


## THE INFLUENCE OF ETHICAL CLIMATE ON ACADEMIC CHEATING CONDUCT MEDIATED BY SELF-INTEREST: A STUDY WITH ACCOUNTING STUDENTS

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### ABSTRACT

Academic cheating proves to be a concern in the professional education of students. In this context, the culture of the individuals (self-interest) and the environment (ethical climate) that meet may explain such behaviors. This study aimed to analyze the influence of ethical climate on academic cheating conduct mediated by self-interest among accounting students. The study is characterized as descriptive, quantitative, and of the survey type. The sample included 158 responses from accounting students from public and private universities located in southern Brazil. Exploratory factorial analysis was used for analyzing the data, and the partial least squares Structural Equation Modeling for testing the hypotheses. The results point out that the ethical climate perceived by the students influences self-interest and academic cheating conduct negatively, and that self-interest positively influences academic cheating conduct. It was also observed that self-interest acts as a mediator variable in the relationship between ethical climate and academic cheating conduct. The findings demonstrate that the cheating conduct may be motivated by the defense of student self-interest, besides being minimized by the ethical climate present in the university environment. In this sense, the study contributed to the accounting education literature by emphasizing the

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Edited in Portuguese and English. Original version in Portuguese.

**Received on** 4/4/2021. **Reviewed on** 8/19/2021. **Accepted on** 8/26/2021, by Prof. Dr. Sérgio Murilo Petri (Editor-In-Chief) and Prof. Dr. Sandro Vieira Soares (Associate Editor). **Published on** 9/30/2021.

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importance of rules and social responsibility in the conduct of undergraduate students. Also, by demonstrating that both personal and academic environment aspects may mold student behavior. From the exposed, greater dissemination and monitoring of programs that encourage good conduct is suggested, with the goal of propagating ethically accepted practices to avoid an environment conducive to cheating.

**Keywords:** Accounting Education. Accounting Students. Ethical Climate. Academic Cheating. Self-Interest.

## 1 INTRODUCTION

Besides technical education, one of the challenges of higher education institutions (HEIs) is developing ethical professionals and providing them to the market. For such, HEIs usually have codes of academic conduct. Tied to this, research indicates that academic cheating is common among academics, especially in institutions without ethics codes, because there is no organizational ethical climate that inhibits such attitudes (Bing et al., 2012; McCabe & Treviño, 1993; 1997; McCabe et al., 2006; Teixeira & Rocha, 2010).

Cheating is an intentional behavior through rule-breaking for obtaining unfair advantages over the others (Green, 2004; Hosny & Fátima, 2013). Research indicates that business programs present high levels of cheating (Bowers, 1964; McCabe, 1997; McCabe et al., 2006). This may be caused by the organizational ethical climate, in which the environment encourages unethical behavior for professional and personal prospection (Bing et al., 2012; McCabe & Treviño, 1995; Teixeira & Rocha, 2010).

In the professional environment, scandals such as corruption crimes have more and more prominence in the media, be it in public or private sectors (Macêdo, 2016). In Brazil, fraudulent operations such as the case of JBS in the *Carne Fraca* operation and companies Odebrecht S.A. and OAS S.A. in the *Lava Jato* operation, both detected by the Federal Police, illustrate corruption in the accounting environment. However, such frauds are not exclusively a Brazilian problem (Torres & Cassol, 2019). Scandals such as those of Enron, Adelphia, Artur Andersen, and WorldCom placed ethics on the public debate within the global scope (Winrow, 2016). Cases such as these contributed to a wearing of the trust on the market and influenced the change of laws, for example, the creation of the Sarbanes-Oxley (SOX) law (Winrow, 2016).

In this context, the role of the accountant, especially in respect to the fight against corruption, is of prominence. This is because, besides recording the economic facts of the entity, the accounting professional is that who has control over the transparency information necessary to analyze the result of an organization, in addition to being that who must report any evidence of fraud (Serra & Ares, 2014). However, the ethical behavior of the accountant becomes questionable in some cases since, if exposed to ethical/moral dilemmas, the professionals may choose to serve their self-interest from their moral judgment and from how they expect their professional colleagues would act in analogous situations, i.e., their ethical perception (Lustosa et al., 2012).

The management of accounting information is usually practiced in attitudes with political, tax, and/or personal gain motivations (Santana & Carvalho, 2016). Situations in which there is the use of their technical knowledge with the purpose of manipulating the accounting information are examples of debatable acts (Lustosa et al., 2012). Upon observing how important ethics is for the craft of the accounting professional, the attentions are turned for Accounting Sciences academics to be exposed to an ethical climate in their education, being encouraged to meet the Code of Professional Ethics of the Accountant (Vieira, 2011).

Winrow (2016) points out the failure of universities to promote an appropriate ethical climate, which involves the shared perception of good academic norms and conduct (Victor &

Cullen, 1988). With this, these institutions are unable to generate among their students the interest in maintaining themselves fit to develop and internalize the concept of ethics during their undergraduate education (Winrow, 2016). One solution pointed out in the said study would be to integrate ethics into the curricula with the purpose of preparing better professionals for the work market (Winrow, 2016). Hence, one seeks a deepening about ethics within the academic accounting scope with the goal of understanding if the climate that permeates the accounting teaching and learning process is capable of contributing to the good performance of the future professionals (Lima, Prazeres, Araújo, & Araújo, 2015).

Upon entering the university environment, the students bring with them their concepts of ethics, associated with the model to which they fit socially. Hence, maintaining an ethical climate during academic education is directly connected to the image of the service provided to society (Bermúdez-Aponte, Pedraza Ortiz, & Rincón Rivera, 2015). With this, cheating actions are directly related to the culture of the individuals (self-interests), as well as suffer the influence of the environment (ethical climate) in which they find themselves. From the exposed, we have the following research question: **What is the influence of the ethical climate on academic cheating conduct mediated by student self-interest?** To answer the research problem, we aim to analyze the influence of the ethical climate on academic cheating actions mediated by self-interest in the context of accounting education.

