisis facing the accounting profession (Jackling et al., 2007), but also to ensure practical skills and professional identity in addition to technical knowledge (Wilkerson Jr., 2010). Nevertheless, only incorporating ethics topics in the accounting education process is not enough, since the objectives of such training should be more clearly defined as well. The main goal of teaching ethics should be to improve students' moral judgment and to make students reach a higher level of moral development. To maximize the effectiveness of ethics education in accounting, the ethics content in education should focus on the parts where there is the largest gap between expectations and reality. In our sample, the results show that education makes accounting students more

lenient in making moral judgments about *earnings management* dilemmas. Therefore, additional attention should be paid to increasing moral awareness of this issue.

To accomplish the goal, educators must have certain knowledge and skills (Fan et al., 2022). Ethics is a complex concept and there is no unique approach to teaching it. As some researchers have pointed out, the reason why education is not meeting expectations could be found in lack of ethics topics in accounting textbooks (McNair & Milam, 1993; Tweedie et al., 2013), lack of qualified staff (Dellaportas et al., 2014), time constraints (Dellaportas et al., 2014; McNair & Milam, 1993) and little academic research interest on the subject (Dellaportas et al., 2014; Gunz & McCutcheon, 1998). Some tools for teaching ethics have already been developed and are available, among which we tested the effectiveness of using EET in accounting education. In existing literature, active learning proves to be an efficient way to teach ethics, so we used it to discuss ethics-related issues in the workplace using EET. The results show that teaching ethics using EET has a positive impact on students' moral judgment. The course broadens students' perspective on responsibility and ethical action. This is an important practical contribution, as EET is well developed, along with the related guidelines, making it suitable also for educators who believe they are not qualified enough to develop the ethics course themselves or who simply do not have time.

### **6.3 Future research**

Based on *historiography*, research in ethics education in accounting has mostly been based on Kohlberg's (1969) theory of moral development and Rest's (1979) measurement instrument, DIT. Both Kohlberg's and Rest's theories were also outlined by DeTienne et al. (2021) as two of the main streams of research in moral development in business ethics. However, the work of DeTienne et al. (2021) outlined additional theoretical foundations that are currently being used in the field of business ethics, including domain theory, moral automaticity, moral schemas, and moral heuristic. Moral schemas and moral heuristic empirical approaches were developed in the 2000s, which may be the reason why they have not yet been included in the research within the field (DeTienne et al., 2021). Future research could therefore extend a theoretical background to other theories not so well applied yet, resulting in additional clusters within the ethics education in accounting historiography.

The cluster *Factors affecting the EDMP* is expected to remain. In line with past developments within this cluster, we can still expect novel research focusing on new factors that were disregarded or under investigated in previous decades. In recent years, country-specific issues have attracted the interest of researchers (Arfaoui et al., 2016; Driskill & Rankin, 2020; Marzuki et al., 2017; Mohd Ghazali, 2015), but consistency of the results and their implications are still lacking. Moreover, increased research related to the Islamic religion, conducted over the past decade (Musbah et al., 2016; Nahar, 2018;

Zubairu, 2016), may indicate that the effect of different religions on EDMP could become a prominent area of future research within this cluster. Although some researchers have already investigated the effects of the study major, we anticipate future research to further contribute to understanding and consistency of findings in this area of research.

In the last period (2011–2020), *Use of developed ethics frameworks* and *Integration of ethics in accounting education* were among the clusters that developed from *The need to teach ethics* cluster, which evolved during the second period (2001–2010). The common characteristic of the two clusters is their focus on course design. It is therefore plausible to expect that the clusters will merge to form a prominent cluster *How to teach ethics*, reaching beyond the research questions of the two previous clusters to incorporate current developments in teaching, especially related to the outbreak of Covid-19. Research questions in these clusters have so far included the identification of the most effective teaching approaches for ethics education, such as a thematic approach (Tweedie et al., 2013), active learning (Loeb, 2015) and role-playing (Bouten & Hoozée, 2015), including research questions related to whether ethics should be taught as a stand-alone course or using an integrated approach. This field merits additional insight, as despite extensive research no consensus on the topic has been reached (Dellaportas, 2006; Martinov-Bennie & Mladenovic, 2015). What could become a prominent research area within the new cluster is the effect of online ethics courses. Due to the recent Covid-19 outbreak, education worldwide was forced to go online in spring 2020 (Alassaf & Szalay, 2020; Sun et al., 2020). While the vast majority of existing research has so far focused on in-class ethics education (Arfaoui et al., 2016; Shawver & Miller, 2017), we expect a growing body of literature to focus on online methods. Recent research (Sorensen et al., 2017) has already denoted this trend.

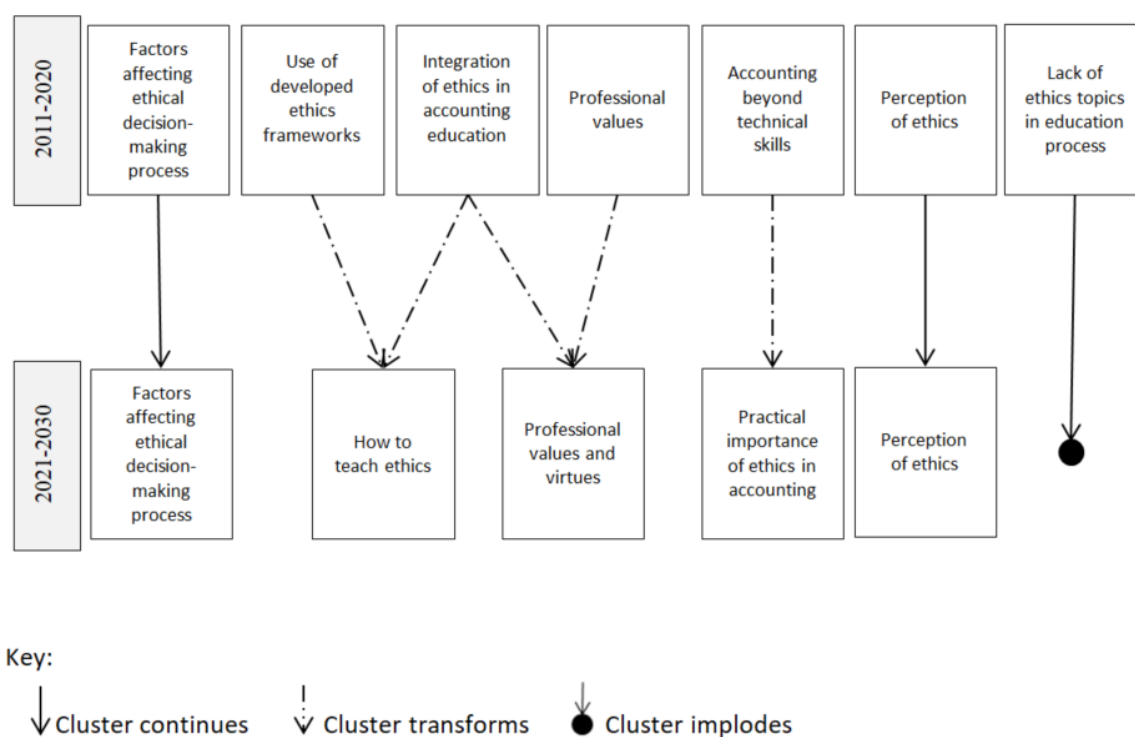
The specific part of the *Integration of ethics in accounting education* cluster, which relates to virtue ethics (Sorensen et al., 2017), could merge with the *Professional values* cluster to form a new *Professional values and virtues* cluster. Moral virtues focus on character development and represent a permanent attitude towards moral behaviour. Since the objectives of ethics education are to increase moral sensitivity, help individuals to make moral judgments, improve moral behaviour and stimulate moral virtues, moral values and virtues are closely related and should be addressed in ethics education (Melé, 2005). The importance of moral virtues has been frequently addressed in medical ethics (Toon, 2014), while the lack of comparable research in ethics education in accounting can be identified as another research gap.

In the last period (2011–2020), the importance of developing soft skills in accounting education was addressed in the *Accounting beyond technical skills* cluster. This stream of research originated in the observed gap between the skills of accounting students and the expectations of employers. Ma (2009), who examined the status of business ethics research, reported that in the all-encompassing pursuit of profits in capitalist economies, the effect of business ethics on financial performance was becoming one of the main

determinants of the promotion of ethical behaviour. Similarly, a new stream of ethics education in accounting research, included in the *Practical importance of ethics in accounting* cluster, could investigate whether (and to what extent) the motivation for promoting soft skills, including ethics and moral skills, has been redefined to include its effects on corporate financial performance.

While the *Lack of ethics topics in education process* cluster seems to evolve and implode in cycles, based on the latest research findings on existent situation in accounting education, *Perception of ethics* is a continuous cluster that provides an overview of the current state of ethics and its improvement and is expected to continue to exist in the future, due to continuous changes in the environment and constantly developing curriculums. Future research development patterns of ethics education in accounting research are presented in Figure 30.

*Figure 30: Future Research Development Patterns of Ethics Education in Accounting Research*



Source: Poje & Zaman Groff (2021).

The theoretical backgrounds used in ethics education in accounting research are based on the fundamental theories from the field of business ethics, while research does not yet build on the newly developed concepts, such as moral identity, domain theory, moral automaticity, moral schemas and moral heuristics (DeTienne et al., 2021).

Based on the empirical research of the doctoral dissertation, some narrower future research areas also emerge. The influence of culture has been recognized as an important factor in



the EDMP (Driskill & Rankin, 2020; Ge & Thomas, 2008; Okleshen & Hoyt, 1996; Tsakumis, 2007), nevertheless, the current study is conducted on a sample of students from a single cultural setting. Further research is therefore needed to examine the differences in ethical predispositions between universities in different cultural settings and see if the results can be replicated, or else the influence of culture on moral judgment should not be disregarded. In this context, another prominent research question to be more closely examined relates to the inclusion of religious influence on moral judgment, particularly the interaction between religious beliefs and moral philosophies.

In terms of geographical location, it is important to note that the study was conducted in a country that follows principle-based accounting. The differences in the impact of the study year between principle-based and rule-based accounting could be of a great interest, since they could show the advantages and disadvantages of the two systems.

The findings of this study are valuable for teaching ethics in accounting. Our research shows that the use of EET is effective in teaching ethics in accounting, as it improves students' moral judgment. The experiment was conducted using two teaching methods: case study and active learning. The combination of different teaching methods could be among the reasons for the effectiveness of ethics education. This is in line with Sivilis-Cetinkaya (2019), who reports that a combined approach to teaching ethics improves moral judgment regardless of the scenario. Additional analysis comparing the effectiveness of different innovative teaching methods would be of a great interest.

A replication of the effectiveness of EET by educators with different prior knowledge on the topic and different skills could also provide additional insights into the effectiveness of teaching ethics. Although EET is highly structured and also suitable for educators with limited experience in teaching ethics, additional analyses comparing the effects of EET between educators with different experiences could confirm this.

## **6.4 Limitations**

The study is subject to some limitations. Firstly, not all existing articles related to ethics education in accounting are necessarily included in the literature review research. We decided to use the articles published in the English language in the Web of Science, within the science categories business and finance, business, education, educational research and ethics, as the database source. The use of other keywords, methods or science categories could lead to the discovery of connections and developments that are invisible to this study. And secondly, the use of bibliographic coupling as a method has its own limitations, since all citations are treated the same and no distinction is made between different reasons for citation (support vs. criticism).

Moving to the limitations of the empirical research, the focus of the study is on moral judgment, while moral intention and moral behaviour are not the subject of the study.

Moreover, it is important to understand that moral judgment is context-specific, which means that different situational contexts may lead not only to different outcomes, but also to different conclusions. This doctoral dissertation only addresses ethical dilemmas in the context of accounting, earnings management, and self-interest.

The data were collected using the MES questionnaire, the use of which has some limitations as well. The quantitative data are based on self-report, which is limited by the individual's ability to self-evaluate. The questionnaire contains numerical scales that can sometimes be inaccurate and subject to the individual's tendency to give an extreme or middle response to all questions. Another limitation associated with MES is the development of the scales. The item pool from which the five moral philosophies result has evolved over time. Initially, there was a pool of 30 items developed by Reidenbach and Robin, and there is a possibility that the currently developed items may be improved in the future.

In addition, the sample includes a single business school. A sample from a different geographical location or cultural setting could yield different results in the context presented.

Furthermore, there are limitations related to experimental research. First, the sample size is quite small. Increasing the sample size might reveal additional benefits of teaching ethics with EET. Second, the learning styles of students were not considered. Investigating students' preferred learning styles before the experiment and developing appropriate instructions could lead to even better results. And third, the experiment was conducted by an educator who is not specialized in teaching ethics but accounting. Engaging a more qualified educator from the field could lead to even better results. At the same time, this limitation also shows the advantage of EET, as it provides detailed instructions that lead to good results even for educators with little or no previous knowledge in this area.

## **6.5 Concluding remarks**

Corporate scandals at the turn of the century have raised the importance of ethics in accounting and have resulted in legislative changes and revised professional codes of ethics. Moreover, as part of their evaluation process, all three accreditations included in the Triple Crown (AACSB, AMBA, and EQUIS) request fulfilment of ethics-related standards and criteria. Business schools continue with the implementation of ethics-related courses in their curricula, either by developing specialized courses or by integrating ethics-related topics into already existing courses.

Existing research in the field of ethics education in accounting reveals the vast work that researchers have already done. In the doctoral dissertation, we trace the evolution of ethics education in accounting, define thematic landscapes and outline the sub-fields that constitute the ethics education in accounting research, therefore providing a comprehensive

overview of the topic and thus contributing to a more effective and efficient implementation of ethics education in accounting and future research.

In the empirical part of the research, we first compare ethical predispositions of accounting students with those of non-accounting business students. Understanding the differences in ethical predispositions of students is crucial for the successful implementation of ethics education. The success of the ethics education is influenced, in part, by how ethics is taught. And since the predispositions of accounting students differ from those of non-accounting business students, it is imperative that this be taken into account when developing future ethics courses in order to increase the effectiveness of the course itself. The findings suggest that the role of accountants should be emphasized more clearly in the education process. Students need to become aware of the meaning of accountants' work and understand what serving the public interest means (Davenport & Dellaportas, 2009). As expected the present study provides evidence contractualism has higher impact on moral judgment of accounting students compared to non-accounting business students. Disturbingly, it also confirms that egoism has a higher impact on moral judgment of accounting students compared to non-accounting business students. There is a need to reduce this effect and increase the use of post-conventional ethical reasoning where moral judgment is determined by universally held principles of justice (Nguyen et al., 2008b).

