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Ethical behavior in the work environment and its effects on academic misconduct

Comportamiento ético en el ambiente laboral y sus efectos en la mala conducta académica

Comportamento ético no ambiente de trabalho e seus efeitos no desvio de conduta acadêmica

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Abstract

Objective: This study aims to analyze the effects that ethical behavior in the work environment has on attitudes towards cheating in the academic environment among accounting sciences students.

Methodology: A survey was carried out with students from a public HEI, totaling 140 participants. For data analysis, structural equations and factorial analysis were used as technique.

Results: The findings show that, in addition to ethical behavior in the workplace, there are other variables that lead students to have academically dishonest attitudes. In this way, ethical behavior influences the unethical behavior of accounting students at the HEI studied, and, although with still small effects, the experiences lived and taken as ethical in the professional environment tend to be related to an evasion of dishonest attitudes in the academic sphere, that is, a better corporate ethical rank results in a smaller presence of cheating behaviors in academia.

Study Contributions: The study contributes to reflection on the improvement of students' behavior in the work environment and how this affects the academy, showing the importance of discussing ethics in professional and educational environments. It reveals the importance of ethics not only in the academic environment, but also in the business environment, so that there is a convergence between both.

Keywords: Ethical perceptions, Academic misconduct, Ethics in the corporate environment, Cheating.

Resumen

Objetivo: El estudio tiene como objetivo analizar los efectos del comportamiento ético en el ambiente de trabajo sobre las actitudes de engaño en el ambiente académico entre estudiantes de ciencias contables.

Metodología: Se realizó una encuesta a estudiantes de una IES pública, totalizando 140 estudiantes. Para el análisis de datos se utilizó la técnica de ecuaciones estructurales y análisis factorial.

Resultados: Los resultados muestran que, además del comportamiento ético en el ámbito laboral, existen otras variables que influyen en los académicos para tener actitudes deshonestas académicamente. De esta manera, el comportamiento ético influye en el comportamiento no ético de los estudiantes de Ciencias Contables de la IES estudiada, y que, aunque con efectos aún pequeños, las experiencias vividas y consideradas éticas en el ámbito profesional tienden a estar relacionadas con la evitación de actitudes deshonestas en el entorno profesional. contexto académico, es decir, una mejor clasificación ética empresarial conduce a un menor comportamiento de trampa en la academia.

Contribuciones del Estudio: El estudio contribuye a la reflexión sobre la mejora del comportamiento de los académicos en el ambiente laboral y su reflejo en la academia, reflejando la importancia de discutir la ética en los ambientes profesionales y docentes. Propaga la importancia de la ética no solo en el ámbito académico, sino también en el ámbito empresarial, para que exista una convergencia entre estos ámbitos.

Palabras clave: Percepciones éticas, Mala conducta académica, Ética en el entorno empresarial, Trampa.

Resumo

Objetivo: O estudo tem como objetivo analisar os efeitos do comportamento ético no ambiente de trabalho sobre as atitudes de trapaçãs no meio acadêmico nos estudantes de ciências contábeis.

Metodologia: Realizou-se uma *survey* com alunos de uma IES pública, totalizando 140 alunos. Para a análise dos dados utilizou-se da técnica de equações estruturais e análise fatorial.

Resultados: Os resultados mostram que, além do comportamento ético no local de trabalho, há outras variáveis que influenciam os acadêmicos a ter atitudes desonestas academicamente. Dessa forma, o comportamento ético influencia no comportamento antiético dos acadêmicos de ciências contábeis na IES estudada, e que, embora com efeitos ainda pequenos, as experiências vivenciadas e tidas como éticas no ambiente profissional tendem a relacionar-se com evasão de atitudes desonestas no âmbito acadêmico, ou seja, um melhor *ranking* ético empresarial proporciona menor comportamento de trapaçã na academia.

Contribuições do Estudo: O estudo contribui para a reflexão sobre o aprimoramento do comportamento dos acadêmicos no ambiente de trabalho e seu reflexo na academia, refletindo a importância da discussão da ética nos ambientes profissionais e de ensino. Propaga a importância da ética não só no ambiente acadêmico, como também no ambiente empresarial, de modo que exista uma convergência entre esses ambientes.

Palavras-chave: Percepções éticas, Má conduta acadêmica, Ética no ambiente empresarial, Trapaça.

1 Introduction

Studies show that the spread of fraud among large companies is alarming. Furthermore, unethical behaviors in the workplace seem to be related to the likelihood of one engaging in unethical behavior in the academic environment (Nonis & Swift, 2001; Harding, Carpenter, Finelli & Passow, 2004; Winrow, 2016). These facts trigger the concept of academic fraud, the epidemic that higher education institutions have been struggling to contain (Winrow, 2016).

Corporate scandals, such as those involving *Enron*, *Adelphia*, *Arthur Andersen* and *WorldCom*, have placed corporate ethics at the forefront of public debate and made the accounting profession take on a moral bent (Copeland, 2005; Smyth, Davis & Kroncke, 2009, Alleyne & Thompson, 2019). The decline in market confidence culminated in the improvement of the regulatory environment through the enactment of laws, such as the Sarbanes-Oxley Act of 2002 and professional codes of ethics (Alleyne & Thompson, 2019). Corporate misconduct has stimulated new regulatory mechanisms, considering the risk that these actions pose on the transparency of organizations' performance (Orlitzky et al., 2003; Kaptein, 2008). Thus, stakeholders are demanding greater accountability and transparency within organizations (Trevino et al., 2006; Kaptein, 2008).

As scholars reflected on the ethical transgressions that have triggered the multitude of corporate scandals, some blamed universities for failing to foster stronger ethical values in their

students in order to prepare them for the work environment (Verschoor, 2003). Given this scenario, several accredited institutions have started to integrate business ethics into their curriculum so as to prepare students to deal with ethical dilemmas in the workplace (Association to Advance Collegiate Schools of Business, 2004; Bloodgood, Turnley, Mudrack, 2009; Reisenwitz, 2012).

