

# Influence of Academic Performance on Perceived Academic Justice in the Learning Environment

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## Abstract

**Objective:** To look for evidence to identify the relationship between the academic performance of undergraduate students in accounting and their perception of academic justice, segregated in the distributive, procedural and interactional dimensions.

**Method:** qualitative and quantitative approach in a sample of 534 undergraduate Accounting students from nine federal universities in Minas Gerais. For the quantitative approach, questionnaires were applied to capture the perception of justice in its three dimensions (distributive, procedural and interactional justice as dependent variables), academic performance (explanatory variable) and eight control variables. For the qualitative approach, interviews were conducted.

**Results:** The quantitative analyses indicate that, of the nine variables tested, only three were statistically significant: the gender variable for procedural justice, the class group variable for procedural and interactional justice, and the failure variable for all three dimensions of justice. In qualitative terms, the findings show that, in the learning environment in general, students associate justice especially with the figure of the teacher.

**Contributions:** The study contributes to the literature by identifying how the academic environment occurs from the students' perspective, regarding their perception of justice, concluding that the relationship with the teacher influences their perception of justice.

**Keywords:** Justice in the Learning Environment. Accountancy. Federal Universities

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## 1. Introduction

The perception of justice is related to the individual's behavior in the group (s)he belongs to. Its social importance gained strength when it started to be studied as an autonomous field of Social Psychology (Assmar, Ferreira & Souto, 2005). Within organizations, Greenberg and Tyler first proposed the term Organizational Justice in 1987, suggesting that research on organizational justice could explain many variables regarding employee behavior within organizations.

Although the concept of justice has been most often dealt with in business organizations, the construct can also be employed to verify the student's perception of justice in relation to the teacher and the institution they are affiliated with (Rego, 2001; Chory-Assad, 2002 & Simil, 2016). Kovačević, Zunić and Mihailović (2013) related organizational justice with perceived justice in a non-organizational environment (school and university). The perception of justice, both in an organizational environment and in a non-organizational environment, is related to work developed by an individual. In addition, several studies have emerged in the field of education, investigating students' perception of justice in elementary, middle and higher education (Chory-Assad, 2002; Pereira, 2004; Peter, Kloeckner, Dalbert and Radant, 2012; Kovačević et al., 2013 & Simil, 2016).

Chory-Assad and Paulsel (2004) interpret justice in the learning environment as the evaluation of processes and performance outcomes that occur in the instructional context. According to Kovačević et al. (2013), organizational justice in a learning environment is presumed in the relationship between the perception of justice and performance in educational institutions. Thus, recent studies have been devoted to analyzing the relationship between perceived justice and academic performance. Kovačević et al. (2013) found a positive association between the feeling of justice and the academic performance of Psychology students from the Faculty of Organizational Sciences at the University of Belgrade, Serbia. This fact led the authors to point out that this relationship is directly proportional, demonstrating that students tend to report satisfactory performances as more just and unsatisfactory performances as less or not just.

The importance of studying the perceived justice of accounting students is the significant increase in the courses offered in recent years. According to information provided by the Brazilian Ministry of Education [MEC] (2017), there are 1,700 active undergraduate Accounting courses in Brazil in activity, in the "face-to-face" and "distance" modalities. The large number of courses available is mainly due to the market demand for qualified professionals. In this sense, proposals are needed that reinforce the potential and perceived quality of the course, including the possibilities of improvement in the intra and interpersonal training of accounting professionals as a result of the social experience at the university.

Apostolou, Dorminey, Hassell and Rebele (2017) stressed that the accounting profession has a tradition of discussing changes in educational processes, aiming to enable accountants to act as professionals. Thus, it is up to the educational institutions to ensure improvements in the quality of teaching, considering aspects that go beyond the institutions' curricular structure and facilities.

This research is particularly concerned with investigating the perception of undergraduate students. Therefore, the study answers the following research question: **What is the relationship between the academic performance of accounting undergraduate students and their perception of justice in the learning environment?** Consequently, the objective of the research is to seek evidence to identify the relationship between the academic performance of accounting undergraduate students and their perception of justice.

The undergraduate course represents a unique experience of students in the vocational training environment, in which different types of people share the same space and interpersonal treatment gains very particular meanings. Knowledge of the relationship between academic performance and justice helps schools understand the interactions between students, teachers and the course. The perception of justice affects, among other factors, individual performance. Thus, in the learning environment, academic performance may be linked to the student's perceptions of justice regarding their teachers and the institution they are affiliated with (Peter et al., 2012; Kovačević et al., 2013). Therefore, understanding the way academic performance is affected becomes extremely relevant to improve the teaching-learning process.

Understanding what can be considered just or not in universities from the student's point of view represents one of the important theoretical contributions of this study. Understanding how this relationship is processed in the learning environment helps in the management of Accounting courses, particularly due to the possibility of directing actions that stimulate the dimensions of the effectiveness the good relationship between students and teachers can grant to learning, such as, for example: the discussion of evaluation forms and clarity of the criteria adopted in the evaluation of academic activities.

## 2. Academic Justice and Development of Hypotheses

Homans (1961) assumed that individuals expect social exchanges to be just and that an individual's rewards be proportional to the partner's costs and rewards, reflecting the inverse relationship in which profits can be proportional to the investments made. Subsequently, Adams (1965) proposed the theory of equity. To ground his theory, the author relied on Homans's (1961) concept of Distributive Justice. Adams (1965) assumes that the fundamental criterion of justice is related to the standard of equity or proportionality. According to the author, a situation is fair or just when individuals receive rewards proportionately to their contributions. Equity between employee and employer is not generally perceived as a mere exchange of monetary values.