One viable reason for these differences could be the self-selection bias. Prior research reveals that students who enrol in accounting are less creative (Azevedo & Sugahara, 2012; Saemann & Crooker, 1999), are more influenced by family (Tan & Laswad, 2006), do not perceive mathematics as an obstacle (Tan & Laswad, 2006), are more analytical (Landry, 2004) and value accounting career opportunities and characteristics (Alanezi et al., 2016; Ali & Tinggi, 2013; Awadallah & Elgharbawy, 2021; Dalcı et al., 2013).

Despite the researchers' acknowledgement of the importance of the ethics education, there is still no consensus among researchers and practitioners alike as to how ethics should be taught and incorporated into the curriculum. The present research provides evidence that the effect of education on moral awareness and judgment differs between the study years but only in certain contexts. Change in moral judgment from first to third year is not at a desirable level and changes of academic syllabi are inevitable. Formal education, as revealed in the doctoral dissertation, seems to make students a bit more lenient for the earnings management dilemmas. For this reason, special attention should be paid to raising awareness especially in this particular area. Undergraduate accounting students should not only comprehend the importance of true and fair presentation disclosed in financial statements in the public interest, but also need to understand the implications of earnings management and their responsibility to resist expectations. To maximise the effectiveness of the ethics education in accounting, the ethics content in education should focus on the parts with the largest gap between expectations and reality. To achieve the goal as stated by Fan et al. (2022), educators need to have certain knowledge and skills that are currently lacking (Dellaportas et al., 2014).

A viable solution to overcome this problem is the use of existing frameworks and tools that guide educators through the teaching process. In this doctoral dissertation we analysed the effect of using EET. Our research shows that the use of EET is effective in teaching ethics in accounting, as it improves students' moral judgment. The course was well accepted by the students, who would like to attend similar ethics courses in the future, as it broadened their perspective on responsibility and ethical action. We recommend the use of EET for teaching ethics in accounting for the reasons of being effective, well structured, and suitable for educators with limited experience in teaching ethics.

All in all, we believe that the comprehensive bibliometric analysis of the existing research, along with the empirical investigations we performed, analysed, and discussed, the theoretical contributions and the practical implications we outlined, represents a piece of novel knowledge that fits well into the vast mosaic of the ethics education in accounting research.

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## **APPENDICES**



## **Appendix 1: Summary in the Slovenian language / Daljši povzetek disertacije v slovenskem jeziku**

### **IZOBRAŽEVANJE O ETIKI V RAČUNOVODSTVU IN DEJAVNIKI VPLIVA NA MORALNO PRESOJO**

#### **UVOD**

Etika v računovodstvu je opredeljena kot filozofska študija, ki temelji na moralnih načelih in refleksivnih odločitvah, ki obravnavajo vprašanja pravilnega in napačnega vedenja (Onyebuchi, 2011). Deležna je velike pozornosti javnosti, saj so računovodski izkazi podlaga za odločitve številnih deležnikov. Da bi povečali zaupanje uporabnikov v računovodske izkaze, morajo biti ti brez pomembnih napačnih navedb, obenem pa morajo predstavljati resničen in pošten finančni položaj družbe. Pomen etike v računovodstvu se je močno povečal po korporativnih škandalih na prelomu 21. stoletja, kot so Enron leta 2001, WorldCom, Tyco in Adelphia leta 2002, Lehman Brothers leta 2008 ter mnogi drugi, vključno z nedavnim škandalom Wirecard leta 2020. V zadnjem času je bil pomen etike v računovodstvu poudarjen tudi z vlogo računovodij v Ponzijevih shemah (Deason et al., 2021). Zaradi številnih računovodskih nepravilnosti in manipulacij (Giroux, 2008) ter s tem povezanega pomanjkanja etike se je ugled tako računovodskega kot revizijskega poklica zmanjšal (Low et al., 2008).

Da bi preprečili ali vsaj omilili nadaljnje korporativne skandale, so bile sprejete nekatere zakonske in regulatorne spremembe. Čeprav so bili regulatorni ukrepi nujni, pa niso bili zadostni (Lail et al., 2017). Številni raziskovalci trdijo, da je treba problematiko obravnavati širše, ob tem pa poudarjajo pomen povečanja etičnih vsebin v računovodskem izobraževanju (Jackling et al., 2007; Low et al., 2008; Massey & Van Hise, 2009; McPhail, 2001; Mintz, 2007). Spremembe v izobraževanju ne predstavljajo le pomembnega elementa za reševanje etične krize, s katero se sooča računovodski poklic (Jackling et al., 2007), temveč so nujne tudi za zagotovitev praktičnih veščin in razvoja poklicne identitete kot dodatek k tehničnemu računovodskemu znanju (Wilkerson Jr., 2010).

Kljub povečanemu pomenu izobraževanja o etiki v računovodstvu področje ni standardizirano, kar bi lahko bil eden od razlogov, zakaj se etičnim vsebinam še vedno ne pripisuje zadostnega pomena tako z vidika njihove vključitve v pedagoški proces (Larrán Jorge et al., 2015) kot tudi z vidika kakovosti (Dellaportas et al., 2014). Druga težava, ki sta jo izpostavila Pierre in Rebele (2014), je, da želeni cilji izobraževanja o etiki niso jasno opredeljeni. Huss in Patterson (1993) kot cilj takšnega izobraževanja poudarjata, da morajo biti študenti sposobni prepoznati etične dileme ter ustrezno ravnati. Podobno Fisher in Murphy (1995) menita, da bi moral biti cilj izobraževanja o etiki izboljšanje moralnega razvoja študentov. Problematiko še poglobi pomanjkanje usposobljenih pedagogov za poučevanje etike (Dellaportas et al., 2014).

Za razumevanje raziskovalne teme je treba najprej razumeti proces etičnega odločanja kot celote. Pomen izobraževanja o etiki se je povečal po razvoju Kohlbergove teorije o kognitivnem moralnem razvoju (CMD) leta 1958. Teorija podpira stališče, da moralne presoje, torej presoje, ki imajo moralno vsebino, izhajajo iz sposobnosti logičnega sklepanja. Na podlagi omenjene teorije je Rest (1986) opisal proces etičnega odločanja kot štiristopenjski proces, ki se začne z moralnim zavedanjem ali moralno občutljivostjo, ki predstavlja posameznikovo zavedanje problema. Temu sledi moralna presoja oziroma ocena, ali je dejanje moralno pravilno. Po ovrednotenju moralno spornega dejanja posameznik razkrije svojo moralno namero, in sicer namen, da izbere eno od možnih dejanj. V zadnjem koraku – moralnem vedenju – posameznik uresniči svoj moralni namen.

Doktorska disertacija se osredotoča na drugi korak procesa etičnega odločanja, tj. moralno presojo. Merjenje moralne presoje študentov razkrije, ali je izobraževanje o etiki v računovodstvu učinkovito. Raziskave o moralni presoji so se v veliki meri razvile na dveh glavnih področjih: kognitivni moralni razvoj (Bailey et al., 2010; Kohlberg, 1971; Lampe, 1996; Ponemon, 1990; Roche & Thoma, 2017) in razlogi, ki vplivajo na proces etičnega odločanja v kontekstu moralnih filozofij (Gupta, 2010; Kara et al., 2016; Leonard et al., 2017). Slednje je na podlagi dela Reidenbacha in Robina (1988, 1990) v raziskavi Cohena in drugih (1998) predstavljeno s petimi moralnimi filozofijami: pravičnost, utilitarizem, kontraktualizem, egoizem in relativizem. Navedene moralne filozofije predstavljajo pomemben dejavnik procesa etičnega odločanja (Hunt & Vitell, 1986), saj nam povedo, kaj je podlaga za posameznikovo moralno presojo (Shawver & Sennetti, 2009).

## **OPREDELITEV RAZISKOVALNE PROBLEMATIKE**

Korporativni škandali na prelomu 21. stoletja so poudarili pomen etike v računovodstvu. Da bi preprečili ali vsaj omilili nadaljnje korporativne škandale, so bile sprejete zakonske in regulatorne spremembe ter spremembe kodeksov poklicne etike. Tem spremembam so sledile tudi spremembe v izobraževanju. Mednarodne akreditacije, kot so AACSB, AMBA in EQUIS za pridobitev akreditacije, zahtevajo doseganje določenih standardov ter meril, povezanih z izobraževanjem o etiki. Izboljšanje izobraževanja o etiki lahko pripomore tudi k reševanju etične krize računovodskega poklica (Jackling et al., 2007). Pomembnost izobraževanja o etiki je pritegnila tudi številne raziskovalce. Bibliometrična analiza raziskav s področja poslovne etike je razkrila, da je izobraževanje o etiki računovodij eno od pomembnih raziskovalnih področij (Uysal, 2010). Prav to področje podrobneje analiziramo v disertaciji. Zaradi povečanega zavedanja pomena izobraževanja o etiki v računovodstvu želimo s pregledom obstoječe literature odgovoriti na naslednja raziskovalna vprašanja:

*RQ1a: Kako so se razvili teoretični pristopi na področju izobraževanja o etiki v računovodstvu?*

*RQ1b: Kateri raziskovalni sklopi so se razvili na področju izobraževanja o etiki v računovodstvu pred, med in po večjih računovodskih škandalih?*



*RQ1c: Katere so glavne kontekstualne značilnosti raziskovalnega področja pred, med in po večjih računovodskih škandalih?*

Pregled literature kaže, da so se v zadnjem desetletju na področju izobraževanja o etiki v računovodstvu raziskave osredotočale na sedem raziskovalnih sklopov, od katerih sta v središču empiričnega dela disertacije *Dejavniki, ki vplivajo na proces etičnega odločanja in Uporaba razvitih orodij za poučevanje etike*.

Da bi prispevali k področju izobraževanja o etiki v računovodstvu, moramo razumeti etične predispozicije študentov, ki se vpišejo na računovodsko smer študija, saj lahko te vplivajo na učinkovitost izobraževanja. Razumevanje edinstvenih značilnosti študentov računovodstva je pomembno za uspešno izvajanje izobraževanj o etiki v terciarnem računovodskem izobraževanju, saj lahko različne predispozicije zahtevajo drugačen pristop k poučevanju etike. Eden od kazalnikov, da se etične predispozicije študentov računovodstva lahko razlikujejo od drugih poslovnih študentov, je njihova motivacija za izbiro smeri študija. Ker je računovodski poklic zaznan kot zelo natančen in temeljit, se za to smer odločajo manj kreativni študenti (Azevedo & Sugahara, 2012; Saemann & Crooker, 1999). Kreativnost je bila v eksperimentu Gino in Arielyja (2012) negativno povezana s poštenim vedenjem. Ob upoštevanju teh rezultatov lahko domnevamo, da se na računovodstvo vpišejo študenti, ki so manj nagnjeni k nepoštenemu vedenju.

Razlike v predispozicijah trenutno še niso podrobneje raziskane, obstaja pa že nekaj raziskav, ki preučujejo razlike med študenti različnih smeri. Sweeney in Costello (2009) poročata, da je verjetnost za prepoznanje etičnih dilem večja pri študentih računovodstva v primerjavi s študenti drugih poslovnih ved. Raziskava Beekuna in drugih (2017) je razkrila, da odločitve študentov poslovnih ved pogosteje temeljijo na egoizmu kot njihovih kolegov na neposlovnih smereh. Do podobne ugotovitve sta prišla tudi Ge in Thomas (2008), ki sta razkrila, da je egoizem najpogosteje uporabljena filozofija za moralno presojo kitajskih in kanadskih študentov računovodstva. Pomemben vpliv egoizma, na vzorcu študentov poslovnih ved, so prav tako dokazali Kara in drugi (2016), vendar je ta za vplivom pravičnosti. Nasprotujoči rezultati pa so bili ugotovljeni v raziskavi Borkowski in Yusufa (1992), ki sta proučevala razlike v procesu etičnega odločanja med študenti računovodstva in študenti drugih poslovnih ved, pri čemer nista ugotovila statističnih razlik. Podobno tudi Green in Weber (1997) nista ugotovila razlik v etičnih predispozicijah med študenti računovodstva in drugih smeri. Neenotni rezultati kažejo potrebo po dodatni primerjavi med različnimi smermi, ki so jo izpostavili tudi Leonard in drugi (2017) kot eno od treh premalo raziskanih raziskovalnih področij na področju poslovne etike v akademskem svetu. Drugo raziskovalno vprašanje se tako glasi – *RQ2: Kako se etične predispozicije študentov, ki se vpišejo na računovodstvo, razlikujejo od študentov drugih poslovnih smeri?*

Vloga strokovnega izobraževanja je širjenje znanja in zagotavljanje storitev družbi. Žal pa računovodski škandali kažejo, da kakovost opravljenih storitev lahko odstopa od

pričakovanj družbe. Kljub temu da predispozicije lahko vplivajo na proces etičnega odločanja, je mogoče njegovo izboljšanje doseči z izobraževanjem, saj povečuje zavedanje in izboljšuje moralno presojo (Al-Ansari, 2006; Bakken & Ellsworth, 1990; Nather, 2013; Rest & Thoma, 1985). Raziskava Resta in drugih (1999) kaže, da je 30 do 50 odstotkov razlik v moralnem razvoju mogoče pripisati stopnji izobrazbe. Čeprav so pozitivni učinki izobraževanja o etiki dokazani (Nerandžić et al., 2012; Ramirez & Palos-Sanchez, 2018; Swenson-Lepper, 2005; Tormo-Carbó, Seguí-Mas et al., 2016), se pojavlja problem njegove izvedbe. V okviru omejenih učnih ur namreč ni jasnih smernic, koliko časa je primerno ali potrebno nameniti razvoju teh tako imenovanih mehkih veščin. Povečanje obsega izobraževanja za razvoj mehkih veščin je mogoče doseči le z zmanjševanjem izobraževanja o tehničnih spretnostih (Rebele & Pierre, 2019). Uravnoteženost omenjenih izobraževanj predstavlja velik izziv, pri čemer Rebele in Pierre (2019) menita, da razvoj mehkih veščin predstavlja dodano vrednost, vendar ne sme imeti prednosti pred razvojem tehničnih spretnosti računovodskih študentov. Tudi če bi bil čas, namenjen izobraževanju o etiki, neomejen, so pedagogi še vedno podvrženi izzivom, povezanim s samo izvedbo izobraževanja. Izobraževanje etičnih vsebin brez temeljitega razmisleka o tem, kako ga izvesti, ne vodi nujno v povečanje dodane vrednosti. Pomembno je, da pedagogi opredelijo, zakaj in kako vključiti etične vsebine v učni načrt. Cilj takšnega izobraževanja bi moral biti izboljšanje moralnega razvoja študentov (Fischer & Rosenzweig, 1995). Etiko je treba poučevati na način, ki spodbuja kritično razmišljanje o etičnih dilemah. Prav te imajo lahko več pravih odgovorov, zato je pomembno, da ocenjevanje temelji na sposobnosti kritičnega analiziranja. Ker je čas, namenjen izobraževanju, omejen, ga je treba izkoristiti učinkovito. Z namenom uvedbe morebitnih potrebnih izboljšav pa je treba poznati tudi napredek študentov. Tretje raziskovalno vprašanje se torej glasi – *RQ3: Kakšen je vpliv računovodskega izobraževanja na moralno presojo študentov?*