This work is justified for bringing the discussion on the importance of maintaining an ethical climate within the university environment (Lawter, Rua, & Guo, 2014), with it being significant to emphasize the importance of stimulating student interest in being more and more ethical. Many pieces of research have investigated the institutionalization of ethics in organizations (Jose & Thibodeaux, 1999; Popoola et al., 2017), ethical climate in individual conduct (McCabe & Treviño, 1995; Decoster, Stouten, & Tripp, 2019), and academic cheating (Winrow, 2016). However, the differential of this research resides in the analysis of the relationship between the ethical climate and academic cheating mediated by student self-interest. It is expected that, from the findings of such an analysis, there be a reduction in cheating in the academic environment.

Moreover, the study presents the self-interest of the individual as a mediator of the relationship between ethical climate and academic cheating (Miller, Shoptaugh, & Wooldridge, 2011); with this, one has that, to avoid cheating in the academic environment, the university climate and the interest of the academic in their results and the possibility of fraud must be considered simultaneously. Hence, we expect to contribute to the social setting by providing education environments directed at the ethical climate, which in turn may cause a decrease in fraudulent actions in both the academic and professional contexts.

## **2 THEORETICAL BACKGROUND**

There was a historical period in which corporate scandals placed in evidence the ethical behavior of business leaders, and the role of universities in the training of future leaders/managers was questioned (Rakovski & Levi, 2007). Moreover, even if knowledge is one of the main forms of achieving professional development, ethics and transparency in one's activities become essential; however, knowledge alone does not guarantee ethics (Antonovz, Espejo, Neto, & Voese, 2010).

Nevertheless, courses of this nature have the expectation to capacitate future professionals to make decisions based on ethical values (Lowry, 2003). This is because ethics classes have a positive relationship with the engagement and awareness about moral principles and with the reformulation of past experiences (Lawter, Rua, & Guo, 2014). Studies indicate that the advance of undergraduate studies makes student perception more favorable to the precepts of ethics in accounting (Trentin, Souza Domingues, & Castro, 2008; Silva & Figueiredo, 2012).

However, dishonest behaviors may be present throughout higher education so as to be impregnated on the individual, forming a vicious cycle. If the students demonstrate unethical behaviors at the university, they may become dishonest professionals (Rakovski & Levy, 2007). As per the study by Winrow (2016), academic fraud is a global issue, with 50% to 80% of students using any cheating during their education. Studies also indicate that students in the business area are among those that most use these practices during their university studies (Tse & Au, 1997; Wood, Longenecker, McKinney, & Moore, 1988). According to Lawson (2004), this academic cheating by students from business areas such as administration and accounting occurs due to the perception that unethical behavior is essential to advance their careers.

As possible explanations found in studies on academic dishonesty, there is the issue of employability that causes the students to understand that high performance during the academic period attracts more views by employers (Winrow, 2016), the perception of lack of severity of the penalties for cheating, and the characteristics of the individual themselves (McCabe & Treviño, 1997), the behavior of one's peers (McCabe, Butterfield, & Treviño, 2006), and the academic integrity of the institution (McCabe, Treviño, & Butterfield, 2001). Hence, the students use fraudulent means to achieve the highest scores and later stand out in the work market.

In tackling ethics, it is common to address its climate, the most common definition of which is “the shared perception of what an ethically correct behavior is and how ethical issues should be treated” within an organization (Victor & Cullen, 1988, p. 51-52). As contextualized by Jobim et al. (2005), it may generally be identified within organizations by the psychological, social, and human atmosphere that characterizes how people relate with each other. The ethical climate is a component of the operational culture in which prescriptions, proscriptions, and permissions regarding moral obligations are included. In other words, it is an example of how the individual manages to differentiate what is right to do or how one must deal with certain social situations (Rego, 2002).

In organizational contexts, the ethical climate relates to the perceptions by individuals relative to the ethical procedures and policies of the organization itself. It goes beyond feelings and attitudes; it refers to the shared perceptions based on observations by the individuals of how the organization and/or workgroups view and resolve ethical dilemmas (Wimbush & Shepard, 1994). One may observe that the ethical climate presents in a multifaceted manner. This is because it depends on the shared individual perceptions about what ethically correct behaviors would be. From this understanding, for this study, the concept of perception of rules and responsibilities of social coexistence is used to measure the ethical climate (Jobim et al., 2005).

## **2.1 Development of the Hypotheses**

The institutionalization of ethics significantly encourages academics to contain themselves regarding cheating actions (Popoola et al., 2017). A culture of honesty with the simultaneous presence of codes of ethics increases academic integrity and brings down illicit acts such as cheating among students (McCabe & Treviño, 1993; McCabe & Pavela, 2000). The study by Rezaee, Elmore, and Szendi (2001) provided evidence that having a code of good conduct contributes to ethical behavior in HEIs. Complementarily, they strengthen the internal controls against irregularities, be they administrative and/or legal.

In a study conducted with students, Miller et al. (2011) reported that the punitive consequences established by the institutional rules were the motivators for them not to cheat, besides being prone to reporting unethical actions. Hence, they understood that the ethical climate of the organization promotes academic integrity. Under this same spectrum, the ethics courses were deployed for the business environment. Based on their teachings, the students think more carefully about the possible results of unethical behaviors, making their views more negative regarding such practices (French, 2006; Laditka & Houck, 2006; Ritter, 2006).

Commonly, in the presence of attractive opportunities for illicit acts, the lack of self-control and absolute view of self-interest render the individual more prone to act according to their interests, regardless of the conduct is considered appropriate (Grasmick, Bursik, & Arneklev, 1993; Nagin & Paternoster, 1993; Gibbs & Giever, 1995; Longshore, Turner, & Stein, 1996). With this, they act for their own benefit without taking into consideration the other members of the organization.

From these isolated acts, environments in which there is a perception of an ethical climate are prone to measures against the individuals that fight for their self-interest, driven by their desire for retaliation (Decoster et al., 2019). Hence, it is expected that the perception of a more considerable ethical climate may inhibit the self-interest of individuals, making them think more about their conduct in the face of their interests. Based on the exposed, we present the first research hypothesis:

*H1: The academic ethical climate influences academic self-interest negatively*

Self-interest may be defined in terms of physical wellbeing, pleasure, power, richness, happiness, or other criteria that promote the desires and interests of the individual. In this research, we follow the idea exposed by Cullen, Victor, and Bronson (1993) that self-interest is a selfish posture. From the exposed, under the presence of ethical dilemmas, selfishness directs the assessment of the individual for them to make decisions that will better provide for their interest (Barnett & Vaicys, 2000).