Lawson (2004) reports that the environment and treatment experienced by an individual at work can affect their academic behavior. This indicates that the concern students have with business ethics may be related to their lack of personal ethics. Furthermore, although they understand that unethical attitudes are wrong, a large portion engage in certain behaviors by influence of the environment (Lawson, 2004). Stone, Jawahar and Kisamore (2009) argue that academic misconduct can be reduced if students are made aware of the consequences of their attitudes. Thus, academic dishonesty has become a major challenge for Higher Education Institutions (HEIs) around the world, especially for accounting students, who are inserted in the business environment (Alleyne & Thompson, 2019). In this way, the misconduct experienced in the work environment can also stimulate this type of behavior in other environments, including the academic one (Stone et al., 2009).

Given this context, this study seeks to answer the following research question: **to what extent does ethical behavior in the workplace lead accounting students to cheat in the academic environment?** Thus, the objective is to analyze the effects that ethical behavior in the work environment has on attitudes towards cheating in the academic environment among accounting sciences students.

Research suggests that individuals who cheat at school are more likely to engage in unethical behavior at work (Nonis & Swift, 2001; Stone et al., 2009). Stone et al. (2009), for instance, state that academic misconduct is linked to unethical behavior in the workplace. This indicates that cheating at school is a likely precursor to unethical behavior at work, threatening an individual's career success and posing risks as to organizational ethical violations (Stone et al., 2009).

Even with the growing focus on teaching ethics in the business environment, about 50% to 87% of students admit to having unethical attitudes during post-secondary education (Melgoza & Smith, 2008). Based on the literature, 87% of business students admit that they adopted unethical attitudes during post-secondary education (Caruna, Ramaseshan & Ewing, 2000). They believe that their grades are considered by employers to be a significant variable for categorizing high- and low-performing employees (Spence, 1973). In this way, students strive to have the best grades in order to attract employers that pay the best wages. What is surprising is that students consider themselves honest (Rakovski & Levy, 2007), but believe that unethical behavior is essential for career advancement (Lawson, 2004).

Nonis and Swift (2001), Harding et al. (2004) and Lawson (2004) evidence a strong relationship between cheating in college and unethical behavior in the workplace. The results of these studies show that the weight assigned to ethics in the work environment among students and in relation to the values of the employer are different. For employers, integrity is one of the top five traits for which business recruiters look; for students, academic performance can be a determining factor for success when it comes to recruiting professionals and their activities (GMAC, 2016).

Although the business and accounting literature has explored the academic and demographic characteristics associated with academic misconduct, indicating that this environment can encourage engagement in unethical behavior in the workplace (Nonis & Swift, 2001; Harding et al., 2004; Winrow, 2016), this study aims to analyze future accountants more

accurately. Thus, we assess whether there is a relationship between students' perceptions of ethical attitudes in the workplace and the prevalence of academic fraud.

It is understood that investigating this perception is relevant, due to the scandals that have occurred and the growth in demand for ethical and honest professionals to work in the labor market. However, the way in which this demand is met is worrying, considering the evaluations of these professionals. Studies show that unethical behavior can be changed from the outcome of individuals' actions (Malone, 2006; Simkin & McLeod, 2010). Thus, business students, for instance, are less likely to cheat if they perceive that their actions will negatively affect themselves or others (Malone, 2006; Stone et al., 2009). In this way, the discussion about ethical attitudes in the work environment can be a catalyst for actions in the academic environment.

This study aims to highlight the effects of a discussion on ethical attitudes for the development of skills required in the business and academic spheres. It is also expected to contribute to regulatory bodies and educational institutions reviewing and developing systematic actions that ensure the promotion and enhancement of professional training. Contributions extend to the market, which often seeks “results at any cost” and ignores the effects of these incentives. Pro-performance attitudes can spill over into the personal lives and, in this case, into the academic life, of those involved – making cheating a commonplace attitude. This fact leads to a reflection on the need for improving the behavior of students in the work environment and how this reflects in academia, reinforcing the role of discussions about ethics in professional and educational settings.

The findings contribute to discussions around how ethical behavior at work influences students' unethical attitudes when in college. This discussion addresses facts that have taken on a large proportion in the business environment, such as the corporate scandals involving Volkswagen, Petrobras, Vale, the International Football Federation (FIFA), among others. In addition, ethics are an extremely relevant matter in both business and academic environments, since today's students will be the professionals of the future, as workers and leaders (Lin & Wen, 2007; GMAC, 2016; Alleyne & Thompson, 2019). Finally, the study warns not only students, but also professors and professionals in the field, about the need for ethical awareness both inside and outside the university.

2 Literature Review

2.1 Cheating in the academic environment

Evidence indicates that academic misconduct appears to be related to attitudes involving unethical behavior in the workplace. Cheating, plagiarism, and other forms of academic misconduct, for instance, are as prevalent in public and private schools (Williams, 2001; Josephson Institute of Ethics, 2008) as they are in faculties and universities (Koljatic, Silva & Ardiles, 2003; Brimble & Stevenson-Clarke, 2005; Christensen-Hughes & McCabe, 2006; Winrow, 2016). Brazilian data on corruption involving students is alarming. According to Globo News (2015), 69% of students have cheated on tests. The survey comprised 1,100 students from Unicarioca, aged between 16 and 30, in high school and higher education. Among the findings, it was diagnosed that 58% of the students had asked to put their name on group work without having participated, 68% had copied texts from the internet for presentations, 59% had signed the attendance list on behalf of a classmate, and 69% had cheated on tests. Plagiarism is becoming increasingly evident in business and academia (Martin, Rao & Sloan, 2009).

Research suggests that people who cheat at school are more likely to engage in unethical behavior at work (Nonis & Swift, 2001; Stone et al., 2009; Simkin & McLeod, 2010; Alleyne & Thompson, 2019). Though milder in Brazil, punishment against school fraud in North American countries, as in the United States, is rigid. In some universities, if a student is caught cheating or plagiarizing a paper (and academic fraud is confirmed), they are subjected to punishments that can have them suspended or even expelled (Globo News, 2015).