Skladno z rezultati drugih raziskav smo potrdili, da so za izboljšanje moralnega razvoja potrebne spremembe v izobraževanju o etiki v računovodstvu. Obstoječe študije kažejo, da se je raziskovalno področje v zadnjem desetletju razvilo iz vprašanja *Ali je etiko sploh mogoče poučevati?* (LaGrone et al., 1996; Ponemon, 1993; Ritter, 2006) na bolj specifični vprašanji, kot sta: *Kako etične vsebine vključiti v učni načrt?* (Hartman & Werhane, 2009; Jonson et al., 2015; Klimek & Wenell, 2011) in *Kakšna je učinkovitost specifičnih izobraževanj o etiki?* (Blanthorne, 2017; Loeb, 2015; Martinov-Bennie & Mladenovic, 2015; Tweedie et al., 2013). Poleg vpliva formalnega izobraževanja so raziskovalci preučevali tudi učinek izobraževanja o etiki (Gautschi & Jones, 1998; Ponemon, 1993; Ramirez & Palos-Sanchez, 2018; Tormo-Carbó, Oltra et al., 2016; Tormo-Carbó, Seguí-Mas & Oltra, 2016). Raziskavi Tormo-Carbó, Seguí-Mas in drugi (2016) ter Tormo-Carbó, Oltra et al. in drugi (2016) kažeta, da izobraževanje o etiki izboljša moralno zavedanje, zaradi česar imajo študenti, ki se ga udeležijo, željo po dodatnem izobraževanju o etiki tudi v prihodnje. Po mnenju Ramireza in Palos-Sancheza (2018) so študenti, ki se udeležijo izobraževanj o etiki, bolj zainteresirani za spoštovanje zakona v primerjavi s študenti, ki se ga ne. Izobraževanje o etiki namreč povzroči, da se študenti bolje zavedajo posledic

neetičnega vedenja, zaradi česar v večji meri spoštujejo zakone. Kljub številnim pozitivnim učinkom izobraževanja o etiki ostaja neodgovorjeno vprašanje, kakšen način poučevanja je najboljši. Odbor za mednarodne standarde etike za računovodske strokovnjake (angl. *International Accounting Education Standards Board*, IAESB), neodvisni organ za določanje standardov v okviru Mednarodne zveze računovodskih strokovnjakov (angl. *International Federation of Accountants*, IFAC), je objavil dokument z naslovom *Pristopi k razvoju in vzdrževanju poklicnih vrednot, etike in stališč v računovodskih izobraževalnih programih*. Dokument je rezultat številnih raziskovalnih projektov, katerih cilj je podpora izvajanju programov izobraževanja o etiki računovodskih strokovnjakov (IAESB, 2006). Kot rezultat enega od raziskovalnih projektov je bilo razvito Orodje za izobraževanje o etiki (angl. *Ethics Education Toolkit*, EET). Namenjeno je pomoči pri doseganju dobre prakse v izobraževanju in razvoju računovodskih strokovnjakov, saj zagotavlja jasne smernice, kako pristopiti k poučevanju etike. Uporaba obstoječega orodja je lahko učinkovit način za premagovanje težav, povezanih s pomanjkanjem časa (McNair & Milam, 1993), razpoložljivih gradiv (McNair & Milam, 1993) in strokovnega znanja (Dellaportas et al., 2014). V tem kontekstu smo obravnavali naslednji raziskovalni vprašnji:

*RQ4a: Kakšen je vpliv uporabe orodja EET na moralno presojo studentov?*

*RQ4b: Kako študenti zaznavajo izobraževanje z orodjem EET?*

## **UPORABLJENE ZNANSTVENORAZISKOVALNE METODE**

Da smo odgovorili na raziskovalna vprašanja, smo v doktorski disertaciji uporabili naslednje raziskovalne metode: pregled literature, vprašalnik in eksperiment.

Za pridobitev odgovora na prvo raziskovalno vprašanje smo opravili obsežen pregled literature. Za določitev razvoja teoretičnih pristopov na področju izobraževanja o etiki v računovodstvu (*RQ1a*) smo uporabili historiografijo, ki analizira kronološki razvoj raziskovalnega področja. Kot rezultat vizualno prikaže najpomembnejša dela in kako v času izhajajo eno iz drugega. Za drugi del prvega raziskovalnega vprašanja (*RQ1b*), identifikacija raziskovalnih sklopov, smo uporabili metodo bibliografske sklopljenosti, ki identificira in analizira posamezna raziskovalna podpodročja ter povezave med njimi. Za vpogled v vpliv računovodskih škandalov smo analizo izvedli ločeno za vsako od treh obdobj: obdobje pred, med in po večjih računovodskih škandalih. Za tretji del prvega raziskovalnega vprašanja (*RQ1c*) smo uporabili še eno od bibliometričnih metod, analizo sobesedila, katere rezultat je prikaz kontekstualnih značilnosti področja, obenem pa je edina metoda znotraj pregleda literature, ki kot vir za analizo uporablja besedilo člankov. Historiografija in bibliografska sklopljenost kot vir za analizo namreč uporabljata reference.

Uporabljena raziskovalna metoda za odgovor na drugo (*RQ2*) in tretje raziskovalno vprašanje (*RQ3*) je vprašalnik. Pri zbiranju podatkov smo študentom Ekonomske fakultete Univerze v Ljubljani razdelili vprašalnik večdimenzionalne etične lestvice (angl.

*Multidimensional Ethics Scale*, MES) (Cohen et al., 1998), ki sta ga prvotno razvila Reidenbach in Robin (1988, 1990). MES je vprašalnik, ki od anketirancev zahteva, da razkrijejo svoje motive za odločanje o etičnih dilemah. Motivi temeljijo na petih filozofskih konstrukcijskih (pravičnost, relativizem, egoizem, utilitarizem in kontraktualizem), ki predstavljajo moralno zavest. Anketiranci so vprašalnik izpolnili za osem vinjet, ki opisujejo etične dileme (za namene analize so razvrščene v tri skupine). Vinjete so razvili Cohen in drugi (2001) ter so bile uporabljene v številnih raziskavah, kot na primer v raziskavi Shawverjeve in Sennettija (2009). Zbiranju podatkov je sledila faktorska analiza, s katero smo vprašanja iz vprašalnika MES (12 vprašanj) povezali v skupine moralnih filozofij (5 filozofij). V zadnjem koraku smo podatke analizirali z regresijsko analizo, kjer stopnja zaznane etičnosti (moralne presoje) določenega moralno spornega dejanja predstavlja odvisno spremenljivko, preostale spremenljivke, povezane z moralnimi filozofijami, smerjo študija in letnikom študija, pa predstavljajo neodvisne spremenljivke. Poleg glavnih učinkov smo analizirali tudi vpliv interakcij med moralnimi filozofijami in smerjo ter letnikom študija.

Za pridobitev podatkov za četrto raziskovalno vprašanje (*RQ4*) smo izvedli eksperiment, kjer smo študente razdelili v dve skupini: eksperimentalno in kontrolno. Pred izvedbo eksperimenta so študenti v obeh skupinah izpolnili vprašalnik MES (enako kot za *RQ2* in *RQ3*), na podlagi rezultatov katerega smo potrdili, da ni razlik med skupinama pred samo izvedbo eksperimenta. Sledila je izvedba eksperimenta, kjer je eksperimentalna skupina obiskovala predavanja na temo izobraževanja o etiki, ki so sledila smernicam orodja EET, medtem ko se kontrolna skupina teh predavanj ni udeležila. Po končanem eksperimentu sta obe skupini še enkrat prejeli vprašalnik MES, tokrat skupaj s tremi vinjetami, ki opisujejo računovodske etične dileme; razvila sta jih Uddin in Gillett (2002). Zbrane podatke smo znova analizirali z regresijsko analizo, pri čemer je bila stopnja zaznane etičnosti (moralne presoje) določenega moralno spornega dejanja spet odvisna spremenljivka regresijskega modela, neodvisne spremenljivke pa so bile moralne filozofije in eksperimentalna skupina. Poleg glavnih učinkov smo znova preučili tudi interakcije med moralnimi filozofijami in eksperimentalno skupino. V vseh treh empiričnih študijah smo upoštevali tudi vpliv spola.

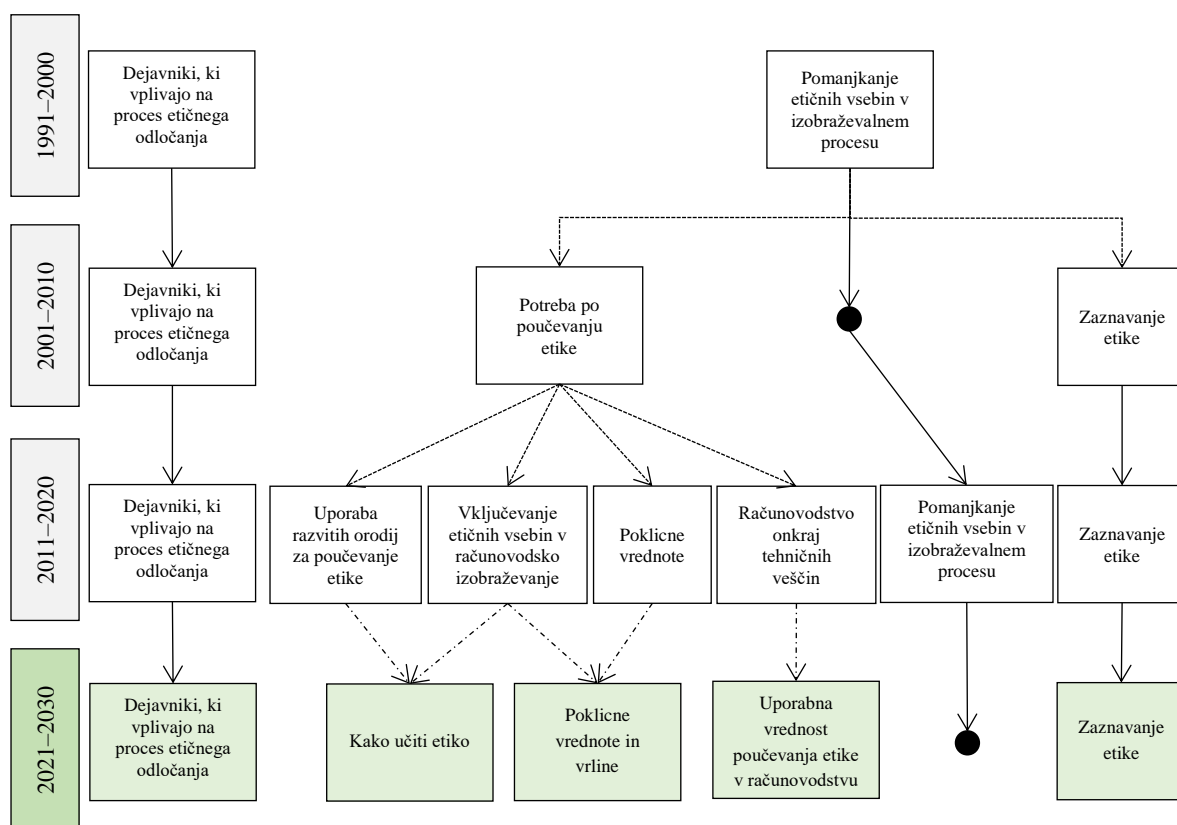
## GLAVNE UGOTOVITVE

Pregled obstoječih raziskav na področju izobraževanja o etiki v računovodstvu razkriva, da so bile na tem področju opravljene že številne raziskave. Razdelitev časovnega okvira študije na tri obdobja (pred, med in po večjih korporativnih računovodskih škandalih) nam je omogočila vpogled na vpliv korporativnih računovodskih škandalov na raziskovalno področje. Čeprav je bil pomen izobraževanja o etiki izpostavljen že pred korporativnimi računovodskimi škandali, se je število objavljenih člankov v obdobju po škandalih v primerjavi s prejšnjim obdobjem povečalo za kar štirikrat. Skupaj z naraščanjem števila člankov so se razvijali tudi raziskovalni sklopi. Kljub poudarjanju pomena izobraževanja o etiki pa to še vedno ni na želeni ravni, kar raziskovalci deloma pripisujejo pomanjkljivemu

znanju pedagogov (Dellaportas et al., 2014) in njihovi premajhni zavzetosti (Dellaportas et al., 2014; Gunz & McCutcheon, 1998).

Uspešnost izobraževanja o etiki je omejena, saj nanj vplivajo številni dejavniki. V vsakem od preučevanih obdobj so raziskovalci preučevali dodatne dejavnike, ki vplivajo na proces etičnega odločanja, med katerimi situacijski dejavniki postajajo vse pomembnejši. Obdobje korporativnih računovodskih škandalov je izrazito vplivalo na raziskovalni sklop *Potreba po poučevanju etike*, ki se je v zadnjem obdobju razvil v štiri raziskovalne sklope (Slika 1), in sicer *Uporaba razvitih orodij za poučevanje etike*, *Vključevanje etičnih vsebin v računovodsko izobraževanje*, *Poklicne vrednote* ter *Računovodstvo onkraj tehničnih veščin*. Za izboljšanje učinkovitosti izobraževanja o etiki bi morali pedagogi posebno pozornost nameniti zasnovi predmeta in njegovemu razvoju, predvsem v povezavi z vsebino in strukturo predmeta, uporabljenim gradivom ter metodami poučevanja, pri čemer raziskovalci dajejo prednost inovativnim metodam pred tradicionalnimi.