Hirschi and Gottfredson (1987) stated that people are dishonest in a work environment because they understand that it is a quick and correct way to reach targets with less effort. This may also be seen for students in the academic environment (Winrow, 2016). Competition motivates academic cheating, especially for students with results below their objectives or needs (Cooper & Peterson, 1980). Nasu and Afonso (2020) indicated that cynicism has a positive relationship with academic cheating, a finding that follows Kökalan (2019), who pointed out the prioritization of personal interests before the collective ones by cynical professionals.

The reasons for thinking of cheating actions as acceptable were connected to the motivation for pro-social intentions (Keltikangas-Jarvinen & Lindeman, 1997). Students interpret that, when carried out in service of helping family, cheating is acceptable (Jensen, Arnett, Feldman, & Cauffman, 2002). From the perspective of the cognitive dissonance that individuals modify their assessments to fit the adopted behavior, the findings by Jensen et al. (2002) demonstrated that past problems cause the student to consider academic dishonesty acceptable.

In their General Theory of Crime, Gottfredson and Hirschi (1990) defined “crime” as a fraudulent act in search of benefits for oneself, regardless of the consequences to others. Offenders tend to have low self-control and concentrate exclusively on their immediate needs. Such findings are corroborated by Cochran, Wood, Sellers, Wilkerson, and Chamlin (1998) upon relating low self-control with academic dishonesty. With this, it is expected that students with greater self-interest tend towards more considerable conduct of academic cheating. From this, the following hypothesis was devised:

*H2: Academic self-interest influences academic cheating positively*

Under this same focus, research shows that the exposure of students to training programs and learning experiences about ethics reduces the propensity to cheating actions. Consequently, the awareness about issues and perceptions of ethical judgments increases (Nguyen, Basuray, Smith, Kopka, & McCulloh, 2008; Lai, Kwan, Kadir, Abdullah, & Yap, 2009; Smyth, Davis, & Kroncke, 2009; Simha, Armstrong, & Albert, 2012). Besides the aspects listed for the academics, the ethical climate of HEIs encompass higher positions and functions; with this, the study by DeAngelis (2014) inferred that codes of ethics and the adhesion of fiduciary codes of professional responsibilities are related to behaviors and perceptions of ethics of the deans and academic honesty.

Thus, the implementation of implicit ways to institutionalize ethics and encourage academics to practice ethical rules against academic cheating is important (Jose & Thibodeaux, 1999). This demonstrates that the presence of an organizational structure and culture that encourages the ethical climate is directly linked to academic cheating. With this, it is expected that the perceived ethical climate influences academic cheating conduct negatively. From the exposed, the third research hypothesis was devised:

*H3: The academic ethical climate influences academic cheating negatively*

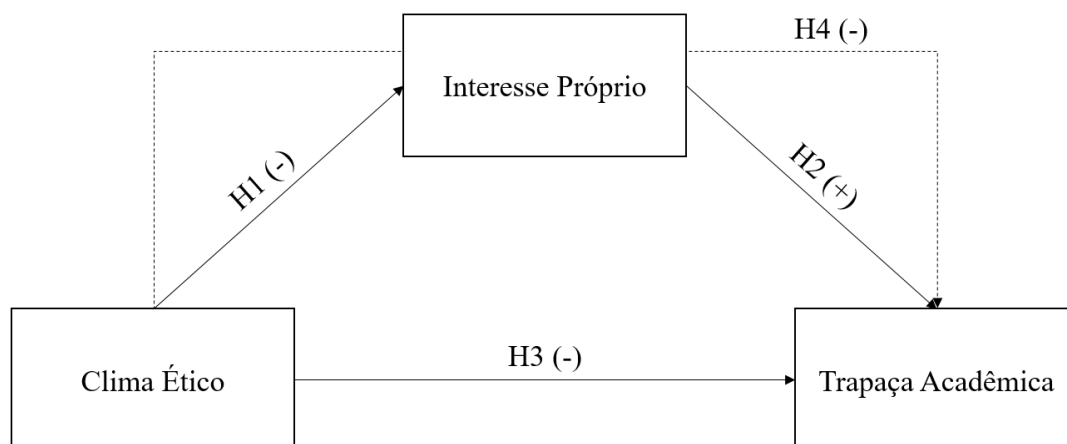
As presented in the previous sections, studies have related ethical climate with academic cheating, as well as a relationship between self-interest and academic cheating. Popoola et al. (2017) pointed out that the ethical climate of an organization significantly reduces cheating actions. This is because, in ethical environments, individuals tend to insert themselves into the environment and follow the established rules of conduct. Hence, an ethical standard is institutionalized in the organization. There is also literature that points out a relationship between ethical climate and the reduction of self-interest before others (Miller et al., 2011).

In contrast, studies have pointed out that, with competitiveness, self-interest renders the individual more prone to carrying out illicit acts to benefit themselves before others, even more so when agents internalize it as something acceptable (Jensen et al., 2002). From the rationalization that the fraudulent action has more pros than cons, the agent carries out the operation.

From these two aspects, it is observed that the relationship between ethical climate and cheating in academic environments has self-interest as a mediator since however much the education institution has a healthy ethical climate and does not encourage illicit conduct, it is the interest of the individual in acting a certain way that may provide the act of cheating or not. McCabe et al. (2001) pointed out that codes of ethics reduce cheating actions. Likewise, they promote responsibility in the student before the maintenance of academic integrity through character and moral standards, with a focus on the academic community. Thus, the ethical climate is observed as an environmental aspect that, in turn, may diverge according to the individual aspects of the agent: self-interest in the cheating action, in this case. In view of the exposed, it is believed that the ethical climate may inhibit self-interest and, consequently, the academic cheating conduct, with self-interest being a mediator in the relationship between ethical climate and academic cheating. With this, the last research hypothesis is presented:

*H4: The academic ethical climate influences academic cheating negatively, mediated by academic self-interest*

From the hypotheses of the study, Figure 1 presents the theoretical model of the research.



**Figure 1.** Research design

**Note.** The dotted line indicates an indirect relationship.

It is assumed that the ethical climate of the education institution impacts self-interest and academic cheating negatively. Also, it is predicted that self-interest has a positive relationship with academic cheating and a mediator function of the relationship between ethical climate and academic cheating.