The concept of Distributive Justice, proposed by Homans (1961), is based on the idea that social exchanges are fair and the profits received are proportional to the investments made. Several studies were based on this concept (Walster, Berscheid & Walster, 1973; Leventhal, 1980; Greenberg, 1990), leading to a set of studies that created the idea that equity was seen as the only form of distributive justice.

Adams' (1965) study of the theory of Iniquity, based on Homans' (1961) concept of Distributive Justice, among other premises, was the cornerstone of the original theory of justice. This understanding provoked several criticisms from scholars who questioned equity as the sole principle of justice (Deutsch, 1985 & Leventhal, 1980). Given this, Deutsch (1985) argues that there are other forms of relationship, in which social welfare is considered, emphasizing equality and necessity over the initial model of Distributive Justice, in which the goal of economic productivity prevails.

In this sense, the concept of procedural justice introduced by Thibaut and Walker (1975) emerges. According to Assmar et al. (2005), procedural justice focuses on the means of conflict resolution or of decision-making processes. Greenberg (1990) presented procedural justice in an organizational context as a way to understand phenomena not achieved by distributive justice, such as the means to achieve the desired ends. Lind, Tyler and Huo (1997), however, found evidence that when individuals are committed to conflict resolution in the group they belong to, the perception of fairness in the procedures adopted is shaped by recognition of the hierarchical level they are subordinated to and by neutrality.

Interactional Justice concerns the social aspects involved in the relationship between two individuals, the first being the one who makes the decision, and the other who will be affected by this decision (Assmar et al., 2005). Proposed in the 1980s, initially by Bies and other authors (Bies & Moag, 1986; Bies & Shapiro, 1987), and later ratified by Bies (2001), Interactional Justice was presented as a third distinct type of perception of justice. Cropanzano and Greenberg (1997) claim that a clear distinction between Interactional and Procedural Justice is difficult because they believe that the relationship between two individuals is directly linked to the decision-making process. In this regard, Tyler and Blader (2000) state that interaction is a social aspect of procedural justice.

Rego (2000) exemplifies the relationship between the three variables through a disciplinary sanction: the sanction itself (Distributive Justice), the process by which the sanction was determined (Procedural Justice), and the way the superior justifies, transmits and explains the sanction to the collaborator (Interactional Justice).

Due to the variety of concepts in the theoretical approach, it is noted that organizational justice is a field of integrated knowledge and, as a result, has undergone several changes. The evolution of applicability and concepts of organizational justice has led research to expand to other forms of 'unconventional' organizations (Rego, 2001)

In this sense, studies that applied the three-dimensional model of justice as a way to explain the behavior of individuals in organizational environments, began to be adapted to the learning environment, such as: Chory-Assad (2002); Chory (2007); Peter et al. (2012); Kovačević et al. (2013) and Simil (2016). Initially applied to organizations, in order to explain the reaction of employees to their compensation, organizational justice has also extended to non-organizational environments.

In the academic setting, Distributive Justice is related to the way the student receives his grades and how he makes comparisons with other peers' grades (Uludag & Yaratan, 2013; Chory-Assad, 2002). Regarding procedural justice, this can be understood as the way teachers distribute grades and define criteria for assessing students' participation in class and delivery of activities. Interactional Justice in the academic environment is related to the way the interpersonal relationship between the teacher and the student occurs. This dimension stands out in the academic environment because the way the teacher considers the student's opinion, listens to and interacts with him or her influences the student's behavior and motivation (Wubbels & Brekelmans, 2005). Given these concepts, Table 1 presents the applicability of the three-dimensional model of justice in the organizational and academic environments.

Table 1

**Applicability of the three-dimensional justice model**

Dimensions	Organizational Environment	Academic Environment
Distributive	Is based on the approach that social exchanges are just, and that the profit received is proportional to the investment made.	Considers the way the student receives the grades in the subjects
Procedural	Refers to the means to solve conflicts or the decision-taking processes	Refers to the procedures adopted concerning the grading of the discipline.
Interactional	Refers to the social aspects involved in the relationship between two individuals, both of whom are affected by the decision taking.	Refers to the interpersonal relationship between teacher and student

Source: elaborated by the authors

In recent studies (Chory-Assad, 2002; Kovačević et al., 2013; Simil, 2016) in which the concept of justice is applied in learning environments, organizational justice has been gaining different approaches, such as: teacher-student, student-institution and academic performance.

Studies on academic performance move across all areas of knowledge. Weiner and Kukla (1970) inferred that good performance can be attributed to personal effort, and poor performance may indicate a lack of motivation or ability. Cornachione Jr, Cunha, De Luca and Ott (2010, p. 3) related academic performance from the perspective of Attribution theory, in which, according to the authors, “it is a relevant component of the transformation driven by education and professional experiences, which influences the performance of individuals”.

Fagundes, Luce and Espinar (2014) underline the motivation to study the causes that can affect academic performance, justifying the influence of academic performance in three areas. The first of these refers to the national level, where poor performance leads to failures, which reflects an increase in public spending on higher education. The second, in relation to the university level, in which academic performance is related to the overall performance of the institution. Finally, at an individual level, poor academic performance can lead to delays and dropping out of the course, likely leading to personal dissatisfaction.