Discussions about the effects of dishonest practices are representative for they are a likely precursor to one engaging in unethical behavior at work and, therefore, a threat to a professional's career success and a risk as to organizational ethical violations (Winrow, 2016; Nguyen & Tran, 2018). Thus, dishonesty in academia is the focus of study in the higher education environment, as it is understood that today's students will be tomorrow's professionals (Stone et al., 2009; Taniguchi et al. Sanchez, Cappelozza & Filenga, 2011; Sanchez & Innarell, 2012; Winrow, 2016; Viana, Rodrigues, Lima & Viana, 2018), and the medium in which an individual is inserted can influence their behavior. In this sense, the Theory of Planned Behavior (TPB) measures the propensity to a behavior based on the intention of the human being, that is, how much effort an individual is willing to make in favor of an action (Ajzen, 1991).

Thus, the literature shows that some individuals, despite knowing that some attitudes are dishonest, make an effort to cheat in some way (using unethical means) and are even helped by other individuals (Brimble & Stevenson-Clarke, 2005; Alleyne & Thompson, 2019).

2.2 Ethics in the work environment

Competitiveness in the labor market triggers a demand for qualified professionals with ethical discernment (Viana, Santos Rodrigues, Lima & Viana, 2018). Moreover, the globalized world has created a more integrated and borderless environment, stimulating new debates in the business area, especially on ethical attitudes. The global economy has made ethical issues more complex, challenging companies to act ethically and responsibly in the face of urgent demands (Nguyen & Tran, 2018). As a consequence, several organizational ethical scandals, such as those involving Volkswagen, Petrobras, the International Football Federation (FIFA), United Airlines, Toshiba, have brought about a huge public concern regarding unethical behavior in the business environment (Nguyen & Tran, 2018).

The literature provides evidence of a disagreement between consent and encouragement to unethical attitudes in the workplace (Gabric & McFadden, 2001; GMAC, 2016; Baylor University, 2016; Winrow, 2016). Employers tend to avoid amoral employees, since they judge ethical behavior to be important (Gabric & McFadden, 2001) and consider those with higher levels of ethical acumen when selecting candidates (GMAC, 2016). On the other hand, on a daily basis, companies tend to accept unethical attitudes in favor of better performance, that is, supervisors and co-workers accept the fact that employees behave unethically when production is good (Baylor University, 2016).

It is then understood that university students are entering the workplace at a time when ethical issues are under greater scrutiny, as different situations can mediate the acceptance of unethical behavior (Smyth et al., 2009). This fact makes the discussion about an ethical posture sensitive, since, although students have a good understanding of the need for ethical behavior, they believe that the best career performance is achieved when, sometimes, certain moral violations are ignored (Lawson, 2004). Thus, as the number of institutions, relationships and

students has increased, new education opportunities and a wealth of information also increase, giving rise to opportunities for dishonest academic and corporate behavior to develop (Taniguchi et al., 2011; Baylor University, 2016).

Thus, unethical attitudes in school practices involve inappropriate behavior from the most diverse perspectives, such as fraud in school exams (committed with or without the permission of classmates), plagiarism, fabrication or falsification of bibliographies, or benefiting from papers written by others (Hard, Conway & Moran, 2006; Sanchez & Innarell). Similarly, in the work environment, they include the violation of moral norms (admitting to mistakes, being offensive, doing favors), as well as non-compliance with roles (and subsequent conflict of relationships/interests) (Gabric & McFadden, 2001; Baylor University, 2016).

Considering that there is a relationship between unethical behavior in the corporate world and dishonest school practices (Martin et al., 2009), that the environment in which an individual is inserted is capable of influencing their intention to act (Ajzen, 1991), and that companies are susceptible to unethical attitudes in favor of better performance (Baylor University, 2016), it is assumed that personal beliefs and values, peers' influence, pressure situations, and the expectation of obtaining easy results are elements of the work environment that can encourage unethical behavior in academia.

2.3 Related studies

Gabric and McFadden (2001) compared students' and employers' perceptions concerning personality traits needed for hiring. Their results show that, whereas employers considered ethics the main personality trait valued for hiring, students ranked ethics as the sixth most important characteristic.

Nonis and Swift (2001) found that students who believed that cheating or dishonest acts were acceptable were more likely to engage in dishonest behavior. Additionally, those who engaged in dishonest acts in college classes were more likely to engage in dishonest acts in the workplace. Lawson (2004) identified that the concern that students have with business ethics is contradicted by their lack of personal ethics, since they see the practicality of an action as more important than how ethical it is. Even if there is disagreement about the usefulness of ethics between professionals and students, the latter can change their behavior based on the results of their actions (Lawson, 2004; Winrow, 2016).

Taniguchi et al. (2009) found that the perception of group practices is especially influential in an individual's academically dishonest behavior, and that the student's age is inversely proportional to the intensity with which this dishonesty manifests itself. Furthermore, the personal characteristic of idealism proved to be a containment factor for the attitude favorable to dishonesty, but mechanisms such as moral disengagement were identified, disfavoring the student's self-regulation process, which boosts the attitude of academic dishonesty. The results of Aslam and Nazi (2011) indicate that students' personality traits have a significant impact on attitudes towards academic dishonesty.

Winrow (2016) analyzed the relationship between undergraduate and business students' perceptions of the usefulness of ethical behavior at work and their likelihood of cheating at school. Their findings show a positive relationship between the students' perceptions of the usefulness of ethics in the workplace and the frequency of academic misconduct related to planned cheating, spontaneous cheating, misuse of materials, and plagiarism. The relationship between workplace ethics and academic misconduct was significant.

Stone et al. (2019) analyzed academic misconduct with 271 students at a US university. Their results show that 22% of them intend to cheat, and 47%, to commit self-reported fraud. However, academic misconduct can be reduced by shaping attitudes towards cheating, changing perceptions of subjective norms regarding the prevalence of cheating, and emphasizing the consequences of the act (Stone et al., 2019).

In this context, Figure 1 presents the hypotheses and the design adopted for this research.