*Slika 1: Razvoj raziskovalnih sklopov na področju izobraževanja o etiki v računovodstvu in možnosti za prihodnji razvoj*



Legenda:

↓ Sklop se nadaljuje    ↓ Delitev sklopa    ● Sklop implodira    ↓ Transformacija sklopa

Vir: Povzeto po Poje & Zaman Groff (2021).

V empiričnem delu disertacije smo se osredotočili na dva od raziskovalnih sklopov, razvitih v zadnjem obdobju: *Dejavniki, ki vplivajo na proces etičnega odločanja* in *Uporaba razvitih orodij za poučevanje etike*. Znotraj dejavnikov, ki vplivajo na proces etičnega odločanja, smo se osredotočili na vpliv moralnih filozofij, predispozicij (ali imajo študenti računovodstva drugačne etične predispozicije kot študenti drugih poslovnih smeri) in računovodskega izobraževanja na moralno presojo. V povezavi z *Uporabo razvitih orodij za poučevanje etike* smo se odločili raziskati vpliv poučevanja z orodjem EET na moralno presojo. EET je orodje, ki je bilo razvito z namenom podpreti dobro prakso računovodskega izobraževanja in razvoja računovodske stroke. V vseh empiričnih študijah smo upoštevali tudi vpliv spola, saj je bil njegov pomen na raziskovalnem področju *Dejavniki, ki vplivajo na proces etičnega odločanja* izpostavljen kot pomemben v vseh treh preučevanih obdobjih. Medtem ko je večina študij o moralni presoji (Gill, 2010; Kara et al., 2016; Landry, 2004) osredotočena na raziskovanje glavnih učinkov, v disertaciji upoštevamo tudi interakcijske učinke, pri čemer rezultati kažejo, da interakcije ne vplivajo na vpliv glavnih učinkov spremenljivk, nudijo pa dodaten vpogled v raziskovalno področje.

Z empiričnimi raziskavami smo potrdili pozitiven vpliv moralnih filozofij (pravičnost, relativizem, egoizem, kontraktualizem in utilitarizem) na moralno presojo, kar kaže na to, da bolj ko se dejanje zazna kot pravično (pravičnost), sprejemljivo znotraj določenega konteksta (relativizem), ne krši obljub (kontraktualizem), spodbuja lastno korist (egoizem) in prinaša največ dobrega največjemu številu ljudi (utilitarizem), bolj je zaznano kot etično. Vplivi moralnih filozofij so odvisni od dilem, saj relativizem in kontraktualizem nista bila podlaga za moralno presojo v vseh dilemah.

Medtem ko glavni učinek razlik v predispozicijah študentov različnih študijskih smeri ni potrjen, interakcije potrjujejo, da določene razlike obstajajo, vendar le pri dilemah, povezanih z računovodstvom. Učinka kontraktualizma in egoizma na moralno presojo sta večja pri študentih računovodstva kot pri študentih drugih poslovnih smeri. Naša raziskava torej potrjuje, da študenti, ki se nameravajo vpisati na računovodsko smer, vrednotijo računovodske dileme z drugačnega stališča kot njihovi kolegi, ki se bodo vpisali na neračunovodske poslovne smeri. Glede na tehnično natančnost računovodij (Frémeaux et al., 2020) in zahteve po upoštevanju širokega nabora zakonov, predpisov in poklicnih standardov ni presenetljivo, da ima kontraktualizem večji vpliv na moralno presojo študentov računovodstva kot študentov drugih poslovnih smeri. Ta ugotovitev je skladna z argumentom, da se študenti z določenimi značilnostmi vpišejo na smer računovodstva.

Empirični del raziskave se nadaljuje z analiziranjem razvoja moralne presoje študentov od prvega do tretjega letnika dodiplomskega študija računovodstva. Študenti obeh letnikov so najbolj kritični do dilem, povezanih z upravljanjem dobička, saj se zavedajo nepošteno pridobljenih koristi in posledic takšnih dejanj. Kljub visoki kritičnosti pa rezultati, v nasprotju s pričakovanji, kažejo, da ob koncu študija študenti postanejo nekoliko manj kritični. Čeprav rezultati niso skladni s pričakovanji, so o podobnih rezultatih že poročali

nekateri raziskovalci. Raziskava Elias (2002) na primer kaže, da znanje in izkušnje povzročijo, da računovodje postanejo pri moralni presoji bolj popustljivi. Podobno raziskava Rosenzweiga in Fischerjeve (1994) potrjuje negativen vpliv izkušenj na moralno presoj dogodkov, povezanih z upravljanjem dobička. Interakcija med študijskim letom in kontraktualizmom pri računovodskih dilemah kaže, da se z leti študija vpliv kontraktualizma na moralno presoj zmanjša. Študenti prvega letnika, ki so sodelovali v naši raziskavi, so obiskovali le en (uvodni) predmet računovodstva, ki je bil usmerjen na obrazložitev osnovnih računovodskih konceptov. Bolj kot na celosten pogled računovodskega poklica, njegovega pomena in vpliva na različne deležnike je uvodni predmet usmerjen v razvoj računovodskih tehničnih veščin. Med študijem se študenti seznanijo s širšim pogledom na stroko, razpravljajo o aktualnih problematikah v računovodstvu in kritično ocenjujejo različne računovodske odločitve. Zaradi boljšega razumevanja družbenega konteksta pride do upada kontraktualizma.

Ker so za izboljšane moralne presoje študentov potrebne nadaljnje izboljšave v izobraževalnem procesu, smo v naslednjem koraku analizirali, ali lahko izboljšanje dosežemo s specifičnim izobraževanjem o etiki. Čeprav številni raziskovalci potrjujejo pozitiven učinek izobraževanja o etiki, ni bila predlagana nobena optimalna ali splošno uporabna metoda, kako pristopiti k takšnemu izobraževanju. V raziskavi smo se osredotočili na učinek uporabe orodja EET, ki se osredotoča na potencialne izzive, s katerimi se lahko soočajo računovodski strokovnjaki v praksi. Orodje EET je bilo razvito kot pomoč organom IFAC pri doseganju dobre prakse na področju izobraževanja o etiki v računovodstvu in usposabljanju strokovnjakov na vseh ravneh. Poučevanje z orodjem EET je zelo sistematično, natančno opredeljeno in praktično, kar je še posebej koristno za pedagoge brez predhodnih izkušenj, ki niso strokovnjaki na tem področju. Kot metodi poučevanja smo uporabili študijo primerov z aktivnim učenjem. Rezultati razkrivajo, da poučevanje etike z orodjem EET pozitivno vpliva na moralno presoj študentov. Študenti, ki so se udeležili izobraževanja, zaznavajo dileme bolj kritično (kot bolj neetične) v primerjavi s študenti, ki se izobraževanja niso udeležili. Izobraževanje z EET je učinkovito, saj študentom razširi obzorje in izboljša razumevanje posledic različnih dejanj. Izobraževanje vpliva tudi na učinek moralnih filozofij na moralno presoj. Kot je bilo pričakovano, poučevanje etike z orodjem EET zmanjša vpliv relativizma in utilitarizma na moralno presoj, kar je skladno s Kohlbergovimi stopnjami moralnega razvoja. Na konvencionalni stopnji Kohlbergovega (1969) moralnega razvoja posameznik poskuša ustreči svoji družini, partnerju in kolegom ter razmisli o učinku, ki ga ima določeno dejanje na družbo. Na višji stopnji razvoja pa posameznik razvije lastna etična načela, ki vključujejo bolj abstraktna načela in vrednote, neodvisna od družbe, s čimer se zmanjša vpliv relativizma in utilitarizma pri vrednotenju etičnosti dejanj.

Poučevanje etike z orodjem EET pomaga študentom pri prepoznavanju kršitev neizrečene obljube in nenapisane pogodbe kot neetičnega dejanja. Dodatno izobraževanje o etiki je študentom razširilo perspektivo neizrečene obljube in nenapisane pogodbe. K podobnemu

razmišljanju vodijo tudi izsledki raziskave Ellisa in Griffitha (2000), ki kažejo, da posamezniki pogosto ne prepoznajo kršitve nenapisanih pogodb. Naša raziskava potrjuje, da po specifičnem izobraževanju o etiki študentje bolje zaznavajo kršitve neizrečenih obljub in nenapisanih pogodb.

## **PRISPEVEK**

Skupaj s povečanim številom objavljenih člankov se povečuje tudi zanimanje za uporabo bibliometričnih analiz, saj so primerne za analiziranje velikega obsega podatkov. Bibliometrično analizo, ki je povezana z našim raziskovalnim področjem, je izvedel Uysal (2010), ki je ugotovil, da je izobraževanje o etiki v računovodstvu poseben raziskovalni sklop v okviru raziskav poslovne etike s poudarkom na računovodstvu. Omenjeni sklop smo podrobneje analizirali v disertaciji z uporabo historiografije, bibliografske sklopljenosti in analize sobesedila. Kolikor nam je znano, je to prvi pregled literature, ki temelji na bibliometrični analizi področja izobraževanja o etiki v računovodstvu, uporabljene bibliometrične metode pa uspešno premagujejo probleme subjektivnosti, povezane s pregledom literature.

Disertacija prispeva k razumevanju raziskovalnega področja izobraževanja o etiki v računovodstvu in poda dinamičen pogled razvoja tega področja v zadnjih treh desetletjih, ker se nenehno razvija. Rezultati kažejo, da se je akademska osredotočenost na to raziskovalno področje v vsakem desetletju povečala. Primarni motiv za povečan obseg raziskav pa so prav korporativni škandali. Med obdobji ni naraščalo le število objavljenih člankov, temveč tudi število različnih raziskovalnih sklopov. Prikaz nastalih vzorcev razvoja področja v povezavi z aktualnim dogajanjem v poslovnem okolju začrta možen prihodnji razvoj, saj nakazuje na manj razvite ali nerazvite raziskovalne sklope.

Obstoječe raziskave o vplivu študijske smeri (Beekun et al., 2017; Borkowski & Yusuf, 1992; Green & Weber, 1997; Sweeney & Costello, 2009) ali izobraževanja (Borkowski & Yusuf, 1992; Gautschi & Jones, 1998; Marques & Azevedo-Pereira, 2009; Ramirez & Palos-Sanchez, 2018; Rosati, Costa, Calabrese & Pedersen, 2018; Tormo-Carbó, Oltra, Seguí-Mas & Klimkiewicz, 2016) na moralno presojo se večinoma osredotočajo na glavne učinke in zanemarjajo učinke interakcij, kar bi lahko bil eden od možnih razlogov za neskladje rezultatov med obstoječimi študijami. Disertacija prispeva k teoriji s celovitim pristopom, saj so v analizo vključene tudi interakcije.

Poleg teoretičnih prispevkov disertacija ponuja tudi več pomembnih praktičnih prispevkov s področja izobraževanja o etiki. Če želimo povečati etičnost računovodij, je pomembno razumeti dejavnike, ki vplivajo na proces etičnega odločanja. Usklajevanje človekovih vrednot z etičnim vedenjem pred vstopom v poklic poveča verjetnost etičnega vedenja pri opravljanju poklica (McManus & Subramaniam, 2009). Pedagogi morajo razumeti značilnosti študentov, ki jih poučujejo. Kot je obrazloženo v disertaciji, imajo študenti računovodstva drugačne predispozicije glede etičnih dilem, povezanih z računovodstvom,



kot študenti drugih poslovnih smeri, saj je vpliv moralnih filozofij egoizma in kontraktualizma na moralno presojo pri študentih računovodstva večji.

Spremembe v izobraževanju so potrebne, ne le za ustrezno obravnavo etične krize, s katero se sooča računovodski poklic (Jackling et al., 2007), temveč tudi za zagotovitev praktičnih veščin in poklicne identitete kot dodatek tehničnemu znanju (Wilkerson Jr., 2010). Samo vključevanje etičnih vsebin v računovodski izobraževalni proces ni dovolj, temveč je treba jasno opredeliti cilje tovrstnega izobraževanja. Glavni cilj poučevanja etike bi moral biti izboljšanje moralne presoje študentov in doseganje višje ravni moralnega razvoja. Za čim večjo učinkovitost izobraževanja o etiki v računovodstvu bi se moralo izobraževanje osredotočiti na področja, kjer je največji razkorak med pričakovanji in realnostjo. Rezultati naše raziskave kažejo, da med izobraževalnim procesom študentje računovodstva postajajo bolj popustljivi pri moralni presoji dilem, povezanih z upravljanjem dobička. To nakazuje na potrebo po povečanju etične ozaveščenosti na tem področju.

Za doseganje ciljev morajo imeti pedagogi določena znanja in veščine (Fan et al., 2022). Etika je zapleten koncept, za poučevanje katerega ni enovitega in splošno uporabnega pristopa. Kot so že poudarili nekateri raziskovalci, so lahko razlogi za nedoseganje pričakovanj izobraževanja pomanjkanje etičnih vsebin v računovodskih študijskih gradivih (McNair & Milam, 1993; Tweedie et al., 2013), pomanjkanje usposobljenih pedagogov (Dellaportas et al., 2014), časovne omejitve (Dellaportas et al., 2014; McNair & Milam, 1993) in nezainteresiranost akademikov za to raziskovalno področje (Dellaportas et al., 2014; Gunz & McCutcheon, 1998). Določene omejitve so lahko odpravljene z uporabo že razvitih in preizkušenih orodij za poučevanje etike. V disertaciji smo preučili učinkovitost uporabe orodja EET v računovodskem izobraževanju. Rezultati obstoječih raziskav kažejo, da je aktivno učenje eden od učinkovitih načinov poučevanja etike, zato smo ga uporabili kot metodo za poučevanje. Poučevanje etike z uporabo orodja EET pozitivno vpliva na moralno presojo študentov, širi pogled na odgovornost in etično ravnanje študentov. Izbrano orodje ima pomembno dodatno praktično vrednost, saj je primerno tudi za pedagoge, ki menijo, da niso dovolj usposobljeni, da bi sami razvijali vsebine za izobraževanje o etiki ali pa za to nimajo dovolj časa.