Given this scenario, hypotheses were developed relating the dimensions of justice and the academic performance of undergraduates.

- $H_1$ : Academic performance influences the perception of Distributive Justice.
- $H_2$ : Academic performance influences the perception of procedural justice.
- $H_3$ : Academic performance influences the perception of Interactional Justice.

The research hypotheses are supported by the work of Peter et al. (2012) and Kovačević et al. (2013). Peter et al. (2012) found empirical evidence that the more students perceived that the teachers treat them fairly, the better their academic performance was. Kovačević et al. (2013) tested the hypothesis of a positive correlation between the perception of justice and academic performance. Both authors argue in favour of a statistically significant relationship between academic achievement and all dimensions of fairness.

### 3. Method

This descriptive and explanatory research presents a quantitative and qualitative approach to the problem. We studied the federal universities of the State of Minas Gerais that offer the undergraduate program in Accounting. The choice of Minas Gerais was due to the fact that this is the state with the largest number of federal educational institutions in the country. The institutions included in the sample are: Federal University of Minas Gerais (UFMG), Federal University of Uberlândia (UFU - Uberlândia and Ituiutaba), Federal University of Viçosa (UFV - Viçosa and Rio Paranaíba), Federal University of São João Del Rei (UFSJ), Federal University of Vales do Jequitinhonha e Mucuri (UFVJM), Federal University of Juiz de Fora (UFJF - Juiz de Fora and Governor Valadares).

For this research, two data collection instruments were used: structured questionnaire and semi-structured interview. The quantitative stage used descriptive and inferential statistics in the applied questionnaires, and the qualitative stage was performed through the analysis of the interviews, in order to deepen the specific explanation of the data collected.

The questionnaire consisted of 44 items, divided into two parts, the first with 10 questions to characterize the respondent; and the second part, composed of 34 questions that seek to measure the perception of justice, using a 5-point Likert scale. The second part of the questionnaire, called Revised Classroom Justice Scale (RCJS), addresses the perception of justice in three dimensions: distributive, procedural and interactional. Initially, this instrument was built by Chory-Assad (2002) and used by Chory-Assad and Paulsel (2004), Paulsel and Chory-Assad (2005), Chory (2007) and Simil (2016). The version used was the same as Simil (2016), translated into Portuguese and validated in a study conducted with *stricto sensu* graduate students in Accounting from Brazilian universities.

The instrument was applied in person and electronically at the participating universities. The questions were designed so that the participants could choose answers ranging from “extremely unfair” to “extremely fair”. The first part contains nine sociodemographic questions, which seek to characterize the respondent in relation to: institution where he/she studies, course group, current period, gender, marital status, if he/she has already failed subjects and, if yes, how many, if he/she engages in a remunerated activity and if he/she holds another undergraduate degree. Besides these variables, the instrument contains a closed question to identify the student’s perception of his/her own academic performance.

Regarding the academic performance, the respondent was instructed to consider whether he/she had a “poor performance” when his/her grades for approval were below average; “Good performance” when the grades achieved for approval were equivalent to the average; and “excellent performance” when the grades achieved for approval were above average. This way of measuring performance was adapted from Cornacchione Jr. et al. (2010), who used the measure to evaluate academic performance from the perception of Accounting undergraduates at four Brazilian universities.

The dependent variables were the perception of justice in three dimensions (Distributive, Procedural and Interactional). To capture the perception of justice, 34 variables were used in the Revised Classroom Justice Scale instrument.

The 34 questions were structured to meet each justice dimension, identifying three latent variables. Latent variable is a theoretical construct that cannot be measured directly, but can be represented by one or more observable variables (Hair, Black, Babin, Anderson & Thatam, 2009). For the analysis of the questionnaire, the multiple linear regression analysis technique was used. The proposed models are expressed in the following equations:

$$DJ_i = \beta_0 + \beta_1 \text{GoodPerf}_i + \beta_2 \text{ExcPerf}_i + \beta_3 \text{Gen}_i + \beta_4 \text{Per}_i + \beta_5 \text{Fai}_i + \beta_6 \text{NFai}_i + \beta_7 \text{Marst}_i + \beta_8 \text{Emp}_i + \beta_9 \text{Und}_i + \beta_{10} \text{Cla}_i + \varepsilon_i \quad (1)$$

$$PJ_i = \beta_0 + \beta_1 \text{GoodPerf}_i + \beta_2 \text{ExcPerf}_i + \beta_3 \text{Gen}_i + \beta_4 \text{Per}_i + \beta_5 \text{Fai}_i + \beta_6 \text{NFai}_i + \beta_7 \text{Marst}_i + \beta_8 \text{Emp}_i + \beta_9 \text{Und}_i + \beta_{10} \text{Cla}_i + \varepsilon_i \quad (2)$$

$$IJ_i = \beta_0 + \beta_1 \text{GoodPerf}_i + \beta_2 \text{ExcPerf}_i + \beta_3 \text{Gen}_i + \beta_4 \text{Per}_i + \beta_5 \text{Fai}_i + \beta_6 \text{NFai}_i + \beta_7 \text{Marst}_i + \beta_8 \text{Emp}_i + \beta_9 \text{Und}_i + \beta_{10} \text{Cla}_i + \varepsilon_i \quad (3)$$

Where,

- DJ (Distributive Justice) = Dependent variable;
- JP (Procedural Justice) = Dependent variable;
- JI (Interactional Justice) = Dependent variable;
- GoodPerf (Good performance) = Dummy variable
- ExcPerf (Excellent performance) = Dummy variable; (do not separate the coding from the variable)
- Gen (Gender) = Dummy variable;
- Per (Course period) = Quantitative variable, course period the respondent is taking, ranging from 1<sup>st</sup> to 10<sup>th</sup>;
- NFai (Number of failures) = Quantitative variable. (do not separate the coding from the variable)
- Marst (Marital status) = Dummy variable;
- Emp (Employee or grantee) = Dummy variable; Und (Other undergraduate degree) = Dummy variable;
- Cla (Class period in which the course is offered) = Dummy variable.