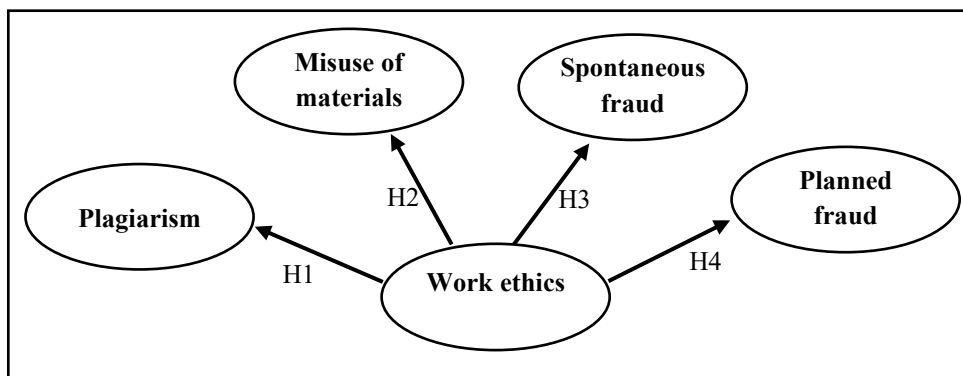


Figure 1 Structural model / Research design

Source: Adapted from Winrow (2016).

From the literature supporting the study, the hypotheses for test are formulated as follows:

- H1:** Work ethics influence plagiarism attempts in the academic environment.
- H2:** Work ethics influence the misuse of articles, materials or data in the academic environment.
- H3:** Work ethics influence spontaneous fraud attempts in the academic environment.
- H4:** Work ethics influence the occurrence of planned fraud in the academic environment.

3 Methodological Procedures

This research comprises a descriptive study, with a quantitative approach, conducted through a survey. Its population comprehends Accounting Sciences students from a public higher education institution (HEI) in Santa Catarina. The theoretical model tested was based on Winrow (2016). As in the original article, data collection used Gabric and McFadden's Value Scale (Gabric & McFadden, 2001), composed of 31 personality types, and a modified version of the student academic misconduct survey by Hard et al. (2006) – which segments academic dishonesty (cheating) into plagiarism, misuse of materials, spontaneous fraud, and planned fraud (Appendix A contains the version of the assertions). The questionnaire was organized on a 5-point Likert-type scale. The constructs are shown in Table 1.

Table 1
Research constructs

Construct	No. of indicators	Authors	Variable	Hypothesis
Plagiarism	6	Hard, Conway and Moran (2006)	Independent	H1
Misuse of materials	3			H2
Spontaneous fraud	4			H3
Planned fraud	3			H4
Ethics in the work environment	31	Gabric and McFadden (2001)	Dependent	-

Source: Prepared by the authors themselves.

In order to guarantee the reliability of the research instrument, the latter was translated with caution. In order to make the approach in the study feasible, the final version underwent some adaptations as to the terms used (denomination of the constructs) in the original version. After the questions were translated, a pilot test was carried out with professionals from the field, in order to confirm the comprehensibility of the assertions. A pre-test was conducted with master's and doctoral students in accounting sciences. After the inconsistency issues of the research instrument were resolved, it was applied to students of the accounting sciences course. The collection took place in person and by e-mail (for the latter, the research instrument was sent via the Google Docs platform). The period of analysis comprised November to December 2018. A total of 140 valid questionnaires were received (final sample of the study).

For data analysis, structural equation modeling was used. According to Bido et al. (2010), the Partial Least Squares Structural Equation Modeling (PLS-SEM) is a linear regression estimation technique that is based on the decomposition of matrices of variables and covariates in order to validate and adjust the measurement and structural model. This technique is based on the study of a system of linear relations between latent variables that is solved by parts, one at a time. The main objective of the PLS is to estimate the variance of endogenous constructs and their respective manifest variables, at a significance level of 0.05 (Bido et al., 2010). PLS is particularly useful in this study, as the technique tests hypotheses with minimal data and is robust for small samples (Hair Jr., Black, Babin, Anderson & Tatham, 2009).

To arrive at the variable for measuring ethics in the work environment, exploratory factor analysis was applied to the 31 indicators of ethics in the workplace. After this procedure, 9 factors were obtained, which, in their turn, measured the scale (ethics ranking). To arrive at the scale of ethics in the work environment, the values of the 9 factors found in the factor analysis were used (F1 = 0.22249; F2 = 0.08635; F3 = 0.08231; F4 = 0.05830; F5 = 0.04838; F6 = 0.04470; F7 = 0.04132; F8 = 0.03864; F9 = 0.03573). Then, with the values of the factorial analysis of the nine factors in possession, the ranking was defined using the SPSS software. The ranking was based on this formula (Fávero et al., 2014):

$$[(\text{Factor}(n)_1 \times \text{factor value}) + \text{Factor}(n)_1] \quad (1)$$

Thus, for the nine factors, the formula linked to the software is:

$$(\text{F1}_1 * 0.22249) + (\text{F2}_1 * 0.08635) + (\text{F3}_1 * 0.08231) + (\text{F4}_1 * 0.05830) + (\text{F5}_1 * 0.04838) + (\text{F6}_1 * 0.04470) + (\text{F7}_1 * 0.04132) + (\text{F8}_1 * 0.03864) + (\text{F9}_1 * 0.03573)$$

As a result of this formula, SPSS presents a final ranking used for the variable, which was used to analyze the 'ethics in the work environment' variable in the structural equation model.

After this procedure, the data, which were first tabulated in Excel, were rotated with the aid of the SmartPLS software.

4 Results and Analysis

4.1 Descriptive analyses

Based on the descriptive analyses, Table 2 shows the demographic data of the survey respondents, such as gender, course and period which the student is attending, and their age.

Table 2
Demographic data

Gender	Qty.	%	Age	Qty.	%	Course period	Qty.	%
Male	76	54%	Up to 19	27	19%	1st	4	2.5%
			Between 20 and 24	68	48%	2nd	5	3.5%
			Between 25 and 29	21	15%	3rd	45	32%
			Between 30 and 34	8	8%	4th	14	10%
			Between 35 and 40	9	7%	5th	5	3.5%
Female	64	46%	Over 40	7	5%	6th	3	2%
						7th	5	3.5%
						8th	59	43%
Total	140	100%	Total	140	100%	Total	140	100%

Source: Prepared by the authors themselves.