### 3 METHODOLOGICAL PROCEDURES

This study is characterized as descriptive, quantitative research of the survey type. The data were collected using questionnaires applied through the Google Forms platform with students of the Accounting Sciences program of HEIs located in southern Brazil. For their application, emails were sent to the program Coordinators of four private universities and seven public universities in the states of Paraná, Santa Catarina, and Rio Grande do Sul requesting that the questionnaires be forwarded to the active students in all phases of the program. The study obtained a sample of 158 valid responses. Data collection took place from September to November 2019.

The questionnaire contained four blocks, with the first being about the characterization of the respondents. The second block aimed at the academic ethical climate used as the basis of the study by Cullen et al. (1993). The dimensions of rules, norms, and procedures and of social responsibility were used, with three and five assertions, respectively. The rules, norms, and procedures assertions aimed to capture the perception by the respondents about compliance with the rules and procedures by the other students. In turn, the social responsibility assertions aimed at their perception about how concerned the universities were with those involved and their actions. One assertion connected to rules, norms, and procedures was excluded from the factorial analysis.

The third block aimed at student self-interest, with three assertions that sought how much the respondents protected their own interests above other considerations, using three assertions by Cullen et al. (1993). The other dimensions of the questionnaire by Cullen et al. (1993) were not used because they do not apply to the academic context and address efficiency in the operation and profit in the corporate context. Lastly, the fourth block aimed at the academic cheating conduct with three assertions about planned cheating and four about spontaneous cheating, differentiated by the prior intention of the academics in carrying out the cheating act. Academic cheating involves fraudulent actions in the academic environment, such as copying work and using prohibited materials on test days, based on the study by Winrow (2016). The assertions on plagiarism and improper use of materials were collected yet excluded because they did not meet the validity and reliability criteria. All questions were answered on five-point Likert scales. Table 1 presents the research instrument.

Table 1  
**Research Instrument**

Construct	Question	Assertion	Scale
ETHICAL CLIMATE	RULE2	It is very important to follow the rules and procedures of the university strictly	(1) Entirely False and (5) Entirely True
	RULE3	All should follow the rules and procedures of the university	
	RESP1	It is expected that one always do what is right for one's classmates and professors	
	RESP2	The people at this university have a strong sense of responsibility to the external community	
	RESP3	The people at this university are actively concerned with the interests of the students and society	
	RESP4	The people are very concerned with what is generally better for the university employees	
	RESP5	The effect of decisions on students and society is the	
	INT1	At this university, people are individualistic	

SELF-INTEREST	INT2	There is no space for one's own morals or personal ethics at this university	(1) Never and (5) Very Often
	INT3	At this university, people protect their own interests above other considerations	
ACADEMIC CHEATING	PCHEAT1	Planned it and cheated during some test	
	PCHEAT2	Planned it and then allowed someone else to copy their work/test	
	PCHEAT3	Planned it and used unauthorized materials during a test when the instructor did not approve the use	
	SCHEAT1	Did not plan it but cheated on some test	
	SCHEAT2	Noticed that, during a test, another student wanted to copy their work and allowed it (did not prevent the student from copying it)	
	SCHEAT3	Did not plan it but allowed another person to copy their work/test	
	SCHEAT4	Did not plan it but used unauthorized materials or devices during a test	

After collecting the data, the exploratory factorial analysis of the research constructs was performed using the SPSS software. The exploratory factorial analysis was used because the questions involving ethical climate and self-interest were adapted to the academic context. Moreover, although the study assertions were based on previous studies, new constructs were devised. The ethical climate construct was elaborated from the assertions on rules, norms, and procedures and social responsibility, while academic cheating was created from planned treating and spontaneous cheating. In turn, the self-interest construct used was the same as in the baseline study.

Next, the hypothesis test was performed from the Structural Equations Modeling technique carried out via partial least squares (PLS-SEM) using the software SmartPLS 3. PLS-SEM involves the simultaneous assessment of multiple variables defined after the factorial analysis and their relationships (Ringle, Silva, & Bido, 2014; Hair Jr, Sarstedt, Hopkins, & Kuppelwieser, 2014). The correlations between the constructs and their measured variables are calculated, and then linear regressions are performed between the constructs (Ringle et al., 2014; Hair Jr et al., 2014).

The calculation of the appropriate sample size aiming at the statistical power of the analysis was performed using the software G\*Power. To do so, the criteria established by Faul, Erdfelder, Buchner, and Lang (2009) were used, from the predictor variables over the independent variable, the average effect size of 0.15, the sample power of  $1 - \beta = 0.8$ , and the significance level of  $\alpha = 0.05$ . From the criteria, it was established that at least 68 responses were expected for assessing the theoretical model.

The assessment of the validity and reliability of the measurement model was performed through the Average Variance Extracted and the internal consistency using Cronbach's Alpha (CA) and Composite Reliability (CR) (Ringle et al., 2014; Hair Jr et al., 2014). For the hypothesis test and the analysis of the significance of the relationships (p-value) between the variables in the structural model, the Bootstrapping procedure was used with two thousand repetitions, based on the total population (Ringle et al., 2014).

For the mediation, the criteria established by Baron and Kenny (1986) were used: (i) the independent variable (ethical climate) must influence the mediator (self-interest); (ii) the mediator (self-interest) must influence the dependent variable (academic cheating); (iii) the independent variable (ethical climate) must influence the dependent variable (academic cheating); and (iv) the effect of the independent variable (ethical climate) on the dependent variable (academic cheating) must be smaller in the mediation than in the direct relationship (Baron & Kenny, 1986).



## 4 PRESENTATION AND ANALYSIS OF THE DATA

### 4.1 Characterization of the respondents

The first part of this section concerns the descriptive statistics of the study sample. The addressed sample was composed of 100% of Accounting Sciences students, with the characterization of the respondents being presented in Table 2.