The questionnaire contained a field asking about the willingness of the student to grant an interview to the researcher. Subsequently, the questionnaires were numbered and positively marked with the intention of granting the interview, followed by a draw was made to choose the respondents. Flick (2008) defines that, for theoretical sampling, the size is not previously defined. Students were invited to participate in an interview by email. Six students agreed to grant an interview. For data analysis, the in-depth analysis criterion was adopted. The adoption of this criterion, according to Flick (2008, p.47), aims to pursue the analysis as far as possible, and that data collection is done “to develop the properties of its category until no new properties arise”.

The authors elaborated the interview script based on the work of Rego (2001). This script was separated in two parts: the first contained information to characterize the respondent; and the second 11 open-ended questions to encourage students to discuss experiences of injustice, suffering, and retaliation in an organization and teacher assessment measures.

## 4. Results Analysis and Discussion

### 4.1 Quantitative Analysis

Data were collected between January and March 2017. The questionnaires were applied face-to-face to students who were present in the classroom on the day of application at seven universities (UFMG, UFV, UFV-Rio Paranaíba, UFVJM, UFJF, UFJF-Governador Valadares, UFSJ), and using an electronic form at two universities (UFU, UFU-Ituiutaba). In total, 700 questionnaires were applied at the nine universities and 166 were discarded because they were not fully completed.

Table 2

**Total number of questionnaires per Federal University (FU)**

FU	Questionnaires applied	Invalid questionnaires	Valid questionnaires
UFJF – Governador Valadares	44	10	34
UFJF – Juiz de Fora	107	25	82
UFMG	188	36	152
UFSJ	100	54	46
UFU – Uberlândia	13	1	12
UFU – Ituiutaba	30	0	30
UFV – Rio Paranaíba	97	18	79
UFV – Viçosa	45	7	38
UFVJM	76	15	61
Total	700	166	534

After the data had been processed, the descriptive analysis of the sample began. Regarding marital status, 89% of the students participating in the survey are single, 10% married and only 1% are separated. None of the research participants marked the widower option. At the researched universities, the Accountancy course is offered in only two periods: day and/or night. About 84% of the respondents study at night and only 16% during the day. Among the respondents, 12% say they have completed another degree and 88% are taking their first degree.

With regard to gender, 58% of the students surveyed are female and 42% male, which reveals a female predominance in the Accountancy course at the analyzed HEIs. Regarding paid activity, 45% of students say they have some type of paid activity.

Regarding the analysis of the main independent variable (academic performance), the results indicate that 57% of the students consider that they have a good academic performance, 37% consider to have an excellent academic performance and only 6% said that they had a poor academic performance. More specifically, the distribution of academic performance according to gender was analyzed. Results are presented in Table 4.

Table 3

**Distribution of Performance per Gender**

Performance / Gender	Male		Female	
	Absolute Value	Relative %	Absolute Value	Relative %
Excellent Performance	68	30.09%	130	42.21%
Good Performance	142	62.83%	163	52.92%
Bad Performance	16	7.08%	15	4.87%
Total	226	100.00%	308	100.00%

Regarding the distribution of academic performance, 42.21% of all female respondents considered their academic performance to be excellent. Similar results were found in the study by Cornachione Jr. et al. (2010), in which female students evaluated themselves as having superior academic performance compared to their male colleagues.

## 4.2 Inferential Analysis

For the sake of inferential analysis, three regressions were generated, one for Distributive Justice, another for Procedural Justice and the last for Interactional Justice. Table 5 presents the values obtained in the regression, extracted from the STATA® software for the Distributive Justice Dimension.

Table 4

### Regression of the Distributive Justice Model

Variable	Coefficient	Std. Error	T-statistic	P> t
Good Performance	.0456077	.1437556	0.32	0.751
Excellent Performance	.1799518	.1587704	1.13	0.258
Gender	-.0209831	.0634303	-0.33	0.741
Period	.0176683	.0143071	1.23	0.217
Failure	-.1483889	.083889	-1.77	0.077***
No. of Failures	-.0233071	.0174973	-1.33	0.183
Marital Status	-.1508488	.1078988	-1.40	0.163
Paid Activity	.0004831	.0655353	0.01	0.994
Other Undergraduate Degree	-.0308407	.0982181	-0.31	0.754
Class	-.0151906	.085793	-0.18	0.860
Constant	3735584	.1732347	21.56	0.000
R2	5,12%			
No. of Observations	534			
Significant at	1% *			
	5%**			
	10%***			

**Obs.:** The variables: Good performance corresponds to the self-assessment of the student's performance, which can be good or bad; Excellent performance corresponds to the self-assessment of the student's performance, which can be good or excellent; Gender corresponds to the student's gender, either male or female; Period correspond to the course term the student is taking; Failure corresponds to the dummy variable, equal to 1 for students who failed at least one subject throughout the course and 0 for students who did not; Number of failures corresponds to the total number of subjects failed until the time of the research; Marital status corresponds to the student's marital status, whether single, married, widowed or divorced; Paid activity is related to whether the student has a paid job or not; Other undergraduate degree is related to whether the student has an earlier undergraduate degree or not; Class corresponds to the time of the classes, whether at night or during the day.