## Appendix 2: MES comparison

*Table S 1: Comparison of 30, 12 and 8-item MES*

Item	Reidenbach and Robin (1988) 30–item MES	Cohen et al. (1998) 12–item MES	Reidenbach and Robin (1990) 8–item MES	
Results/Does not result in equal distribution of good and bad	J	N/A	N/A	
Just/Unjust		J	ME	
Fair/Unfair				
Not morally Right/Morally right	D	C	C	
Violates/Does not violate an unwritten contract				
Violates/Does not violate an unspoken promise		N/A	N/A	
Violates/Does not violate my ideas of fairness				
Obligated/Not obligated to act this way				
Duty bound to act this way	R	R	R	
Culturally acceptable/Unacceptable			ME	
Traditionally acceptable/Unacceptable		N/A	N/A	
Acceptable/Unacceptable to my family				
Acceptable/Unacceptable to people I most admire				
Individually acceptable/Unacceptable	U	U		
Produces the greatest/Least utility				
Maximizes/Minimizes benefits while minimizes/maximizes harm		N/A		
Efficient/Inefficient				
Okay if action is justified by results/Not okay of action is justified by results				
Compromises/Does not compromise an important rule by which I live				
On balance, tends to be good/Bad	E	E		
Leads to the greatest/Least good for the greatest number				
Results in positive/Negative cost-benefit ratio		N/A		
Maximizes/Minimizes pleasure				
Self-promoting/Not self-promoting				
Personally satisfying/Not personally satisfying				
Selfish/Not selfish				
Self-sacrificing/Not self-sacrificing				
Prudent/Not prudent				
Under no moral obligation to act otherwise/Morally obligated to act otherwise				
In the best interests of the company/Not in best interests of company				

*Note:* J-justice, R-relativism, C-contractualism, U-utilitarianism, E-egoism, ME-moral equity, D-deontology, N/A-not applicable

*Source:* Adapted from Reidenbach & Robin (1988, 1990) and Cohen et al. (1998).

### Appendix 3: MES questionnaire

*Table S 2: MES Questionnaire Developed by Cohen et al. (1998)*

Unjust	1	2	3	4	5	6	7	Just	
Unfair	1	2	3	4	5	6	7	Fair	
Not morally right	1	2	3	4	5	6	7	Morally right	
Not acceptable to my family	1	2	3	4	5	6	7	Acceptable to my family	
Culturally unacceptable	1	2	3	4	5	6	7	Culturally acceptable	
Traditionally unacceptable	1	2	3	4	5	6	7	Traditionally acceptable	
Not self-promoting for me	1	2	3	4	5	6	7	Self-promoting for me	
Not personally satisfying for me	1	2	3	4	5	6	7	Personally satisfying me	
Produces the least utility	1	2	3	4	5	6	7	Produces the greatest utility	
Minimizes benefits while maximizes harm	1	2	3	4	5	6	7	Maximizes benefits while minimizes harm	
Violates an unwritten contract	1	2	3	4	5	6	7	Does not violate an unwritten contract	
Violates an unspoken promise	1	2	3	4	5	6	7	Does not violate an unspoken promise	
The action described above is:	Ethical	1	2	3	4	5	6	7	Unethical

*Source: Cohen et al. (1998).*

#### Appendix 4: Dilemmas developed by Cohen (2001)

*Table S 3: Dilemmas Used in the Pre-dispositional, Educational-level and Experimental Pre-test Study*

Scenario	Moral dilemma	Action
<b>Layoff</b>	A firm has been hard hit by recessionary times and the partners realize that they must scale back. An analysis of productivity suggests that the person most likely to be terminated is a long time employee with a history of absenteeism due to illness in the family.	Instead, the partner in charge lays off a younger, but very competent, recent hire.
<b>Product safety</b>	A company has just introduced a highly successful new kitchen appliance. The sales manager, who is paid partly on a commission basis, discovers that there has been insufficient product testing to meet government guidelines. The tests so far indicate no likelihood of any safety problem.	The sales manager continues to promote the product.
<b>Bribe</b>	A manager of a company is eager to do more business abroad and has been requested to make an undisclosed cash payment to a local distributor in a foreign country. The payment is requested as a “goodwill gesture” that will allow the company to introduce its products in that foreign country. This practice is considered normal business procedure in that country, and no laws prohibit such a payment there.	The manager verbally authorizes the payment.
<b>Software</b>	The owner of a local small business, which is currently in financial difficulty, approaches a long-time friend to borrow and copy a proprietary database software package which will be of great help in generating future business. The software package retails for \$500.	The friend loans the software package.
<b>Early shipment</b>	A manager realizes that the projected quarterly sales figures will not be met, and thus the manager will not receive a bonus. However, there is a customer order which if shipped before the customer needs it will ensure the quarterly bonus but will have no effect on the annual sales figures.	The manager ships the order to ensure earning the quarterly sales bonus.
<b>Loan</b>	A promising start-up company applies for a loan at a bank. The credit manager at the bank is a friend of and frequently goes golfing with the Company’s owner. Because of this company’s short credit history, it does not meet the bank’s normal lending criteria.	The credit manager recommends extending the loan.
<b>Gifts</b>	A salesman, the father of two small children, has been promoted to a job in what he has to travel away from home for the firm on a regular basis. Because the trips are frequent and inconvenience his family life, he is contemplating charging some small personal expenses while traveling for the company. He has heard that this is common practice in the company.	The salesman charges the company \$50 for family gifts.
<b>Bad debt</b>	The CEO of a company requests the controller to reduce the estimate for bad debts in order to increase reported income, arguing that this is common practice in the industry when times are hard. Historically, the company made very conservative allowances for doubtful accounts, even in bad years. The CEO’s request would make it one of the least conservative in the industry.	The controller makes the adjustment.

*Source: Cohen et al. (2001).*

## Appendix 5: MES factors for ethical predisposition study

*Table S 4: MES and Its Respective Rotated Factor Loadings, Representing Moral Philosophies for Ethical Predisposition Study*

Items		Rotated factor loadings				
		J	R	C	U	E
Q1	Just	<b>0.789</b>	0.264	0.243	0.200	0.151
Q2	Fair	<b>0.847</b>	0.241	0.271	0.154	0.116
Q3	Morally right	<b>0.682</b>	<b>0.424</b>	0.274	0.086	0.094
Q4	Acceptable to my family	<b>0.543</b>	<b>0.498</b>	0.192	0.183	0.171
Q5	Culturally acceptable	0.338	<b>0.822</b>	0.194	0.118	0.141
Q6	Traditionally acceptable	0.292	<b>0.748</b>	0.210	0.097	0.147
Q7	Self-promoting for me	0.071	0.098	0.072	0.158	<b>0.593</b>
Q8	Personally satisfying me	0.138	0.119	0.029	0.258	<b>0.718</b>
Q9	Produces the greatest utility	0.109	0.091	0.048	<b>0.789</b>	0.333
Q10	Maximizes benefits while minimizes harm	0.208	0.128	0.185	<b>0.750</b>	0.211
Q11	Does not violate an unwritten contract	0.280	0.212	<b>0.844</b>	0.088	0.047
Q12	Does not violate an unspoken promise	0.273	0.198	<b>0.805</b>	0.149	0.095
Cronbach's $\alpha$		0.92	0.87	0.90	0.83	0.67

*Note:* J-justice, R-relativism, C-contractualism, U-utilitarianism, E-egoism. Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations. Factor Scores Method: Anderson-Rubin. Factor loadings greater than 0.40 appear in bold (Field, 2009).

*Source: Own work.*

## Appendix 6: MES factors for ethical predisposition study without Q4

*Table S 5: MES and Its Respective Rotated Factor Loadings, Representing Moral Philosophies for Ethical Predisposition Study without Q4*

Items		Rotated factor loadings				
		J	C	R	U	E
Q1	Just	<b>0.789</b>	0.248	0.273	0.205	0.158
Q2	Fair	<b>0.867</b>	0.268	0.243	0.155	0.119
Q3	Morally right	<b>0.652</b>	0.290	<b>0.416</b>	0.094	0.097
Q5	Culturally acceptable	0.335	0.200	<b>0.808</b>	0.112	0.146
Q6	Traditionally acceptable	0.277	0.210	<b>0.771</b>	0.102	0.146
Q7	Self-promoting for me	0.070	0.067	0.095	0.154	<b>0.613</b>
Q8	Personally satisfying me	0.125	0.033	0.110	0.271	<b>0.691</b>
Q9	Produces the greatest utility	0.100	0.044	0.083	<b>0.806</b>	0.324
Q10	Maximizes benefits while minimizes harm	0.200	0.189	0.118	<b>0.739</b>	0.211
Q11	Does not violate an unwritten contract	0.276	<b>0.838</b>	0.211	0.087	0.046
Q12	Does not violate an unspoken promise	0.264	<b>0.818</b>	0.190	0.150	0.092
Cronbach's $\alpha$		0.92	0.90	0.88	0.83	0.65

*Note:* J-justice, C-contractualism, R-relativism, U-utilitarianism, E-egoism. Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations. Factor Scores Method: Anderson-Rubin. Factor loadings greater than 0.40 appear in bold (Field, 2009).

*Source: Own work.*

## Appendix 7: 8-item MES factors for ethical predisposition study for Reidenbach and Robin (1990) scale

*Table S 6: 8-item MES and Its Respective Rotated Factor Loadings, Representing Moral Philosophies for Ethical Predisposition Study*

Items		Rotated factor loadings		
		ME	R	C
Q1	Just	<b>0.806</b>	0.307	0.273
Q2	Fair	<b>0.855</b>	0.273	0.294
Q3	Morally right	<b>0.662</b>	<b>0.448</b>	0.292
Q4	Acceptable to my family	<b>0.547</b>	<b>0.535</b>	0.219
Q5	Culturally acceptable	0.325	<b>0.841</b>	0.209
Q6	Traditionally acceptable	0.276	<b>0.772</b>	0.223
Q11	Does not violate an unwritten contract	0.263	0.219	<b>0.843</b>
Q12	Does not violate an unspoken promise	0.268	0.212	<b>0.829</b>

*Note:* ME-moral equity, R-relativism, C-contractualism, Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations. Factor Scores Method: Anderson-Rubin. Factor loadings greater than 0.40 appear in bold (Field, 2009).

*Source: Own work.*

## Appendix 8: Graphical representation of descriptive statistics for ethical predisposition study

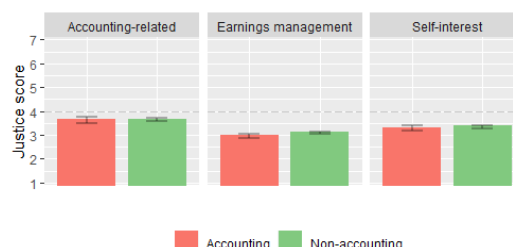
Figure S 1: Descriptive Statistics of Moral Judgment by Study Major



Note: \*  $p < 0.05$  indicates significant differences in the moral judgment between accounting and non-accounting business students in *earnings management* moral dilemmas,  $t(391) = 2.11$ ,  $p = 0.035$ .

Source: Own work.

Figure S 2: Descriptive Statistics of Justice by Study Major



Source: Own work.

Figure S 3: Descriptive Statistics of Relativism by Study Major



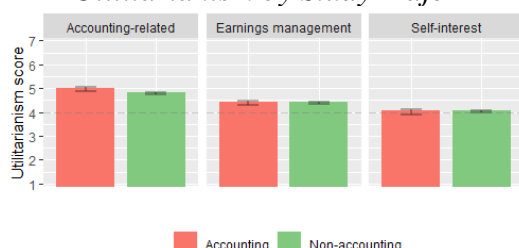
Source: Own work.

Figure S 4: Descriptive Statistics of Egoism by Study Major



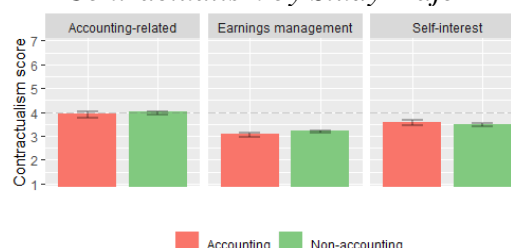
Source: Own work.

Figure S 5: Descriptive Statistics of Utilitarianism by Study Major



Source: Own work.

Figure S 6: Descriptive Statistics of Contractualism by Study Major



Source: Own work.

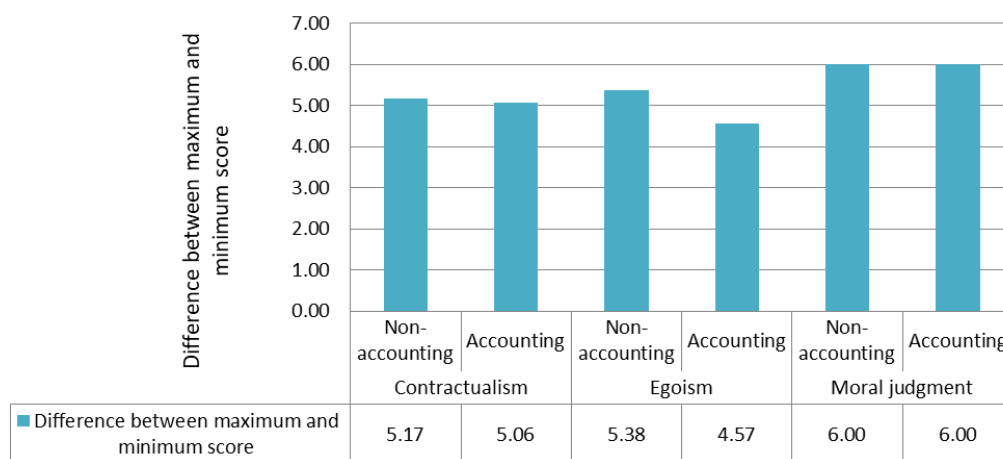


## Appendix 9: Additional analysis explaining significant interaction effects for ethical predisposition study

Hypotheses testing show significant interaction effects between study major and moral philosophies egoism and contractualism on moral judgment for *accounting-related* dilemmas. A change in the egoism and contractualism score implies a larger impact on moral judgment for accounting students than for non-accounting business students. For the two significant interaction effects from Model 2M, we conduct an additional analysis. Since factor scores for moral philosophies were used in the regression analysis, we perform an additional analysis based on the factor scores.