Table 2  
Profile of the studied sample

Variables	Category	Absolute Frequency	Relative Frequency (%)
Phase	1st and 2nd Phases	27	17.20
	3rd and 4th Phases	23	14.65
	5th and 6th Phases	33	21.02
	7th and 8th Phases	48	30.57
	9th and 10th Phases	9	5.73
	Rather Not Answer	17	10.83
Gender you most identify with	Female	104	66.24
	Male	51	32.48
	Rather Not Answer	2	1.27
Age Range	17 to 21 years	64	40.76
	22 to 27 years	55	35.03
	27 or more	36	22.93
	Rather Not Answer	2	1.27
Institution	Private	64	40.76
	Public	93	59.24

From the presented data, we have that the sample presents a diversity of profiles of students in the Accounting Sciences program, with representatives in all phases of the program. We also emphasize that most respondents identify with the female gender (66.24%).

In addition, as expected for undergraduate students, one may notice that the respondents are young, with the predominant age range (40.76%) being from 17 to 21 years. Regarding the education institution, 59.24% of the respondents studied in public institutions. This finding is compatible with the fact that the survey was directed at seven public universities and four private ones.

### 4.2 Factorial Analysis

After the descriptive analysis, the exploratory factorial analysis was carried out with the goal of observing the latent variables inserted later into the structural model. The constructs were validated from the criteria established by Hair Jr, Hult, Ringle, & Sarstedt (2016): (i) extraction method of the principal component analysis by Varimax rotation with Kaiser normalization; (ii) analysis of Commonalities; (iii) Kaiser-Meyer-Olkin (KMO) sample adequacy test; (iv) Bartlett's sphericity test; and (v) Anti-Image Matrix analysis (MSA).

The constructs were validated from the established criteria. In the first construct, an assertion connected to rules, norms, and procedures did not meet the established criteria and was excluded. Otherwise, the rules, norms, and procedure constructs and the social responsibility constructs joined to form the ethical climate construct. In the case of self-interest, the assertions grouped together in the expected factor. Lastly, for academic cheating, the planned cheating and

spontaneous cheating assertions grouped together in a single factor denominated academic cheating. Table 3 presents the exploratory factorial analysis of the research constructs.

Table 3  
**Exploratory factorial analysis of the constructs**

Construct	Question	Factor	H <sup>2</sup>	MSA	KMO	Bartlett's Test
ETHICAL CLIMATE	RULE2	0.396	0.731	0.605	0.799	X <sup>2</sup> = 306.965 Sig = 0.000
	RULE3	0.678	0.468	0.867		
	RESP1	0.600	0.651	0.755		
	RESP2	0.776	0.655	0.842		
	RESP3	0.823	0.716	0.783		
	RESP4	0.593	0.594	0.851		
SELF-INTEREST	RESP5	0.729	0.537	0.813	0.641	X <sup>2</sup> = 75.361 Sig = 0.000
	INT1	0.733	0.537	0.690		
	INT2	0.773	0.597	0.647		
ACADEMIC CHEATING	INT3	0.831	0.691	0.607	0.840	X <sup>2</sup> = 640.435 Sig = 0.000
	PCHEAT1	0.836	0.805	0.827		
	PCHEAT2	0.702	0.773	0.821		
	PCHEAT3	0.742	0.727	0.864		
	SCHEAT1	0.852	0.779	0.849		
	SCHEAT2	0.716	0.723	0.863		
	SCHEAT3	0.703	0.821	0.787		
SCHEAT4	0.762	0.758	0.873			

Once the exploratory factorial analysis step was finalized, we proceeded to carry out the Measurement Model, reported in the following section.

#### 4.3 Assessment of the Structural Model and Hypothesis Test

Once the exploratory factorial analysis was performed, the research proceeded to assess the Measurement Model. As oriented by Hair Jr et al. (2014), we aimed at the reliability and validity of the measurement model from the indices of convergent validity (AVE), internal consistency confidence (CR and CA), and discriminant validity assessed using the criterion by Fornell and Larcker (1981).

The convergent validities are obtained through the observations of the Average Variance Extracted (AVE) values. For internal consistency, Cronbach's Alpha (CA) and Composite Reliability (CR) were used (Ringle et al., 2014). The two indices are used to observe if the sample is free of bias. The criteria used were the following: over 0.5 for AVE, over 0.7 for CR, and over 0.6 for CA, as per Ringle et al. (2014).

To assess the discriminant validity (DV), used to analyze if the latent variables are independent of each other (Hair Jr et al., 2014; Ringle et al., 2014), the criterion by Fornell and Larcker (1981) was employed. In it, the root squares of the AVE values for each construct are compared with the correlations between constructs, given that the square roots of the AVEs are greater than the correlations between constructs (Fornell & Larcker, 1981; Ringle et al., 2014). Table 4 presents the assessment of the measurement model.

Table 4

**Validation of the measurement model**

Variables	ETHICAL CLIMATE	SELF-INTEREST	Academic Cheating
ETHICAL CLIMATE	<b>0.722</b>		
SELF-INTEREST	-0.388	<b>0.774</b>	
Academic Cheating	-0.409	0.361	<b>0.760</b>
<b>AVE</b>	0.521	0.599	0.578
<b>CR</b>	0.866	0.815	0.905
<b>CA</b>	0.817	0.677	0.878

**Note.** AVE: Average Variance Extracted; CR: Composite Reliability; CA: Cronbach's Alpha.

After the validation of the measurement model, the  $R^2$  (Pearson's correlation coefficient) value for each construct, which indicates how much each dependent variable is explained by the independent variables, was verified. In this research, the criteria by Cohen (1988) for the social sciences were used to assess the explanatory power, with  $R^2 = 2\%$  being a small effect,  $R^2 = 13\%$  a medium effect, and  $R^2 = 26\%$  a large effect (Cohen, 1988). The  $R^2$  values of the Self-Interest and Academic Cheating constructs were respectively 0.151 and 0.215. From the structural model, one may notice that the variables have a medium explanatory power for self-interest and academic cheating. The Bootstrapping procedure (Ringle et al., 2014) was used for the hypothesis test searching for an analysis of the significance of the relationships (p-value) in the structural model. Table 5 presents the path coefficients based on the data obtained from Bootstrapping.