As observed, the only independent variable that was statistically significant was failure. That is, students who failed some subject during the course feel more wronged (hence the negative coefficient) than those who have never failed any subject. Braga, Pinto and Cardeal (1997) found a relationship between failure and dropout rates of undergraduate students. Dropout is one of the consequences of students' perception of injustice (Durso, 2015). Although there is no empirical evidence from previous studies linking failure with perceived justice, the findings in this study identified a direct relationship between both. The fitness coefficient of the model was 5.12%, which indicates that 5.12% of the variance of the Distributive Justice variable was explained by the variance of the independent variable. Table 6 presents the results for procedural justice.

Table 5

**Regression of the Procedural Justice Model**

Variable	Coefficient	Std. Error	T-statistic	P> t
Good Performance	.112832	.1494302	0.76	0.451
Excellent Performance	.1108159	.1650376	0.67	0.502
Gender	.1105087	.0659341	1.68	0.094***
Period	-.0173693	.0148719	-1.17	0.243
Failure	-.2988839	.0872004	-3.43	0.001*
No. of Failures	-.0050027	.018188	-0.28	0.783
Marital Status	.0064453	.112158	0.06	0.954
Paid Activity	-.0522027	.0681222	-0.77	0.444
Other Undergraduate Degree	-.1108292	.1020952	-1.09	0.278
Class	-.2763096	.0891796	-3.10	0.002*
Constant	3911065	.1800729	21.72	0.000
R2	7,20%			
No. of Observations	534			
Significant at	1% *			
	5%**			
	10%***			

The variables related to academic performance were not statistically significant. The model presented three control variables with statistical significance though. The variable “gender”, indicating that male students have a higher perception of procedural justice than female students. Similar results were found in the work of Simil (2016), who identified that male students have a greater perception of procedural justice. The variable “failure”, as in the distributive justice model, indicated that the fact that the student failed at least one subject during the course makes him/her feel more wronged concerning the perception of procedural justice. And the variable “class group” indicated that students who study at night feel more wronged in relation to procedural justice than students who study during the day. Students in the evening course are also more likely to drop out of the course compared to students studying during the day (Dias, Theóphilo & Lopes, 2010).

Possible reasons for this result may be identified. Procedural justice refers to the procedures the superior adopts towards his subordinates. In the learning environment, these procedures can be defined as: the amount of work required to achieve good grades and the amount of time required to dedicate to the course. Students studying at night usually engage in some kind of paid activity and, because they have little time for extracurricular activities, may perceive procedural justice items as unfair.

The goodness of fit of the model indicates that 7.20% of the variance of the procedural justice variable is explained by the variance of the independent variables. Although the Procedural Justice model presented more control variables with statistical significance, the fit coefficient was 2.08% higher than for Distributive Justice. Finally, the regression analysis for the Interactional Justice dimension was performed. Table 7 presents the results of this regression.

Table 6

**Regression of the Interactional Justice Model**

Variable	Coefficient	Std. Error	T-statistic	P> t
Good Performance	-.0722534	.1671043	-0.43	0.666
Excellent Performance	-.1110193	.1845577	-0.60	0.548
Gender	-.1043816	.0737326	-1.42	0.157
Period	-.0001203	.0166308	-0.01	0.994
Failure	-.250208	.0975142	-2.57	0.011**
No. of Failures	-.0107825	.0203392	-0.53	0.596
Marital Status	-.0412663	.1254236	-0.33	0.742
Paid Activity	-.0569993	.0761795	-0.75	0.455
Other Undergraduate Degree	-.0283955	.1141706	-0.25	0.804
Class	-.1764129	.0997275	-1.77	0.077***
Constant	4197241	.2013713	20.84	0.000
R2	4,25%			
No. of Observations	534			
Significant at	1% *			
	5%**			
	10%***			

In the analyzed model, two control variables (class group and failure) were statistically significant for the Interactional Justice dimension, at a 10% confidence level. Regarding the variable “class group”, it can be inferred that it behaves analogously to the procedural justice dimension. The amount of work needed to perform extracurricular tasks can trigger feelings of injustice in relation to the procedures adopted and, consequently, interfere in the relationship between students and teachers.

Regarding the variable “class group”, Pereira (2004) points out that the interactional aspects may be more relevant in the perception of justice the closer the relationship between two individuals. Fonsêca (2008) points out that educational failure (failure) triggers social adaptation problems, besides causing dropout and psychological problems, such as demotivation to study. This analysis allowed us to infer that students with successive failures have relationship difficulties, especially with their teachers. This relationship difficulty, associated with constant failure, can trigger feelings of injustice in the interactional aspect. The fit coefficient of the model was lower than for the other two models analyzed, indicating that 4.25% of the interactional justice variance is explained by the variance of the proposed control variables.

After the regression analysis, homoscedasticity, absence of multicollinearity and correct model specification tests were performed to validate the assumptions of the classical linear regression model proposed in this study. The first test performed was to verify the absence of multicollinearity of the model. Table 8 shows the result of the VIF tests of the three regressions previously presented.