Table 2 indicates that there is homogeneity in relation to the students' gender. Of the total, 54% of the analyzed sample corresponds to the male gender, while 46% are female. These data are in line with the survey carried out by the 2018 National Student Performance Examination [*Exame Nacional de Desempenho de Estudantes*] (ENADE), which shows that 55.2% of accounting students are female, and 43.8% are male (Inep, 2019). Similar results are presented by the Federal Accounting Council; women in the Brazilian accounting field represent 43.24%, and men, 56.76% of active registrations (CFC, 2022). As for age, students from 20 to 29 years old predominate – 63% of the total. This allows inferring that the profile of the accounting course at this university is predominantly young. Regarding the period of the course in which they are enrolled, it was found that most students are attending the third or fourth period.

After demographic data were obtained, a descriptive statistic of the data was carried out. Table 3 presents the descriptive statistics of the survey respondents, such as: mean and standard deviation.

Table 3
Descriptive statistics

Constructs	Mean	Standard deviation
Plagiarism	2.4000	1.3376
Misuse of materials	1.6952	1.1649
Spontaneous fraud	1.8332	1.0796
Planned fraud	2.4476	1.2817
Ethics in the work environment	0.3570	0.2730

Source: Prepared by the authors themselves.

The data in Table 3 show that the planned fraud construct ($M = 2.4476$) and the plagiarism construct ($M = 2.400$) have the highest means compared to the other constructs, indicating that these behaviors are the most predicted by the students, that is, they plan before committing any irregular act in the classroom, such as cheating on a test, copying work, using facilitated methods to improve their performance. The other activities that were highlighted are spontaneous fraud ($M = 1.8332$) and misuse of materials ($M = 1.6952$), which, although seeming unintentional actions, also involve unethical but unplanned resources, and appear less frequently. Regarding the standard deviation of the constructs, there is homogeneity in plagiarism, planned fraud, misuse of materials, and spontaneous fraud, thus showing that the constructs are close to the mean. In this sense, plagiarism and planned fraud have greater variation than the other constructs. Thus, with the demographic data characterized and the descriptive statistics determined, it is now time to evaluate and measure the structural model.

4.2 Evaluation of the measurement and structural model

After the descriptive analysis, tests were carried out to evaluate the measurement and structural model of the study. To test the validity of the measurement indicators of the constructs in the model, the analysis of factor loadings was done using the cross-loadings matrix. Table 4 displays the factor loadings of each final indicator of the constructs.

Table 4

Cross-loadings matrix

Indicators	Spontaneous fraud	Planned fraud	Plagiarism	Work ethics	Misuse of materials
PF1	0.605	0.826	0.467	0.075	0.331
PF2	0.723	0.923	0.544	0.182	0.378
PF3	0.654	0.828	0.572	0.124	0.386
MM10	0.346	0.405	0.447	0.101	0.827
MM12	0.317	0.335	0.338	0.124	0.889
SF13	0.858	0.614	0.462	0.189	0.317
SF14	0.804	0.560	0.497	0.162	0.225
SF15	0.823	0.728	0.562	0.138	0.310
SF16	0.785	0.647	0.529	0.208	0.380
PL4	0.537	0.524	0.713	0.078	0.233
PL5	0.450	0.423	0.832	0.099	0.338
PL7	0.394	0.440	0.674	0.040	0.442
PL9	-0.141	0.405	0.614	0.051	0.370
Work ethics	0.218	0.163	0.102	1.000	0.132

Source: Prepared by the authors themselves.

Based on the data shown in Table 4, some variables were excluded for not presenting satisfactory confirmatory factor loadings (CFA), namely: PL6 and PL8, referring to the plagiarism construct, and MM11, referring to the misuse of materials construct. Hair Jr. et al. (2009) comments that the loading estimates of variables may be statistically significant, but too small to qualify as good items (below 0.50) in CFA. These items with small loadings become candidates for elimination if they require improvement in convergent validity (AVE) or composite reliability (CR). In the case of the proposed study, AVE and CR only reached acceptable values when the variables were excluded. Thus, the decision was to exclude these variables for a better adaptation to the suggested model. After the elimination, the CFA cross-loading matrix indicated the PL7 and PL9 variables as having a loading smaller than 0.70, but

greater than the minimum recommended in the literature, which is 0.40 (Hair Jr. et al., 2009).

After this procedure, the validation and adequacy tests for the structural model continued. Composite reliability, Cronbach's alpha, AVE and VIF tests were run. Composite reliability is used in order to assess whether the sample has no bias or whether the answers obtained through the questionnaire are reliable (Bido et al., 2010). Cronbach's alpha test measures the reliability of the constructs (Hulland, 1999), whereas the average variance extracted (AVE) shows the variance shared among the indicators of each latent variable or construct of the model (Hair Jr. et al., 2009). In this sense, the discriminant reliability of the model should also be analyzed; the absence of data multicollinearity was verified as well, through the VIF test. Table 5 presents the test values.

Table 5

Composite reliability, AVE, Cronbach's alpha, and Convergent validity

Constructs	Composite reliability	AVE	Cronbach's alpha	VIF
Spontaneous fraud	0.890	0.669	0.836	2.141
Planned fraud	0.895	0.740	0.833	1.684
Plagiarism	0.825	0.544	0.737	1.431
Misuse of materials	0.849	0.737	0.647	1.944

Source: Prepared by the authors themselves.

According to data in Table 5, all loadings for the AVE were statistically significant, that is, with values equal to or greater than the minimum acceptable, which is 0.50 (Fornell & Larcker, 1981). Cronbach's alpha also showed loadings above those recommended by the literature, thus indicating the validity of the research instrument (Nunally, 1978). As recommended by Hair Jr. Et al. (2009), the minimum acceptable value for alpha is 0.70, which may decrease to 0.60 in exploratory research, provided that data analysis is performed with caution. The model did not present multicollinearity problems, since the values are within the limits recommended by the literature. According to Gujarati (2006), VIF tests with values between 1 and 10 for multicollinearity are acceptable, indicating that the model does not have factors correlated with the response variable or with each other.