Table 5

**Path coefficient and significance of the relationships**

Hypotheses	Relationship	Structural coefficient	Standard error	t-value	p-value
H1	Ethical Climate > Self-Interest	-0.388	0.075	4.23	0.000
H2	Self-Interest > Academic Cheating	0.238	0.083	2.86	0.004
H3	Ethical Climate > Academic Cheating	-0.316	0.089	4.37	0.000
H4	Ethical Climate > Self-Interest > Academic Cheating	-0.093	0.038	2.45	0.014

Firstly, Hypothesis 1 was not rejected since, as expected, a negative influence of the perceived ethical climate on academic self-interest was found. One may infer from this finding that, when finding themselves in environments with more considerable ethical climates, students tend to reflect more about their actions, given that they may lead to a disagreement with what is proposed by the environment. Consequently, they tend to decrease their self-interest in the face of the conduct in the environment.

This finding corroborates the study by Miller et al. (2011), who presented that the rules and norms may influence the defense of the self-interest of individuals and that the lack thereof may lead individuals to think more about their interests, as the study by Longshore et al. (1996) also points out. For universities, it is pointed out that the institution of rules, norms, and procedures that encourage ethical conduct and the emphasis on the concern with social responsibility may lead accounting students to focus less on their interests and more on following conduct deemed appropriate in the academic environment.

Hypothesis 2 was also not rejected since there was a positive and significant relationship between academic self-interest and academic cheating. With this, we have that students with high levels of self-interest tend to be more prone to unethical acts that result in academic cheating. From the results, we have that accounting students tend to have academic cheating conduct to defend their interests, as Winrow (2016) pointed out, in search of fitting at an assessment level deemed appropriate, as indicated by Jensen et al. (2002). With this, for a decrease in academic cheating

conduct, the awareness of the accounting students and future professionals is necessary, aiming at decreasing their self-interest.

In turn, Hypothesis 3 was also not rejected because there was a negative and significant influence of perceived ethical climate on academic cheating. One may infer from the results that students tend to cheat less if they perceive an ethical climate at the university in which they are inserted. The result corroborates the findings that the exposure of students to training programs and learning experiences about ethics improve their ethical judgment and reduce the propensity for cheating conduct, as pointed out by Nguyen et al. (2007) and Simha et al. (2012).

Hence, one observes the importance for universities and, in this case specifically, accounting sciences programs, to implement, encourage, and practice implicit and explicit forms such as the presentation and dissemination of the code of ethics and the diffusion of an ethical climate around the academics. This is aiming at improved student conduct that may even reflect on the future graduated professionals given the importance of the accounting profession in the business environment, as pointed out by Winrow (2016).

Lastly, Hypothesis 4 evinced a partial mediation of self-interest in the relationship between perceived ethical climate and academic cheating conduct. With parsimony, it is pointed out that the ethical climate perceived by accounting students influences the conduct of illicit acts, in this case specifically cheating on papers and tests. However, these actions still depend on the self-interest of these students. The findings demonstrate that cheating conduct does not depend only on the ethical climate present in the university environment; these actions may also be motivated by the defense of student self-interest.

A more considerable ethical climate encouraged by the implementation of ethical rules, routines, and procedures and a concern with social responsibility may inhibit the defense of such self-interests and, consequently, academic cheating conduct. We point out a need for greater emphasis by accounting education in searching for this ethical climate that may make students aware and train a better professional, given that the perceptions of ethics in the university environment influence professional conduct, as pointed out by previous studies (Winrow, 2016).

## 5 CONCLUSIONS

This study had the general objective to analyze the influence of ethical climate on academic cheating conduct mediated by self-interest. For such, a questionnaire was sent to accounting sciences academics from public and private universities in southern Brazil, aiming to capture their perception of ethical climate, their self-interests, and their academic cheating conducts.

In theoretical terms, the study contributes to the inclusion of self-interest as a mediator variable in the relationship between ethical conduct and academic cheating. The findings demonstrate that accounting students tend to minimize their academic cheating conducts in an environment they deem ethical. However, the academic cheating conduct also depends on the self-interest of these students, confronted with the ethical climate perceived by those involved. With this, the dissemination and monitoring of rules, norms, and procedures by the universities may be a path for propagating ethically accepted practices in the academic environment. Added to this, social responsibility awareness campaigns with academics and future professionals may lead to a more significant awareness of those involved, given that, in addition to affecting the cheating actions, a better ethical climate perception tends to minimize actions that only aim at self-interest.

The measures pointed out contribute to that exposed by Winrow (2016), who indicated that better perception of ethics in the work environment leads to fewer cheating actions, addressing the climate at the education institution instead of the external environment. One may conclude that accounting students have their academic cheating conduct influenced by their perception of ethical climate at the university, given that the listed hypotheses were supported.

With this, we call the attention of universities for a more deepened discussion of the ethical components so to avoid an environment conducive to cheating. The diffusion of cheating among accounting academics is still alarming, given that the students who cheat at the universities are more prone to involving in unethical behavior at the workplace, as McCabe et al. (2006) pointed out.

Despite its contributions, this study presents its limitations. The sample had only accounting students situated in southern Brazil, so its results cannot be generalized. The research also adopted a data collection strategy based on self-reported answers by the participants, which may introduce biases from the interpretation of the assertions by the respondents. Moreover, the study was limited to the dimensions of rules, routines, and procedures, social responsibility, and self-interest by Cullen et al. (1993) and spontaneous cheating and planned cheating by Winrow (2016). It was also limited for not assessing the social desirability bias.

For future research, we suggest studies in other regions of the country, contemplating a larger number of accounting students and including other dimensions of ethical climate by Cullen et al. (1993), such as Social Morality and Collective Interest, not used in this study because the focus was on the individual and organizational dimensions. We also emphasize the possibility of conducting studies that may advance the presented discussion, aiming to understand whether the diffusion and monitoring of the ethical climate has an effect on the conduct and what motivations lead to academic cheating conduct. Bringing the perception of students to the discussion could also offer insight into the climate at the universities. Alternatively, the ethics discussion could be taken to the market professionals, including separating according to work in accounting and seeking the view by these professionals about academic cheating in the university environment and its relationship with the education of future accountants.