Table 7

**Analysis Test of the Variance Inflation Factors**

Variables	Distributive Justice		Procedural Justice		Interactional Justice	
	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
Good Performance	5.36	0.186618	6.23	0.160461	6.23	0.160461
Excellent Performance	6.23	0.160461	5.36	0.186618	5.36	0.186618
Gender	1.04	0.962836	1.93	0.517519	1.93	0.517519
Period	1.33	0.751123	1.71	0.586251	1.71	0.586251
Failure	1.71	0.586251	1.33	0.751123	1.33	0.751123
No. of Failures	1.93	0.517519	1.12	0.889808	1.12	0.889808
Marital Status	1.06	0.940275	1.08	0.929275	1.08	0.929275
Paid Activity	1.12	0.889808	1.06	0.940275	1.06	0.940275
Other Undergraduate Degree	1.08	0.929275	1.06	0.942051	1.06	0.942051
Class	1.06	0.942051	1.04	0.962836	1.04	0.962836
Mean VIF	2.19		2.19		2.19	

The VIF values found corresponded to 2.19 points for all regressions, revealing, according to Gujarati and Porter (2011), absence of multicollinearity problems. To verify the absence of heteroscedasticity, the Breusch-Pagan test was used. If the Lagrange Multiplier (LM) test statistic is significant at the adopted significance level ( $p\text{-value} < \alpha$ ), the null hypothesis of homoscedasticity is rejected. Table 9 presents the test values for the three models.

Table 8

**Breusch-Pagan Test**

	Chi2 test(4)	Prob> chi2
Distributive Justice	1.53	0.2163
Procedural Justice	2.43	0.1187
Interactional Justice	2.92	0.0877

The p-value of the Interactional Justice test was 0.0877, which is significant at 10%, indicating the presence of heteroscedasticity. One of the alternative ways to correct heteroscedasticity is to re-estimate the regression with robust standard errors. The results of this regression are presented in Table 10.

Table 9

**Regression of the Interactional Justice Model – Robust Standard Errors**

Variable	Coefficient	Std. Error	t-statistics	P> t
Good Performance	-.0722534	.1924273	-0.38	0.707
Excellent Performance	-.1110193	.218393	-0.51	0.611
Gender	-.1043816	.075656	-1.38	0.168
Period	-.0001203	.0165175	-0.01	0.994
Failure	-.250208	.1020654	-2.45	0.015**
No. of Failures	-.0107825	.0216156	-0.50	0.618
Marital Status	-.0412663	.1306603	-0.32	0.752
Paid Activity	-.0569993	.0784778	-0.73	0.468
Other Undergraduate Degree	-.0283955	.137441	-0.21	0.836
Class	-.1764129	.0886509	-1.99	0.047**
Constant	4197241	.2228654	18.83	0.000
R2	3,66%			
No. of Observations	534			
Significant at	1% *			
	5%**			
	10%***			

When analyzing the re-estimated Interaction Justice regression, it was observed that there was no change in relation to the significant variables in the model. Finally, the correct specification of the estimated model was verified. For this, the RESET (Regression Specification Error Test) test was performed. Table 11 presents the test result for the three dimensions of Organizational Justice.

Table 10

**Specification Error Tests**

	Chi2 test(4)	Prob> chi2
Distributive Justice	F(6, 517)	0.58
	Prob> F	0.7490
Procedural Justice	F(6, 517)	1.16
	Prob> F	0.3266
Interactional Justice	F(6, 517)	1.46
	Prob> F	0.1900

The result of the F statistic was higher than the adopted significance level ( $\alpha = 0.10$ ). Thus, it was inferred that the functional form of the proposed model is well fit. The low  $R^2$  values (measure of the degree of fit) observed in all regressions show low explanatory power of independent variables over the variation in the dependent variable though. Being explained mainly by the residual, the main causes of the variations in the perceptions of justice (dependent variables) are variables that were not covered in the established models. Therefore, although statistical validation is associated with theoretical constructs, there are components omitted in the regression residues that cause greater variation in the dependent variable.

Finally, the results indicate that there was no statistical significance with any of the hypotheses outlined in this study. The findings of this research go against the empirical evidence of Peter et al. (2012) and Kovačević et al. (2013), who found a positive relationship between academic performance and all dimensions of justice, but with a stronger relationship between performance and distributive justice.

### 4.3 Qualitative Analysis

All interviews were held with female students, aged 19 to 30 years. Interviewees 2 and 3 were students from the states of São Paulo and Tocantins, respectively, who came to Minas Gerais to study. Only interviewee 4 declared her marital status as separate; the others are single. Regarding the year of entry in the course, all students started between 2012 and 2016; Interviewee 1 does not and has never performed any kind of remunerated activity.

#### 4.3.1 The Concept of Justice

Interviewee 1 understands justice as something that is true, fair and just, emphasizing that “the student must be treated well, but also has to respect the teacher very much, because, thus, there is a student who ends up mistreating the teacher and then ends up complaining about the way the teacher treats him [...] So I think it has to do with the way he treats people”. For respondents 2 and 4, in the learning environment, justice related to the treatment between teachers and students.

For respondents 5 and 6, justice is related to the distinction between student and teacher roles. Interviewee 5 points out that justice “is to be aware of your position when you are learning something; be aware of what is right, what is wrong, what should be done, what should not be done; I think it’s fair for the student to be willing to learn and the teacher to teach.”