Composite reliability and Cronbach's alpha ensure that the sample is free of bias and that the data collection instrument is reliable (Hair Jr. et al., 2009). To confirm the discriminant validity of the model's latent variables, the AVE value was determined. According to Fornell and Larcker (1981), the AVE is confirmed when its square root value is greater than the absolute values of the correlations with the other latent variables. The results are shown in Table 6.

Table 6

Discriminant validity

Constructs	Spontaneous fraud	Planned fraud	Plagiarism	Ethics ranking	Misuse of materials
Spontaneous fraud	0.818				
Planned fraud	0.776	0.860			
Plagiarism	0.614	0.593	0.738		
Ethics in the work environment	0.218	0.163	0.098	1.000	
Misuse of materials	0.383	0.425	0.404	0.132	0.859

Source: Prepared by the authors themselves.

Table 6 shows that the discriminant validity of the model was adequate (Fornell & Larcker, 1981), since none of the correlations between the constructs was greater than the square root of the AVE, indicating that there is discriminant and convergent validity in the model. Thus, it appears that the measurement model has satisfactory convergent and discriminant validity.

The general fit of the model was evaluated as well, using the Goodness of Fit (GoF) test. The GoF test, according to Tenenhuauas, Vinzi, Chatelin and Lauro (2005), is calculated through the square root of the product of two indicators: the average R^2 (adequacy of the structural model) and the weighted average of the AVE (adequacy of the measurement model). The value of the test for the proposed model was 0.45. Wetzels, Odekerken-Schröder and Van Oppen (2009) suggest that the adequate value of the GoF test is close (equal or greater) to 0.36 for the social sciences and behavior fields, so the proposed model meets general fit requirements. After the measurement model was evaluated, the structural model was estimated, as shown in Figure 2.

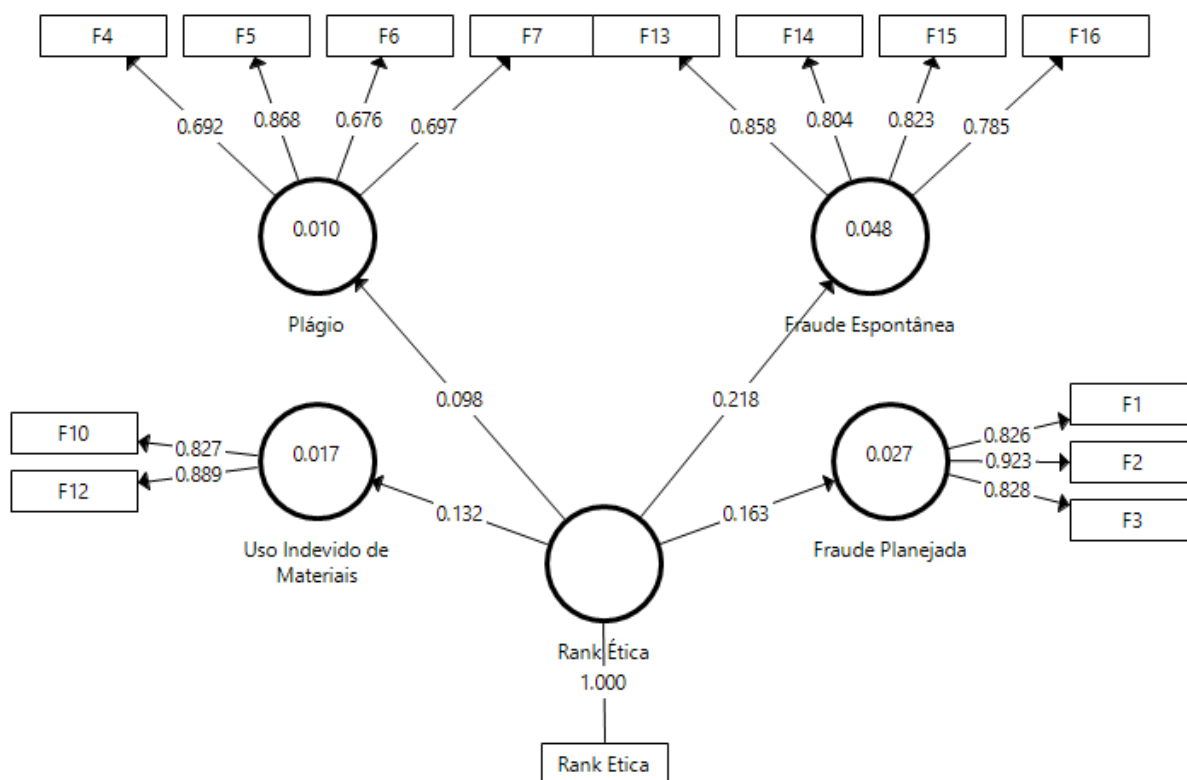


Figure 2 Results of the structural model test

Source: Prepared by the authors themselves.

Path coefficients represent the strength and direction of relationships among latent variables and can be interpreted as standardized beta coefficients of common least squares regressions, as shown in Figure 2 (Henseler, Ringle & Sinkovics, 2009). To obtain the standard errors of the path coefficients, the bootstrapping procedure was used with 5,000 substitutions/resampling (Davison & Hinkley, 2003). The results found with bootstrapping confirmed the absence of problems with multicollinearity in the model. Dividing the path

coefficient by the standard error obtained using bootstrapping, the empirical *t* value is obtained, which allows assessing the meaning of the corresponding path coefficient (Chin, 1998).

According to Hair, Hult, Ringle and Sarstedt (2014), the values for the “*t*” statistic must be greater than, at least, 1.96. The analysis was complemented by calculating the R^2 values, which, according to Cohen (1988), represent the amount of variance in an endogenous variable explained by the exogenous variables. Table 7 presents the model effect results and the R^2 values.