## REFERENCES

- Antonovz, T., Espejo, M. M. D. S. B., Neto, P. J. S., & Voese, S. B. (2010). Atitudes éticas dos contadores: evidências recentes de uma pesquisa com alunos e profissionais contábeis sob a perspectiva de gênero. *Revista de Contabilidade e Organizações*, 4(10), 86-105.
- Barnett, T., & Vaicys, C. (2000). The moderating effect of individuals' perceptions of ethical work climate on ethical judgments and behavioral intentions. *Journal of Business Ethics*, 27(4), 351-362.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, 51(6), 1173.
- Bermúdez-Aponte, J. J., Pedraza Ortiz, A., & Rincón Rivera, C. I. (2015). El clima organizacional en universidades de Bogotá desde la perspectiva de los estudiantes. *Revista electrónica de investigación educativa*, 17(3), 01-12.
- Bing, M. N., Davison, H. K., Vitell, S. J., Ammeter, A. P., Garner, B. L., & Novicevic, M. M. (2012). An experimental investigation of an interactive model of academic cheating among business school students. *Academy of Management Learning & Education*, 11(1), 28-48.
- Bowers, W. J. (1964). *Student dishonesty and its control in college*. Bureau of Applied Social Research, Columbia University.

- Cochran, J. K., Wood, P. B., Sellers, C. S., Wilkerson, W., & Chamlin, M. B. (1998). Academic dishonesty and low self-control: An empirical test of a general theory of crime. *Deviant Behavior, 19*(3), 227-255.
- Cooper, S., & Peterson, C. (1980). Machiavellianism and spontaneous cheating in competition. *Journal of Research in Personality, 14*(1), 70-75.
- Cohen, J. (1988). Statistical power analysis for the behavioral sciences: Jacob Cohen. *J Am Stat Assoc, 84*(363), 19-74.
- Cullen, J. B., Victor, B., & Bronson, J. W. (1993). The ethical climate questionnaire: An assessment of its development and validity. *Psychological reports, 73*(2), 667-674.
- DeAngelis, W. (2014). Academic deans, codes of ethics, and..... fiduciary duties? *Journal of Academic Ethics, 12*, 209-225.
- Decoster, S., Stouten, J., & Tripp, T. M. (2019). When Employees Retaliate Against Self-Serving Leaders: The Influence of the Ethical Climate. *Journal of Business Ethics, 1-19*.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G\* Power 3.1: Tests for correlation and regression analyses. *Behavior research methods, 41*(4), 1149-1160.
- Fornell, C., & Larcker, D. F. (1981). *Structural equation models with unobservable variables and measurement error: Algebra and statistics*.
- French, W. (2006). Business Ethics Training: Face-to-face and at a Distance. *Journal of Business Ethics, 66*(1), 117-126.
- Gibbs, J. J., & Giever, D. (1995). Self-control and its manifestations among university students: An empirical test of Gottfredson and Hirschi's general theory. *Justice Quarterly, 12*(2), 231-255.
- Gottfredson, M., & Hirschi, T. (1990). *A general theory of crime*. Stanford: Stanford University Press.
- Grasmick, H., Bursik, R., & Arneklev, B. (1993). Reduction in drunk driving as a response to increased threats of shame, embarrassment, and legal sanctions. *Criminology, 31*, 41-67.
- Green, S. (2004). Cheating. *Law and Philosophy, 23*, 137-185.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage Publications.
- Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM). *European business review, 26*(2), 106-121.
- Hirschi, T., & Gottfredson, M. (1987). Causes of white-collar crime. *Criminology, 25*(4), 949-974.

- Hosny, M., & Fatima, S. (2014). Attitude of students towards cheating and plagiarism: University case study. *Journal of Applied Sciences*, 14(8), 748-757.
- Jensen, L. A., Arnett, J. J., Feldman, S. S., & Cauffman, E. (2002). It's wrong, but everybody does it: Academic dishonesty among high school and college students. *Contemporary Educational Psychology*, 27(2), 209-228.
- Jobim, C. M. C., Veloso, G. G., Sallum, E. M., Barbosa, F. D. H., Cunha, A. B. D., Neri, M. C., ... & Fomazari, F. K. (2005). *Clima ético e responsabilidade social: a avaliação dos empregados sobre a relação ética das empresas com os seus stakeholders* (Doctoral dissertation).
- Jose, A., & Thibodeaux, M. S. (1999). Institutionalization of ethics: The perspective of managers. *Journal of Business Ethics*, 22(2), 133-143.
- Keltikangas-Järvinen, L., & Lindeman, M. (1997). Evaluation of theft, lying, and fighting in adolescence. *Journal of Youth and Adolescence*, 26(4), 467-483.
- Kökalan, Ö. (2019). The effect of organizational cynicism on job satisfaction. *Management Research Review*, 42(5), 625-640.
- Laditka, S. B., & Houck, M. M. (2006). Student-developed case studies: An experiential approach for teaching ethics in management. *Journal of Business Ethics*, 64(2), 157-167.
- Lai, M. M., Kwan, J. H., Kadir, H. A., Abdullah, M., & Yap, V. C. (2009). Effectiveness, teaching, and assessments: Survey evidence from finance courses. *Journal of Education for Business*, 85(1), 21-29.
- Lawson, R. A. (2004). Is classroom cheating related to business students' propensity to cheat in the "real world"? *Journal of business ethics*, 49(2), 189-199.
- Lawter, L., Rua, T., & Guo, C. (2014). The interaction between learning styles, ethics education, and ethical climate. *Journal of Management Development*.
- Lima, M. E. B., Prazeres, R. V. D., Araújo, J. G. N. D., & Araújo, J. G. D. (2015). Ética em contabilidade: um estudo sobre a percepção dos discentes acerca da ética profissional. *Revista de Gestão e Contabilidade da UFPI*, 1(2).
- Longshore, D., Turner, S., & Stein, J. (1996). Self-control in a criminal sample: An examination of construct validity. *Criminology*, 34, 209-227.
- Lowry, D. (2003). An investigation of student moral awareness and associated factors in two cohorts of an undergraduate business degree in a British University: implications for business ethics curriculum design. *Journal of Business Ethics*, 48(1), 7-19.
- Lustosa, P. R. B., Dantas, J. A., Fernandes, B. V. R., & Silva, J. D. G. (2012). A moral do contador brasileiro: avaliação por escala ética multidimensional. *Contabilidade Vista & Revista*, 23(1), 15-45.