Interviewee 3 associates justice with meritocracy. According to her, justice “is that you really have the grade that you obtained... That the grade you receive must be commensurate with your effort, or discipline, or your non-effort.”

In this first question, it could be identified that the interviewed students relate justice in the learning environment in two ways. The first, with the behavior of teachers and students, and the second, with the effort the students employ compared to the grades obtained. These perceptions, although different, express the feelings of justice described by Barzotto (2003), who points out that the concept of justice in the social sphere manifests itself in three ways. The first occurs through the dependence of the other on the social relationship, which points to the fact that justice is always established between different subjects. The second refers to duty, which assigns something to a person through a rational need. The last concerns adequacy, which refers to the manner of determining what is due.

#### 4.3.2 The Perception of Distributive Justice

In this regard, questions were asked about the distribution of grades in the subjects; form of assessment of the subject; and form of evaluation of the grades compared to the other students.

Regarding the distribution of grades in the subjects, all interviewees considered the way grades are distributed as fair. Interviewee 1 considers the distribution of grades fair “because it has always been agreed upon with the students, the question of distribution of grades, how the assessment of the subject will be divided. They are very flexible about that. And they might even come up and say, ‘Such exam, such an assessment will be worth that much.’ But it’s always discussed, whenever I need it they change. There’s nothing that fixed, no”.

Interviewee 6 pointed out that “I don’t think it’s fair when the work grades are more than the exam grades, so I think it’s unfair”. He pointed out that as most students work, there is not much time left to study and that “work takes much more time and there are many activities”. Another relevant point was that “in general, the activities, the method we adopt is very flawed. For example, we usually divide it, each one takes a part and each one talks about that part. So for me, this method attends to the teacher’s needs, but not to the students”.

Interviewees 3 and 4, although they considered the teachers’ form of distributing grades fair, reported that they had a specific problem in relation to substitute teachers. In both cases, teachers changed the distribution of grades throughout the semester. Interviewee 3 pointed out that the class thought about making a complaint to the board, but “he was a very good teacher, he was a nice teacher, but we were afraid to make it public, so we accepted it. Especially because he passed everyone, so we did not have much to complain about.” This issue differs from the perception of substitute teachers discussed by De Jesus and Rowe (2014), in which the authors identified that substitute teachers perceive the dimensions of Distributive and Interactional Justice more positively when compared to effective teachers. This discrepancy in the perception of fairness between substitute teachers and students may indicate two things: the substitute teacher values the relationship with students more highly and the substitute teacher’s little experience makes him more accessible and flexible towards the students.

In a joint analysis, the interviewees perceive the Distributive Dimension fairly, and few punctual situations were highlighted as unfair, however, the aspects highlighted by the interviewees do not interfere in the perception of Distributive Justice. According to Homans (1961), feelings of anger or sadness are triggered when individuals realize that the rewards obtained are not proportional to the efforts made. Thus, the perception of Distributive Injustice could generate feelings of anger or guilt (Assmar et al., 2005). The reports presented showed that no such feelings are triggered though.

#### 4.3.3 Analysis of the Perception of Procedural Justice

For this dimension, the focus was on understanding how the opinions and complaints of the institution are heard, as well as the teachers’ expectations from the students.

Regarding the educational institution, the interviewees feel supported when any complaint or opinion is expressed. One of the interviewees mentioned turning to the Central Student Directory whenever necessary: “whenever we need to, we go to them and they bring our information, criticism, finally, about the course. So we are always heard”. Another student pointed out that, being part of a university in the interior of the state, the relationship with teachers and staff is very close. She considers that the university has a different culture and treats students as if they were a family.

Considering the procedures used to handle student complaints and opinions, most stated that they consider the use of the procedures in HEIs as fair. They all acknowledge the hierarchy of procedures required to file complaints or opinions at the institutions they are affiliated with. Interviewee 2 pointed out that she already had “a problem in a grade that the teacher had registered wrongly, so she went there and solved it, there was no problem”. Another student mentioned a problem with buses that take students to the campus four kilometres from the city. She stated that “there is a bus here that is free and there were a lot of complaints about it, because they were not committed to driving at the right times, to passing at the predetermined points. So we took it to DCE and DCE talked to the Campus director and, thus, there was an assembly and it was all sorted out. To the extent that now everything is normal”.

Regarding the way teachers express what they expect from students in the classroom, the responses were quite diverse. Most answers indicated that not all teachers express what is expected of students. They pointed out that the teachers “inform us of their expectations regarding the good performance of the whole class”; that teachers “relate the professional’s daily life to what they charge too [...]. So they make this correlation in a very fair way, often demanding in the test [...] what we will experience beyond the university”.

Chory-Assad (2002) found that there are strong associations between the perception of procedural justice and the variables motivation and affective learning in the relationship between teacher and student. Chory-Assad and Paulsel (2004) highlighted that policies adopted in the classroom, evaluation criteria and task schedule are directly related to procedural justice. They stated that perceptions of procedural justice, such as the way the grades were distributed in an assessment, seem to be more relevant than perceptions of distributive justice, which deals with the appropriate determination of grades. Overall, the interviewees considered that the institution and its teachers use the procedures fairly.