Table 7
Effects of the relationship between constructs

Relationship between constructs	Hypothesis	Direct effect		
		Value	<i>t</i> -value	<i>p</i> -value
Ethics in the work environment -> Plagiarism	H1	0.098	0.832	0.406
Ethics in the work environment -> Misuse of materials	H2	0.132	1.700	0.089***
Ethics in the work environment -> Spontaneous fraud	H3	0.218	2.663	0.009**
Ethics in the work environment -> Planned fraud	H4	0.163	1.794	0.073***
Control (age/semester) -> Personality/ethics	-	-0.278	3.861	0.000*
R² values				
Spontaneous fraud		0.048		
Planned fraud		0.027		
Plagiarism		0.010		
Misuse of materials		0.017		

Note: Significant at a level of *0.01; **0.05, ***0.10.

Source: Prepared by the authors themselves.

Based on the results in Table 7, it is possible to observe that the effect among the constructs was significant for these relationships: (1) ethics in the work environment -> spontaneous fraud; (2) ethics in the work environment -> planned fraud; (3) ethics in the work environment -> misuse of materials; and (4) control -> ethics in the work environment. The findings show a non-significant relationship for the ethics in the work environment -> plagiarism construct. This indicates that ethical behavior in the workplace directly interferes in fraud within the university environment, but this effect was not statistically supported for plagiarism. Thus, it can be inferred that the ethical conduct of professionals tends to define their honesty or dishonesty in the academic sphere. The fact that plagiarism was not significant may be due to it being punishable with more severe means in the academic field and not occurring much in business.

With regard to R^2 , the variables have a small effect on the studied model. According to Cohen (1988), this indicates that the constructs linked to unethical attitudes have a small effect on the studied ethics. Spontaneous fraud was the variable that best explains data variance – 4.8% of the total variance; followed by planned fraud, 2.7%, misuse of materials, with explanatory power of 1.7%; and plagiarism, with 1%. This suggests that, in addition to the behaviors experienced at work, there may be other variables that lead students to have dishonest attitudes in the academic environment. These results may be due to a greater recurrence of fraud not planned beforehand, but which they decide to commit during a test or assignment, for instance. The results of the hypothesis tests are presented below.

Hypothesis H1 analyzed whether ethical behavior in the work environment influenced plagiarism attempts in academia. Based on the findings, this hypothesis was not supported. There was a positive relationship (value = 0.098), but not a significant one (*p*-value = 0.406),

thus rejecting H1. The findings indicate that, despite the effect of the relationships being positive, it is not significant for the analyzed sample, that is, the behavior at work does not affect a student's intention to reproduce works (texts, papers) that are not their own, without proper referencing. This result differs from the literature, such as that found by Winrow (2016) – a positive and significant correlation was found among the variables.

Hypothesis 2 tested the relationship between ethical behavior in the work environment and misuse of materials (such as articles, news, unauthorized materials or data). H2 was statistically supported, showing a positive (value = 0.132) and significant relationship (p-value=0.087) between ethical behavior and misuse of materials. This fact does not allow rejecting H2, which indicates that behavior in the work environment is capable of leading students to use fraudulent means during an exam/test or at another time when they could not use this type of material. This effect responds to 13.2% in the variable. In a baseline study, Winrow (2016) also found a relationship between students' perceptions of ethical behavior and misuse of materials, corroborating the finding in this hypothesis.

Hypothesis 3 analyzed ethical behavior in the work environment and its influence on spontaneous fraud. This variable (spontaneous fraud) involves behaviors not planned by the student – “cheating” on a test, being conniving in copying work, using unauthorized devices in order to improve their performance in an exam, etc. The results indicate that the relationship found was positive (value = 0.218) and statistically significant (p-value = 0.008), that is, H3 was not rejected. This shows that behavior and insertion in an ethical environment in the workplace can affect the academic awareness of students, that is, in the sense of them choosing not to commit fraud during tests or assignments. As this is a spontaneous behavior, it is understood that dishonesty would not be planned, but a momentary/sudden decision. The result corroborates those of Winrow (2016), who also found a positive and significant relationship.

The last hypothesis, H4, tested whether ethical behavior in the workplace influences the occurrence of planned fraud in the academic environment. In this case, the relationship tests whether experiences in the workplace can affect one's intention to use undue mechanisms in an evaluative activity. As in the previous cases, there was statistical support for this hypothesis not to be rejected. The relationship found was positive (value = 0.163) and significant (p-value = 0.70). In this way, it is possible to notice that ethics in the work environment positively and directly influence one's aversion to behavior towards planned fraud – when the act is planned by the student before they go to college, that is, the possibility of them cheating on an exam/test is premeditated depending on their traits and ethical values. The result corroborates those of Winrow (2016), who also found a positive and significant relationship.

The results of the present study are consistent with previous research related to academic misconduct. According to Malone (2006), accounting students are less likely to cheat if they perceive that their actions will negatively affect themselves or others. This study revealed that business students, in this case, enrolled in the accounting sciences course, who experience situations that are conducive to ethics in the work environment tend to be less likely to cheat in the academic sphere as well. Furthermore, this behavior may be related to the employer's expectations. It is believed that the student may also perceive that their employer has high regard for a candidate with high ethical standards, and behaviors that are not aligned with these perspectives of the employer may adversely affect their career.

From the findings of this research, it is clear that ethics in the work environment directly influence one's opinion on cheating in college. From this viewpoint, it is assumed that the work environment impacts the academic environment; therefore, if the student is a person of good professional conduct, they are less likely to cheat or commit misconduct at university, and vice

versa (Ajzen, 1951). Thus, the findings may also extend not only to ethical/unethical academic behavior, but to other places frequented by this individual.

However, other variables can be analyzed when it comes to ethical academic behavior. Simkin and McLeod (2010) show that one of the central catalysts that induce academic cheating is the desire to stay ahead of others. Therefore, the environment experienced in the professional setting may be only one of the variables that respond to behavior in the academic environment (Ajzen, 1991). These factors indicate that discussing ethics, whether in the academic context or in any other, becomes delicate due to its particularities. Although their results are consistent with previous research related to academic misconduct, future discussions may propose philosophical considerations on professional, academic and research/science attitudes that are ethical.