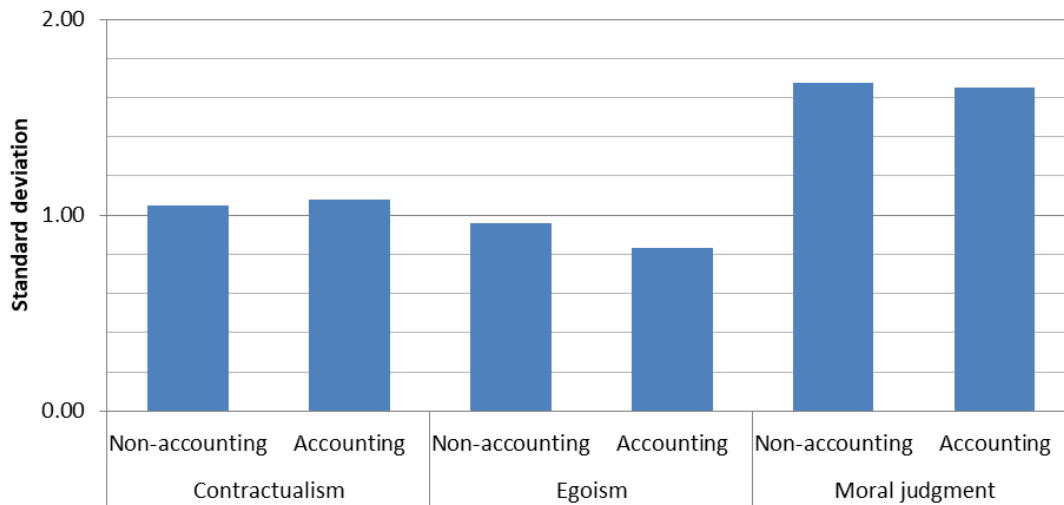
Students in both study major groups made similarly scattered decisions (difference between minimum and maximum score) on contractualism and moral judgment (Figure S 7). For the egoism score, it can be observed that the accounting students have a lower dispersion in their decisions, varying between the minimum score of -2.52 and the maximum score of 2.05, while the scores of the non-accounting business students vary between the minimum score of -2.94 and the maximum score of 2.44. A large range indicates a more dispersed data set. The range is the simplest measure of dispersion, while standard deviation is the most commonly used measure of dispersion. The results remain similar also when standard deviation is used (Figure S 8).

*Figure S 7: Differences between Minimum and Maximum Value of Variables by Study Major*



*Source: Own work.*

Figure S 8: Standard Deviation of Variables by Study Major



Source: Own work.

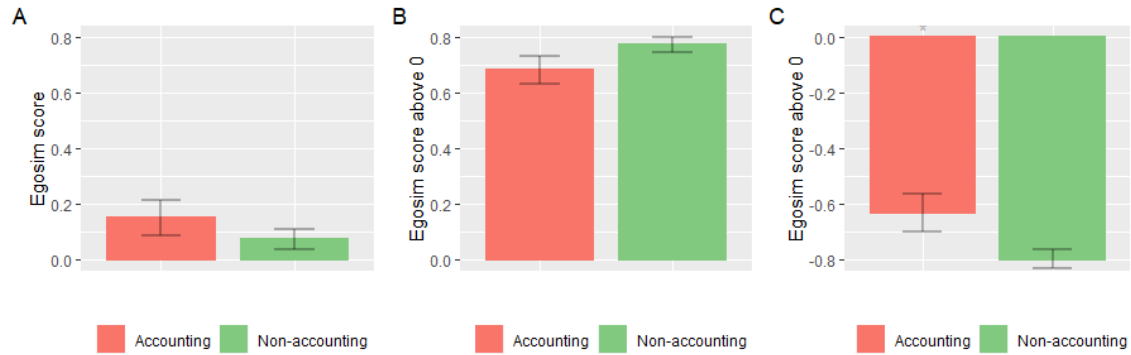
The mean score of egoism was positive for students in both study majors ( $M_{accounting} = 0.15$ ;  $M_{non-accounting} = 0.07$ ) (Figure S 9 A). The positive egoism factor scores represent a morally questionable action that promotes self-interest.

For each significant interaction, we split the sample based on the neutral value of moral philosophy. The neutral value for moral philosophies is 0 based on factor scores. Next, for each sample, we compare moral philosophy scores between study majors.

When the egoism factor score is above 0 (self-promoting), the mean factor score of accounting students is 11.9% lower (Figure S 9 B) and the mean moral judgment score is 2.5% lower than that of non-accounting business students (Figure S 10 B). When the egoism factor score is below 0 (not self-promoting), the mean factor score of accounting students is 20.9% higher (Figure S 9 C) than that of non-accounting business students, while the mean moral judgment score is similar (Figure S 10 C). This confirms that a change in the egoism score has a greater effect on moral judgment for accounting students than of non-accounting business students.

The mean moral judgment is lower by 8.2% when the egoism score is negative for accounting students compared to when the egoism score is positive, and 5.9% lower for non-accounting business students (Figure S 10 B and C).

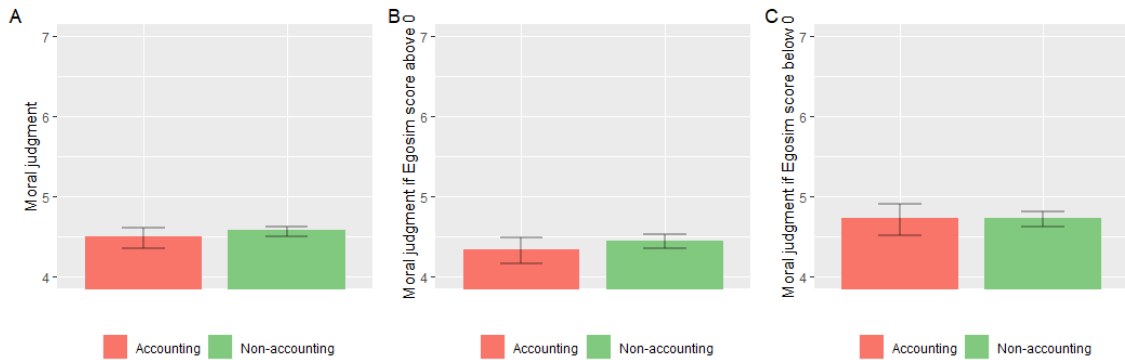
Figure S 9: Mean Egoism Factor Score by Study Major for Accounting-Related Dilemmas



Source: Own work.

Note: \*  $p < 0.05$  indicates significant differences (if egoism score is negative) in the egoism score between accounting and non-accounting business students in the *accounting-related* moral dilemmas,  $t(102) = 2.18$ ,  $p = 0.032$ .

Figure S 10: Mean Moral Judgment Score by Study Major for Accounting-Related Dilemmas



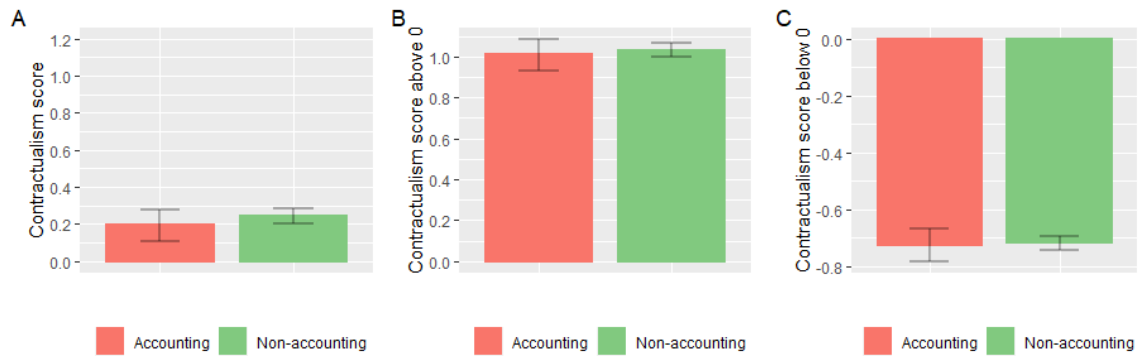
Source: Own work.

The mean moral judgment is 23.1% lower when the contractualism score is negative for accounting students compared to when the contractualism score is positive, and 26.2% lower for non-accounting business students (Figure S 12 B and C).

A change in the contractualism score has a greater influence on moral judgment for accounting students than for non-accounting business students. When the contractualism factor score is above 0 (not violating promises), the mean contractualism factor score is 2.2% lower for accounting students (Figure S 11 B) and the mean moral judgment score is 0.2% lower compared to non-accounting business students (Figure S 12 B). When the contractualism factor score is below 0 (violating promises), the mean contractualism factor score is 1.0% lower for accounting students (Figure S 11 C) and the mean moral judgment score is 4.2% lower compared to non-accounting business students (Figure S 12 C). This

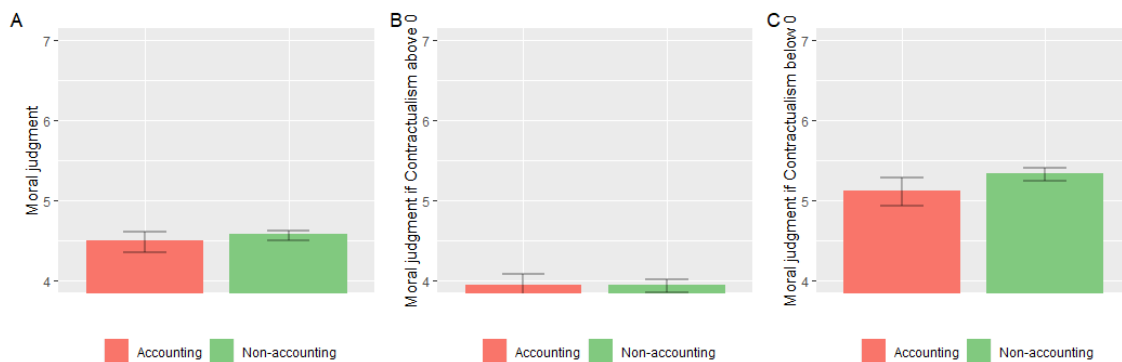
confirms that a change in the contractualism score implies a greater impact on the moral judgment for accounting students than for non-accounting business students.

*Figure S 11: Contractualism Factor Score by Study Major for Accounting-Related Dilemmas*



*Source: Own work.*

*Figure S 12: Moral Judgment Score by Study Major for Accounting-Related Dilemmas*



*Source: Own work.*

## Appendix 10: Differences in the results for ethical predisposition study based on calculation of moral philosophies

Table S 7: Comparison of Results for Ethical Predisposition Study Based on Differences in Calculation of Moral Philosophies

Moral judgment Model 2M	Three types of moral dilemmas					
	Accounting-related		Earnings management		Self-interest	
	Factor scores <sup>1</sup>	Means <sup>2</sup>	Factor scores <sup>1</sup>	Means <sup>2</sup>	Factor scores <sup>1</sup>	Means <sup>2</sup>
Major						
Justice	***	***	***	***	***	***
Relativism	***	***	***	***	***	***
Egoism	**		*	***	***	
Utilitarianism	***		***		***	**
Contractualism	***	***	***	***	***	***
Gender						
Major × Justice						
Major × Relativism						
Major × Egoism	*					
Major × Utilitarianism						
Major × Contractualism	*	*				
R <sup>2</sup>	0.652	0.650	0.666	0.666	0.589	0.588

Note: <sup>1</sup> Moral philosophies are calculated as factor scores, <sup>2</sup> Moral philosophies are calculated as means.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Source: Own work.

## Appendix 11: MES factors for accounting education study

*Table S 8: MES and Its Respective Rotated Factor Loadings, Representing Moral Philosophies for Accounting Education Study*

Items		Rotated factor loadings				
		J	R	C	U	E
Q1	Just	<b>0.809</b>	0.236	0.236	0.196	0.139
Q2	Fair	<b>0.851</b>	0.233	0.275	0.144	0.087
Q3	Morally right	<b>0.719</b>	<b>0.417</b>	0.260	0.059	0.079
Q4	Acceptable to my family	<b>0.536</b>	<b>0.485</b>	0.206	0.193	0.190
Q5	Culturally acceptable	0.352	<b>0.848</b>	0.186	0.104	0.115
Q6	Traditionally acceptable	0.279	<b>0.766</b>	0.209	0.061	0.179
Q7	Self-promoting for me	0.042	0.104	0.085	0.144	<b>0.541</b>
Q8	Personally satisfying me	0.151	0.110	-0.003	0.278	<b>0.707</b>
Q9	Produces the greatest utility	0.106	0.062	0.046	<b>0.774</b>	0.369
Q10	Maximizes benefits while minimizes harm	0.186	0.107	0.160	<b>0.784</b>	0.198
Q11	Does not violate an unwritten contract	0.298	0.204	<b>0.850</b>	0.080	0.043
Q12	Does not violate an unspoken promise	0.285	0.207	<b>0.830</b>	0.144	0.097
Cronbach's $\alpha$		.92	.88	.92	.83	.61

*Note:* J-justice, R-relativism, C-contractualism, U-utilitarianism, E-egoism. Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations. Factor Scores Method: Anderson-Rubin. Factor loadings greater than 0.40 appear in bold (Field, 2009).

*Source: Own work.*

## Appendix 12: MES factors for accounting education study without Q4

*Table S 9: MES and Its Respective Rotated Factor Loadings, Representing Moral Philosophies for Accounting Education Study without Q4*

Items		Rotated factor loadings				
		J	C	R	U	E
Q1	Just	<b>0.807</b>	0.240	0.242	0.199	0.142
Q2	Fair	<b>0.858</b>	0.277	0.237	0.144	0.091
Q3	Morally right	<b>0.691</b>	0.272	<b>0.419</b>	0.063	0.084
Q5	Culturally acceptable	0.354	0.196	<b>0.821</b>	0.113	0.115
Q6	Traditionally acceptable	0.270	0.207	<b>0.796</b>	0.071	0.179
Q7	Self-promoting for me	0.035	0.084	0.099	0.140	<b>0.564</b>
Q8	Personally satisfying me	0.147	0.007	0.098	0.297	<b>0.679</b>
Q9	Produces the greatest utility	0.090	0.044	0.057	<b>0.790</b>	0.360
Q10	Maximizes benefits while minimizes harm	0.175	0.160	0.098	<b>0.777</b>	0.189
Q11	Does not violate an unwritten contract	0.290	<b>0.850</b>	0.200	0.079	0.041
Q12	Does not violate an unspoken promise	0.275	<b>0.838</b>	0.196	0.142	0.092
Cronbach's $\alpha$		0.92	0.92	0.90	0.83	0.61

*Note:* J-justice, C-contractualism, R-relativism, U-utilitarianism, E-egoism. Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations. Factor Scores Method: Anderson-Rubin. Factor loadings greater than 0.40 appear in bold (Field, 2009).