- Macêdo, G. F. P. D. (2016). *Questões éticas, medidas de combate à corrupção e sistemas de controles: qual a postura do profissional da contabilidade?* (Bachelor's thesis) Universidade Federal do Rio Grande do Norte.
- McCabe, D., & Pavela, G. (2000). Some good news about academic integrity. *Change: The Magazine of Higher Learning*, 32(5), 32-38.
- McCabe, D. L., & Treviño, L. K. (1993). Academic dishonesty: Honor codes and other contextual influences. *The journal of higher education*, 64(5), 522-538.
- McCabe, D. L., & Treviño, L. K. (1995). Cheating among business students: A challenge for business leaders and educators. *Journal of Management Education*, 19(2), 205-218.
- McCabe, D. L., & Treviño, L. K. (1997). Individual and contextual influences on academic dishonesty: A multicampus investigation. *Research in higher education*, 38(3), 379-396.
- McCabe, D. L., Butterfield, K. D., & Treviño, L. K. (2006), "Academic dishonesty in graduate business programs: prevalence, causes and proposed action", *Academy of Management Learning and Education*, 5(3), 294-305.
- McCabe, D. L. (1997). Classroom cheating among natural science and engineering majors. *Science and Engineering Ethics*, 3(4), 433-445.
- McCabe, D. L., Treviño, L. K., & Butterfield, K. D. (2001). Cheating in academic institutions: A decade of research. *Ethics & Behavior*, 11(3), 219-232.
- Miller, A., Shoptaugh, C., & Wooldridge, J. (2011). Reasons not to cheat, academic-integrity responsibility, and frequency of cheating. *The Journal of Experimental Education*, 79(2), 169-184.
- Nagin, D. S., & Paternoster, R. (1993). Enduring individual differences and rational choice theories of crime. *Law and Society Review*, 467-496.
- Nasu, V. H., & Afonso, L. E. (2020). Relação entre Cinismo e Expectativa de Trapaça na Vida Acadêmica e Profissional. *Revista de Educação e Pesquisa em Contabilidade (REPeC)*, 14(3).
- Nguyen, N. T., Basuray, M. T., Smith, W. P., Kopka, D., & McCulloh, D. (2008). Moral issues and gender differences in ethical judgment using Reidenbach and Robin's (1990) multidimensional ethics scale: Implications in teaching of business ethics. *Journal of Business Ethics*, 77(4), 417-430.
- Popoola, I. T., Garner, B., Ammeter, A., Krey, N., Beu Ammeter, D., & Schafer, S. (2017). How does ethics institutionalization reduce academic cheating?. *Journal of Education for Business*, 92(1), 29-35.
- Rakovski, C. C., & Levy, E. S. (2007). Academic dishonesty: Perceptions of business students. *College Student Journal*, 41(2), 466-482.
- Rego, A. (2002). Climas éticos e comportamentos de cidadania organizacional. *Revista de Administração de Empresas*, 42(1), 1-14.



- Rezaee, Z., Elmore, R. C., & Szendi, J. Z. (2001). Ethical behavior in higher educational institutions: The role of the code of conduct. *Journal of business ethics*, 30(2), 171-183.
- Ringle, C. M., Silva, D., & Bido, D. D. S. (2014). Modelagem de equações estruturais com utilização do SmartPLS. *Revista Brasileira de Marketing*, 13(2), 56-73.
- Ritter, B. A. (2006). Can business ethics be trained? A study of the ethical decision-making process in business students. *Journal of Business Ethics*, 68(2), 153-164.
- Santana Jr, E. A., & Carvalho Jr, C. V. O. (2016). Comportamento ético contábil e gerenciamento de resultados: validação da Multidimensional Ethics Scale (MES). *Revista de Gestão, Finanças e Contabilidade*, 6(1), 92-111.
- Serra, M. D. F. S., & Ares, E. C. (2014). A doação responsável como uma alternativa viável para combater fraudes e corrupções em entidades sem finalidade lucrativa: um estudo do trabalho desenvolvido pela Fundação Lealtad. *Revista de Contabilidade do Mestrado em Ciências Contábeis da UERJ*, 19(2), 93-115.
- Silva, A. R. N., & Figueiredo, S. M. A. (2012). Desenvolvimento da percepção sobre Ética Profissional entre estudantes de contabilidade. *Revista Brasileira de Contabilidade*, (165), 40-51.
- Simha, A., Armstrong, J. P., & Albert, J. F. (2012). Who leads and who lags? A comparison of cheating attitudes and behaviors among leadership and business students. *Journal of Education for Business*, 87(6), 316-324.
- Smyth, L. S., Davis, J. R., & Kroncke, C. O. (2009). Students' perceptions of business ethics: Using cheating as a surrogate for business situations. *Journal of Education for Business*, 84(4), 229-239.
- Teixeira, A. A., & Rocha, M. F. (2010). Cheating by economics and business undergraduate students: an exploratory international assessment. *Higher Education*, 59(6), 663-701.
- Torres, C. R. M., & Cassol, S. (2019). Patologias corruptivas: um retrato da depravação ética e moral de uma sociedade e mecanismos de controle. *Seminário Internacional Demandas Sociais e Políticas Públicas na Sociedade Contemporânea*.
- Trentin, G. N. S., Souza Domingues, M. J. C., & Castro, D. R. M. S. (2008). Percepção dos Alunos de Ciências Contábeis sobre ética profissional. *Anais do Congresso Brasileiro de Custos-ABC*.
- Tse, A. C. B., & Au, A. K. (1997). Are New Zealand business students more unethical than non-business students?. *Journal of Business Ethics*, 16(4), 445-450.
- Victor, B., & Cullen, J. B. (1988). The organizational bases of ethical work climates. *Administrative science quarterly*, 101-125.
- Vieira, M. G. (2011). A influência da ética no perfil do profissional contábil. *Revista Catarinense da Ciência Contábil*, 3(6), 55-60.

- Wimbush, J. C., & Shepard, J. M. (1994). Toward an understanding of ethical climate: Its relationship to ethical behavior and supervisory influence. *Journal of Business ethics*, 13(8), 637-647.
- Winrow, B. (2016). Do perceptions of the utility of ethics affect academic cheating?. *Journal of Accounting Education*, 37, 1-12.
- Wood, J. A., Longenecker, J. G., McKinney, J. A., & Moore, C. W. (1988). Ethical attitudes of students and business professionals: A study of moral reasoning. *Journal of Business ethics*, 7(4), 249-257.