Finally, Stone et al. (2009) suggest that academic misconduct can be reduced if students are made aware of the consequences of their attitudes. Thus, combating academic dishonesty becomes a major challenge for Higher Education Institutions (HEIs) around the world, especially for accounting students, who are inserted in the business environment (Alleyne & Thompson, 2019). However, it is believed that, although still with seminal results, one's behavior at work can also stimulate this type of behavior in other environments, including in the academic one (Ajzen, 1991; Stone et al., 2009). Understanding and reducing unethical academic behavior is important to promoting the ethical behavior and values of future workers and organizational leaders.

5 Further Considerations

The present study aims to analyze the effects that ethical behavior in the work environment have on attitudes towards cheating in the academic environment among accounting sciences students. Thus, it verified to what extent ethical behavior in the workplace reflects in a student's attitude of not using unauthorized materials (misuse) when they are taking an exam/test/completing an assignment, or at another time when they could not use this type of material.

The results of this study indicate that ethical behavior in the workplace influences accounting students when it comes to cheating in the academic environment, especially when it involves spontaneous and planned fraud, and misuse of materials. It revealed that ethical behavior in the workplace was the only variable that did not influence the students' behavior with respect to plagiarizing academic papers. This isolated act is possibly due to assignments being turned in right before the deadline or even past that.

The results also show that ethical behavior in the work environment influences spontaneous fraud in the academic one. This denotes that behavior and insertion in an ethical environment in the workplace directly affects the decision of not committing spontaneous fraud, that is, pasting/copying a classmate's work or another source during a test/assignment, or even putting a classmate's name on the attendance list or a paper, without actual participation. Ethical behavior in the work environment is also reflected in fraud planned by the student, whether during a test or other means of evaluation; here, the student did not study and planned that they would cheat when taking a test/doing an assignment. Thus, it was found that the ethics perceived in the work environment positively interfere in academic behavior – in this case, with regard to planned fraud, that is, the possibility of cheating on an exam/test, depending on the student's traits and ethical values.

In this way, the results show that students who experience ethical situations in the

workplace tend to be more ethical and not cheat in the academic environment. However, although the article found significant relationships between the variables, the effects are still small. This indicates that there may be other variables that also respond to cheating behavior in the academic environment, such as the behavior of professors towards students. Variables such as professor's tolerance, effective academic control, institutional repression in cases of rule violation, can be analyzed in a future study. The analysis of the concept of ethics, therefore, is not so simple.

It is concluded that ethical behavior influences the unethical behavior of accounting students at the studied HEI, and that the more they are founded on ethical values in the work environment, the less likely they are to use fraudulent means during classes, exams, tests, assignments, and other academic activities, that is, individuals with integrity and good conduct in the corporate environment tend to be more upright and ethical students in the university environment. Individuals with lower integrity and ethics in the business environment, on the other hand, tend to have lower integrity and ethics in the academic environment.

The study thus contributes to reflections on the improvement of the behavior of students in the workplace and how this is reflected in the university, evidencing the importance of discussing ethics in professional and educational settings. It still has some limitations that must be considered as to interpreting its results. First, the proposed model is verified by means of questionnaires, which may present biases that were not detected, given that the study was limited to a population of accounting students from a public HEI in Santa Catarina, making it difficult to generalize the results. Another limitation stems from the cross-sectional design and the methodology adopted in the research, as the results are presented in accordance with statistical associations involving the paths of the model. As a suggestion for future research, other variables could be included in order to try to explain the unethical behavior of students, a different demographic, consider more public and private universities and other regions, or even adopt a qualitative approach to research.

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Appendix A

Assertions of the research instrument

Social Desirability Scale
1. There have been occasions when I have taken advantage of someone.
2. I'm always willing to admit it when I make a mistake.
3. I always try to practice what I preach.
4. I sometimes try to get even rather than forgive and forget.
5. At times I have really insisted on having things my own way.
6. There have been occasions when I felt like smashing things.
7. I never resent being asked to return a favor.
8. I have never been irked when people expressed ideas very different from my own.
9. I have never deliberately said something that hurt someone's feelings.

10. I never hesitate to go out of my way to help someone in trouble.
11. When I don't know something I don't mind at all admitting it.
12. I would never think of letting someone else be punished for my wrong-doings.
13. I am sometimes irritated by people who ask favor of me.
Fraud scales
1. I have planned cheating on a test.
2. I have cheated and then allowed someone else to copy my work during an evaluation.
3. I have used unauthorized materials during an evaluation, although the teacher had not approved using them.
4. I have worked with another student on an activity to be submitted for academic evaluation, even though the professor had not authorized working with someone else.
5. I have submitted the same or similar work, in more than one subject, without the prior consent of the evaluating professor(s).
6. I have copied information directly, or in slightly modified form, from websites or other sources, without proper acknowledgment of the author or original source.
7. I have submitted someone else's material as if it were my own for academic evaluation.
8. I have prepared work for another student to submit for academic evaluation.
9. I have sold or loaned documents so that another student could turn them in as their own work.
10. I have bought documents for the purpose of turning them into my own work.
11. I have used improperly purchased or distributed exams – for example, I saw the test before the actual evaluation or took a copy of it without the professor's permission.
12. I have used unauthorized material or fabricated data in an academic exercise – for example, I falsified data in a research paper or laboratory activity.
13. I had not planned, but have allowed someone else to copy my test during an evaluation.
14. I noticed, during an evaluation, that another student wanted to copy my work and I allowed them to (did not prevent the student from copying).
15. I had not planned, but have cheated on a test.
16. I had not planned, but have used unauthorized material or device during an evaluation.

Personality	
Ethical	Extrovert
Responsible	Methodical
Flexible	Aggressive
Motivated	Risk taker
Enthusiastic	Visionary
Aware	Prudent
Intelligent	Adventurous
Confident	Committed
Sure of oneself	Fearless
Persistent	Brave
Creative	Perfectionist
Rational	Resigned
Humorous	Cautious/Careful
Careful	Experienced in world situations
Curious	Conventional

Marciele Anzilago, Franciele do Prado Daciê and Kelly Arent Della Giustina
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Controversial	
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Demographic data

Sex	<input type="checkbox"/> Female	<input type="checkbox"/> Male
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Age:

Course period/year	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th
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