*Source: Own work.*

## Appendix 13: Graphical representation of descriptive statistics for accounting education study

Figure S 13: Descriptive Statistics of Moral Judgment by Study Year



Source: Own work.

Figure S 14: Descriptive Statistics of Justice by Study Year



Source: Own work.

Figure S 15: Descriptive Statistics of Relativism by Study Year



Source: Own work.

Figure S 16: Descriptive Statistics of Egoism by Study Year



Note: \*  $p < 0.05$  indicates significant differences in the egoism mean score between first- and third-year students in accounting-related moral dilemmas,  $t(354) = 2.43$ ,  $p = 0.016$ .

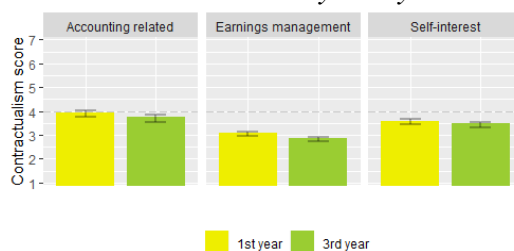
Source: Own work.

Figure S 17: Descriptive Statistics of Utilitarianism by Study Year



Source: Own work.

Figure S 18: Descriptive Statistics of Contractualism by Study Year



Source: Own work.

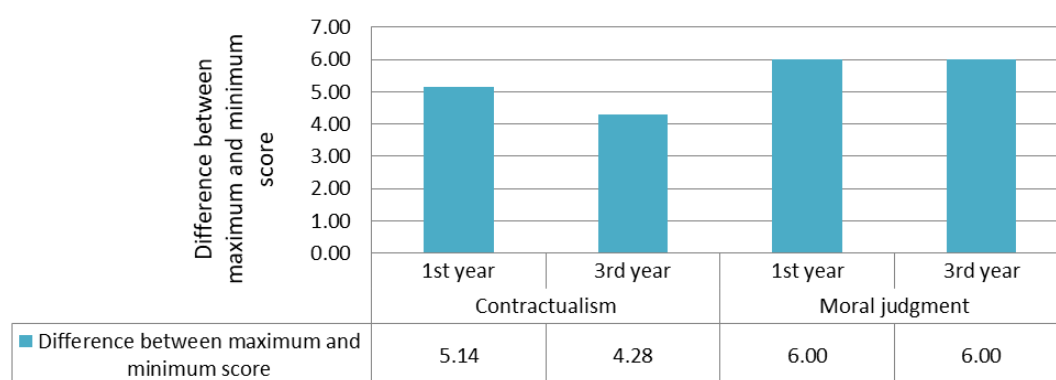


## Appendix 14: Additional analysis explaining significant interaction effect for accounting education study

Hypotheses testing shows a significant interaction effect between study year and moral philosophy contractualism on moral judgment for *accounting-related* dilemmas. A change in the contractualism score implies a smaller impact on the moral judgment for third-year than for first-year students. For this significant interaction effect from Model 2Y, we conduct an additional analysis. We split the sample based on the neutral value of moral philosophy contractualism. The neutral value for moral philosophies is 4 based on mean scores and 0 based on factor scores. Since factor scores for moral philosophies were used in the regression analysis, we perform an additional analysis based on the factor scores.

First-year students have a greater dispersion in their decisions, with the contractualism factor score varying between the minimum score of -2.08 and the maximum score of 3.06, while the scores of the third-year students vary between the minimum score of -1.77 and the maximum score of 2.51 (Figure S 19).

*Figure S 19: Differences between Minimum and Maximum Value of Variables by Study Year*



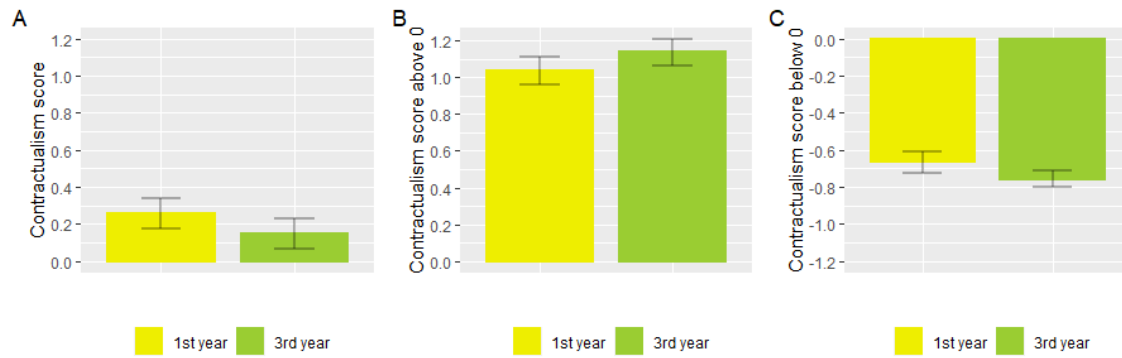
*Source: Own work.*

The mean score of contractualism was positive in both groups ( $M_{1st\ year} = 0.26$ ,  $M_{3rd\ year} = 0.15$ ) (Figure S 20 A). The positive contractualism factor scores represent a morally questionable action that is not perceived as a violation of promises.

Next, we perform a separate analysis based on the evaluation of the contractualism factor score. When the contractualism factor score is above 0 (not violating promises), the mean factor score of first-year students is 8.9% lower (Figure S 20 B) and the mean moral judgment score is 4.3% lower than that of third-year students (Figure S 21 B). When the contractualism factor score is below 0 (violating promises), the mean factor score of first-year students is 12.0% higher (Figure S 20 C) than that of third-year students and the mean moral judgment score is 4.4% lower than that of third-year students (Figure S 21 C). This

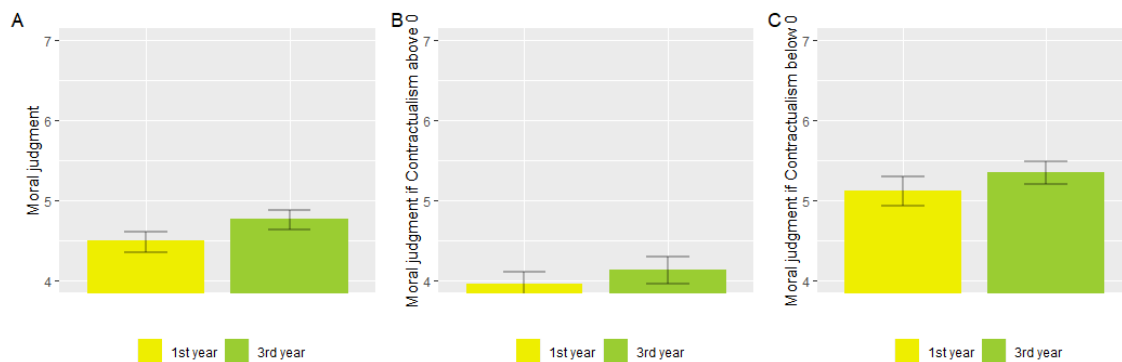
confirms that a change in the contractualism score implies a smaller impact on the moral judgment for third-year than for first-year students.

*Figure S 20: Mean Contractualism Factor Score by Study Year for Accounting-Related Dilemmas*



*Source: Own work.*

*Figure S 21: Mean Moral Judgment Score by Study Year for Accounting-Related Dilemmas*



*Source: Own work.*

## Appendix 15: Five cases in EET

EET consists of five cases. The following descriptions accompany each of the cases (IAESB, 2015):

1. *What a plan*: Martin has asked Sally to prepare a financial report for Mary Cappella, a retired librarian, and one of Martin's clients. The information which Sally has received about Miss Cappella tells her that her assets include a \$200,000 Insurance Bond purchased the previous year. Martin has told Sally that Miss Cappella needs income and wishes to withdraw from the Insurance Bond to invest instead in an Immediate Annuity. Martin's briefing sets out a plausible reasoning for this strategy. Sally does not believe that the Insurance Bond was an appropriate investment for someone like Miss Cappella, due to her age and small income. She suspects that Martin is giving inappropriate investment advice and is recommending clients to restructure their portfolios unnecessarily. Sally knows of at least six other cases where similar recommendations were made. Sally takes her suspicions to the General Manager Operations and is told "Martin was our biggest writer of business last year. He generated brokerage and fees of over \$500,000. We want to encourage him". He says he is happy to transfer Sally, if she doesn't like working with Martin. Sally Wise is concerned that her suspicions are correct and that she may be regarded as a party to Martin's actions. Furthermore, should these practices be encouraged by Dollar Planning, Sally is worried that Dollar Planning could lose its Dealer's License.
2. *What a waste*: George Kostas, the Financial Controller/Company Secretary, has been closely involved from the start in the plans to list the company. He has received from an unknown source what appears to be indisputable evidence that a company employee, Fred Smith, who drives one of the company's specialized transporters carrying toxic waste, has been dumping the waste in remote storm water drains. The waste was supposed to be delivered to Waste Away Limited for treatment. In spite of non-delivery of the waste, Waste Away had still charged Clean Up its usual processing cost. It appears that this practice has been taking place over a number of months and that serious environmental damage was likely to have occurred in the local wetlands into which the storm water drains eventually flow. George Kostas has secretly visited the wetlands. To his untrained eye, there did seem to be signs of contamination. His estimation of restoration costs was necessarily imprecise, but due to the size of the area potentially damaged, it appeared the costs could run into millions of dollars. The local authorities appeared unaware of the potential problem. George Kostas takes John Franklin, the Managing Director, to the wetlands and explains the position to him in detail. John is concerned. He instructs that confidential investigations begin immediately to establish whether the information held by George is factually correct. The target date for completion of this investigation is six weeks. George is concerned that the share float should be delayed pending the outcome of the investigation, but John seems reluctant to do this.

3. *Country practice*: Stephanie has completed the tax return of Charlie Walters, a long-standing client of the firm. During her review and return preparation work, she noticed that several items were incorrect in the calculation of inventory and depreciation. Stephanie recalculated the tax return and accounting entries and the effect was a large increase in income tax payable. Stephanie also has suspicions that the same sort of “errors” have occurred in previous years. Stephanie documents her findings in preparation for Frank’s review. Stephanie subsequently finds that no changes were made to the tax return when it was lodged. She raises this with Frank who tells her that he knows what he is doing, his clients trust him and she should not worry about it.
4. *No control*: In completing the work program, John finds a number of items that concern him. The audit programs don’t require follow up or investigation of these items; however, John can’t help himself. He believes in his role as internal auditor and proceeds to investigate the items. The items of concern relate to inventory controls and cash. John aims to find out the facts before raising the matter further with Adam Smith. John documents his findings. At a workshop inspection, he notices that controls over inventory requisitions are poor, leading to serious concerns over the accuracy of financial records. Although the organization is large, the potential for material differences worries John. During another audit, he finds cash records are incomplete and funds missing. John raises his findings with the individual responsible who is unable to provide a satisfactory explanation. John completes his draft report ready for Adam’s review. Adam is disturbed by John’s findings and is unhappy with John for pursuing items outside of the audit program. Adam tells John not to concern himself further with the matters he found and that he (Adam) will take the appropriate action. In the draft monthly report of audit activity prepared for senior management, John notices that Adam has not raised his findings at all. Concerned at the omission, John confronts Adam who reminds him of the earlier discussion. John is uncertain of what his next steps should be.
5. *A new job*: In the course of the review for the valuation, Sam noticed there were a number of discrepancies in the accounts. When he spoke with Mary, she mentioned she and Joe had been in the habit of taking \$500 per week cash from the store and not depositing it in the company’s bank account. She alleged this was an arrangement set up by Smith Partners. Additionally, Sam noticed the accounts were not prepared in conformity with applicable accounting standards and in fact the income tax return appeared to overstate the taxable income, based on the accounts prepared. Sam is not sure what to do about the errors in the accounts, the error in taxable income and the \$500 per week not included in the company bank account. Additionally, he is not sure what income to use as a base for the purpose of preparing his valuation.

## Appendix 16: Dilemmas developed by Uddin and Gillett (2002)

*Table S 10: Dilemmas Used in the Experimental Post-test*

<b>Scenario</b>	<b>Moral dilemma</b>	<b>Action</b>
<b>Moderating revenues</b>	It appears the revenues of the company will fall below analyst predictions and company projections. Release of these numbers is likely to cause a significant drop in the company's stock price.	It occurs to you that you can moderate the effect of this large dip in revenues by recording in December a small amount of revenue on account that the company will earn in January. The contracts for these jobs have already been signed and the work will be completed in January.
<b>Reclassifying assets</b>	Changes in market demand have made it difficult for the company to attract new customers and as a result the current ratio has changed unfavourably. As things stand, the company has broken some debt covenants because of the unfavourable change in the current ratio.	Other managers have suggested maintaining a favourable current ratio by reclassifying some long-term marketable securities as short-term assets, even though the company has no intention of converting the assets into cash within the next year.
<b>Hiding information</b>	The legal department is concerned that several outstanding lawsuits are pending and some may need to be settled within the next year. The company's legal staff has determined that a number of legal issues may lead to material losses for the company. Disclosing this information will increase perceived firm risk and may cause a substantial negative stock market reaction.	Other managers have suggested not reporting most or all of this contingent liability to moderate or prevent the negative market reaction.

*Source: Uddin & Gillett (2002).*

## Appendix 17: MES factors for ethics education study

*Table S 11: MES and Its Respective Rotated Factor Loadings, Representing Moral Philosophies for Ethics Education Study*

Items		Rotated factor loadings				
		J	R	C	U	E
Q1	Just	<b>0.893</b>	0.138	0.223	0.095	0.123
Q2	Fair	<b>0.865</b>	0.126	0.255	0.124	-0.022
Q3	Morally right	<b>0.765</b>	0.321	0.212	0.128	-0.055
Q4	Acceptable to my family	<b>0.532</b>	<b>0.400</b>	0.241	0.292	-0.034
Q5	Culturally acceptable	0.300	<b>0.740</b>	0.128	0.127	0.166
Q6	Traditionally acceptable	0.191	<b>0.815</b>	0.139	0.140	0.215
Q7	Self-promoting for me	0.005	0.206	0.059	0.210	<b>0.576</b>
Q8	Personally satisfying me	-0.040	0.254	0.171	<b>0.518</b>	0.312
Q9	Produces the greatest utility	0.147	0.035	0.126	<b>0.817</b>	0.121
Q10	Maximizes benefits while minimizes harm	0.341	0.168	0.200	<b>0.549</b>	0.087
Q11	Does not violate an unwritten contract	0.337	0.184	<b>0.790</b>	0.193	0.044
Q12	Does not violate an unspoken promise	0.352	0.139	<b>0.805</b>	0.248	0.120
Cronbach's $\alpha$		.93	.80	.90	.70	.53

*Note:* J-justice, R-relativism, C-contractualism, U-utilitarianism, E-egoism. Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations. Factor Scores Method: Anderson-Rubin. Factor loadings greater than 0.40 appear in bold (Field, 2009).

*Source: Own work.*

## Appendix 18: MES factors for ethics education study without Q4

*Table S 12: MES and Its Respective Rotated Factor Loadings, Representing Moral Philosophies for Ethics Education Study without Q4*

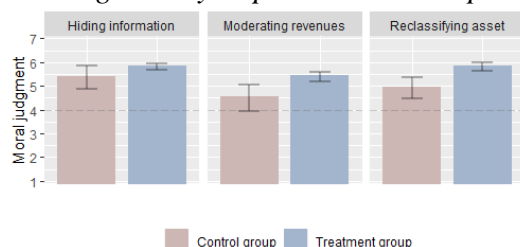
Items		Rotated factor loadings				
		J	C	R	U	E
Q1	Just	<b>0.887</b>	0.230	0.154	0.104	0.102
Q2	Fair	<b>0.877</b>	0.257	0.138	0.132	-0.040
Q3	Morally right	<b>0.748</b>	0.224	0.313	0.125	-0.039
Q5	Culturally acceptable	0.290	0.132	<b>0.765</b>	0.132	0.139
Q6	Traditionally acceptable	0.184	0.147	<b>0.807</b>	0.145	0.196
Q7	Self-promoting for me	0.007	0.059	0.200	0.197	<b>0.648</b>
Q8	Personally satisfying me	-0.043	0.180	0.264	<b>0.508</b>	0.289
Q9	Produces the greatest utility	0.140	0.121	0.037	<b>0.872</b>	0.095
Q10	Maximizes benefits while minimizes harm	0.328	0.218	0.162	<b>0.515</b>	0.112
Q11	Does not violate an unwritten contract	0.333	<b>0.776</b>	0.187	0.196	0.034
Q12	Does not violate an unspoken promise	0.340	<b>0.830</b>	0.136	0.238	0.119
Cronbach's $\alpha$		.93	.91	.85	.70	.53

*Note:* J-justice, C-contractualism, R-relativism, U-utilitarianism, E-egoism. Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations. Factor Scores Method: Anderson-Rubin. Factor loadings greater than 0.40 appear in bold (Field, 2009).

*Source: Own work.*

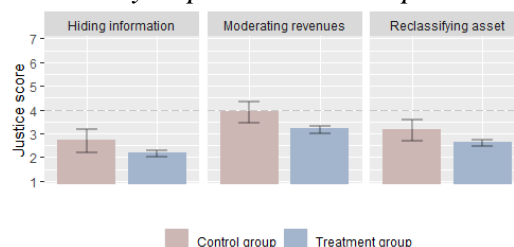
## Appendix 19: Graphical representation of descriptive statistics for ethics education study

Figure S 22: Descriptive Statistics of Moral Judgment by Experimental Group



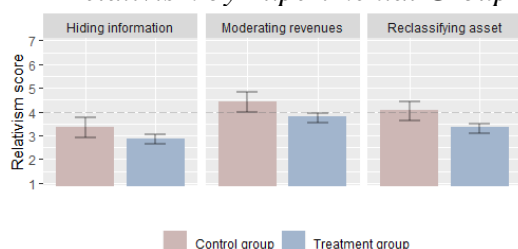
Source: Own work.

Figure S 23: Descriptive Statistics of Justice by Experimental Group



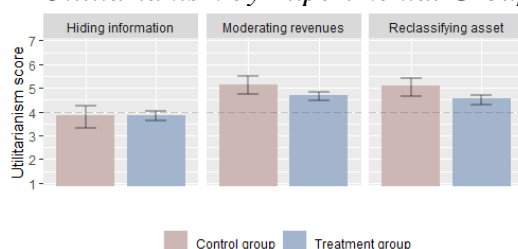
Source: Own work.

Figure S 24: Descriptive Statistics of Relativism by Experimental Group



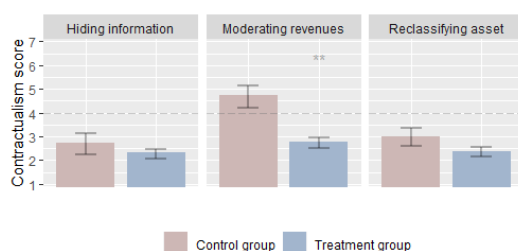
Source: Own work.

Figure S 25: Descriptive Statistics of Utilitarianism by Experimental Group



Source: Own work.

Figure S 26: Descriptive Statistics of Contractualism by Experimental Group



Note: \*\*  $p < 0.01$  indicates significant differences in the contractualism mean score between treatment and control group in *moderating revenues* dilemma,  $t(19) = 3.79, p = 0.001$ .

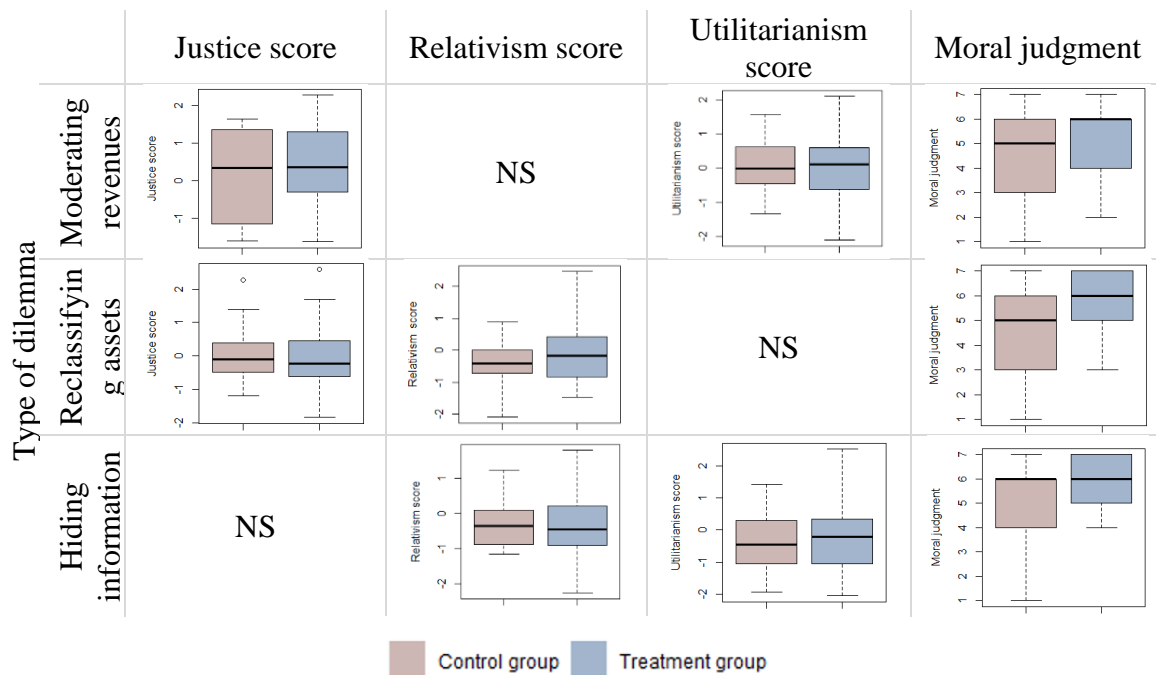
Source: Own work.



## Appendix 20: Additional analysis explaining significant interaction effects for ethics education study

Hypotheses testing show that a change in the justice, relativism, and utilitarianism score has a smaller effect on students' moral judgment in the treatment group than in the control group in two out of three dilemmas for each moral philosophy. Overall, students in the control group made less scattered decisions. Distribution of a dataset is displayed in a box plot, where the minimum, maximum, first quartile, third quartile and median values are presented (Figure S 27). The exact opposite was observed for moral judgment. Students in the control group made more scattered decisions, varying between the minimum value of 1 and the maximum value of 7 for all three types of dilemmas, while in the treatment group no student marked the value of 1 for moral judgment ( $Min_{Moderating\ revenues}=2$ ,  $Min_{Reclassifying\ assets}=3$ ,  $Min_{Hiding\ information}=4$ ), while the maximum value of 7 was chosen for all three types of dilemmas.

Figure S 27: Dispersion of Moral Philosophies and Moral Judgment by Experimental Group and Dilemma



Note: NS - not significant interaction effect between moral philosophy and moral judgment.

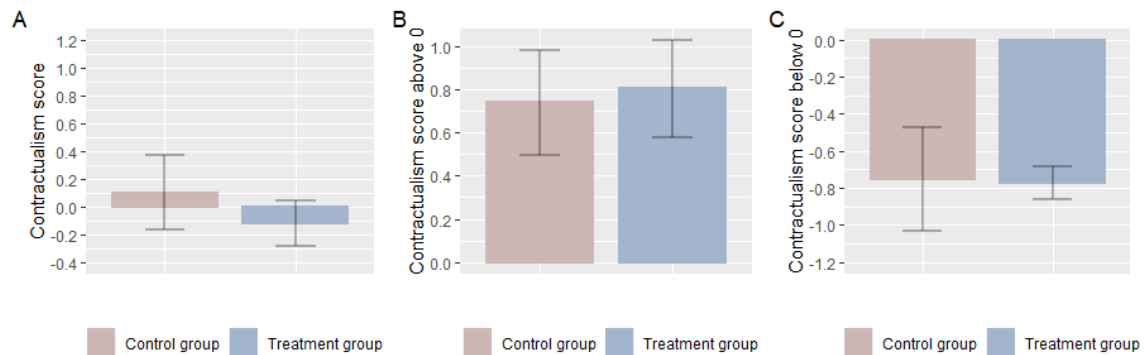
Source: Own work.

Regarding contractualism, the interaction was significant for the *Reclassifying assets* dilemma, showing that students in the control group do not recognize a violation of an unwritten contract as an unethical action, whereas students in the treatment group do. To gain a better insight into the results, we analysed descriptive statistics for the contractualism factor score by experimental group. The mean score of the contractualism factor score was positive in the control group ( $M = 0.1$ ), whereas it was negative in the

treatment group ( $M = -0.12$ ) (Figure S 28 A). The negative contractualism factor scores represent a morally questionable action that is perceived as a violation of promises. This is reflected in moral judgment, as the mean moral judgment score in the control group ( $M = 4.9$ ) is lower than in the treatment group ( $M = 5.8$ ) (Figure S 29 A). Moral judgment responses closer to 7 indicate an unethical action.

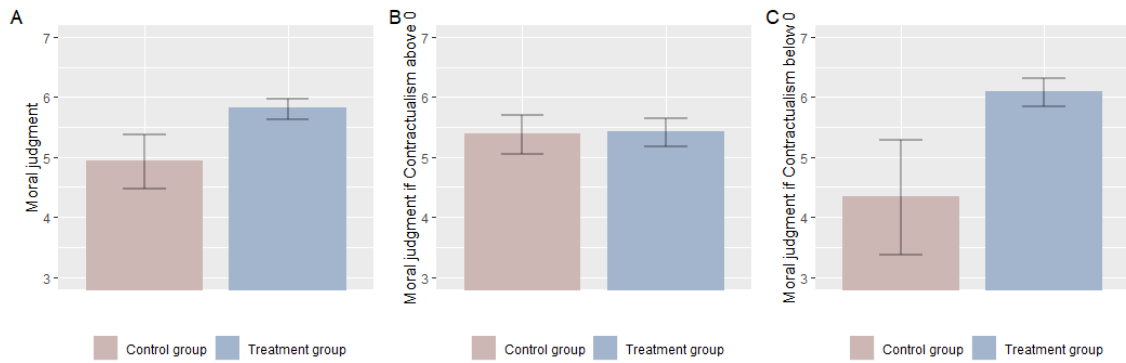
Next, we perform a separate analysis based on the valuation of the contractualism factor score. When the contractualism factor score is above 0 (Figure S 28 B), both groups of students perceive a morally questionable action as similarly unethical ( $M_{\text{control group}} = 5.4$ ,  $M_{\text{treatment group}} = 5.4$ , Figure S 29 B). When the contractualism factor score is below 0 (violation of promises, Figure S 28 C), both groups of students perceive a morally questionable action as unethical (moral judgment score above 4, Figure S 29 C), but students in the treatment group perceive it as more unethical compared to the control group (responses closer to 7,  $M_{\text{control group}} = 4.3$ ,  $M_{\text{treatment group}} = 6.1$ , Figure S 29 C). Students in the control group do not perceive a morally questionable action as more unethical if it violates promises, but actually perceive it as more ethical ( $M_{\text{if } C < 0} = 4.3$ ,  $M_{\text{if } C > 0} = 5.4$ ), while students in the treatment group perceive an action as more unethical if it violates promises ( $M_{\text{if } C < 0} = 6.1$ ,  $M_{\text{if } C > 0} = 5.4$ ).

*Figure S 28: Contractualism Factor Score by Experimental Group for Reclassifying Assets Dilemma*



*Source: Own work.*

*Figure S 29: Moral Judgment Score by Experimental Group for Reclassifying Assets Dilemma*



*Source: Own work.*