#### 4.3.4 Analysis of Perception of Interactional Justice

In the Interactional Justice dimension, we analyzed questions about how teachers treat students and whether students have ever witnessed actions of injustice in the classroom. Regarding the treatment of teachers towards students, the interviewees highlighted aspects about attention and respect: “the teachers are very receptive, all teachers I had always welcomed me very well and respectfully”.

Although most interviewees reported that they had never experienced situations of injustice in the classroom, two interviewees reported feelings of injustice regarding the behavior of some teachers. One of them believes that it is necessary to improve the interpersonal relationship with some teachers, “the actual contact among the teachers would be more pleasant and not boring as it is lately”. Another student highlighted relationship problems with substitute teachers. According to her, “I have some problems with substitute teachers. That was the case in the first semester and this semester too”.

Considering the situations of injustice experienced in the classroom related to colleagues, two interviewees highlighted having experienced unfair situations. One highlighted situations of injustice in the school environment, but not in the classroom environment. Another pointed out that, when trying to contact the teacher outside the classroom, “some in particular refuse to collaborate, teach, even outside the classroom environment. We go there to solve some questions, something and they aren’t, I won’t use the word competent, to answer because they are very competent indeed. But they don’t do it with pleasure, you know. We realize this when we are told to look for another type of information. Do a Google, as they often say here”.

Regarding the other dimensions of justice, interactional justice was the dimension that aroused the largest number of perceptions of injustice, especially because it recalls situations experienced in the classroom. Similar results were found in the work of Chory (2007), who showed that teacher credibility was more strongly related to Interactional Justice and that the teacher’s character was the most consistent predictor of classroom justice.

According to Wubbels and Brekelmans (2005), Interactional Justice is particularly important in learning environments, as the way teachers and students interact with one another influences students’ motivation and stimulation and positive behavior. It should be emphasized that both the institution and the teachers and colleagues are components of the learning environment and influence the individual perception of justice. Although analyzed individually, it can be inferred that one dimension is influenced by another to complement the general concept of justice in the learning environment.

## 5. Final Considerations

The aim of this study was to look for evidence to identify the relationship between the academic performance of Accounting undergraduate students and their perception of justice. To this end, the perceptions of undergraduate students in Accounting from all federal universities in Minas Gerais were evaluated. For the research, the theoretical constructs used were based on the studies of Homans (1961), Adams (1965), Chory-Assad (2002), Peter et al. (2012), Kovačević et al. (2013) and Simil (2016). The findings of this research allow us to infer that academic performance does not influence the perception of justice in any of its three dimensions, rejecting the three hypotheses: (1) academic performance tends to influence the perception of Distributive Justice; (2) academic performance tends to influence the perception of Procedural Justice; (3) academic performance tends to influence the perception of Interactional Justice.

Based on this result, some questions may be raised though. Although not used as a performance measure, failure proved to be statistically significant for the three models tested, implying that students who fail some subject feel wronged, however, this does not influence their perception of academic performance. The sign of the coefficient (negative) obtained in the three regressions shows that students who have failed at least one subject during the course perceive more Distributive, Procedural and Interactional Injustice than students who have never failed. The variable 'number of failures' was not statistically significant in any of the three dimensions of justice though. This demonstrates that only the fact that the student has failed at least once influences his or her perception of justice, no matter how many times he or she has failed a subject during the course.

Among the study variables, gender was statistically significant only in relation to procedural justice. Male students have a higher perception of procedural justice. Regarding Distributive and Interactional Justice, no statistical evidence was found that this relationship exists. Similar results were evidenced in the work of Simil (2016).

The variable 'course period in progress' was not statistically significant with respect to any of the three dimensions of justice. There is no evidence that students who are more advanced in the course have a greater perception of justice than students in the early periods. The same relationship was observed among students who had already graduated when they entered the Accounting course. These results show that, in the research sample, the university experience during the course or experiences of previous courses did not influence the students' perception of justice in any of the three dimensions.

The low  $R^2$  values (measure of degree of fit) observed in all regressions showed low explanatory power of the independent variables on the variance in the dependent variable. Being explained mainly by the residual, the variances in the perceptions of justice (dependent variables) are mainly caused by variables that were not considered in the established models. Therefore, although statistical validation is associated with the theoretical constructs, there are components omitted in the regression residues that cause greater variation in the dependent variable.

Regarding the qualitative analysis, some association between justice in the learning environment and the figure of the teacher was identified. Regarding Distributive Justice, the way the teacher distributes the grades and the way he evaluates the students were the most appointed aspects. It is noteworthy that students feel wronged when the teacher gives a lot of work to be done at home, whether individually or in groups. The justification for this fact is the impossibility of reconciling professional activities with extra-class activities.

Regarding procedural justice, feelings of welcoming and justice regarding complaints and opinions were observed. Difficulties have been reported in understanding what teachers expect from students though.

Concerning Interactional Justice, it has been shown that this is the dimension in which the interviewed students feel most wronged. This association of justice in the learning environment with the teacher reveals that, when there is a breach of trust or respect for the teacher, the feeling of injustice emerges in the student. Interactional Justice showed the highest sensitivity on the part of the students, precisely because it refers to the social relations between teachers and students.

It is concluded that, for the Accountancy students of the Federal Universities in the State of Minas Gerais that were included in the sample, the relationship between teacher and student, as well as the way he organizes the class schedule are more relevant in the interviewees' perception of justice. Understanding what the student considers fair or unfair in the university broadens the discussion about what should be considered in the management practices adopted, especially in the organization of subjects and interpersonal relationship policies between teachers and students.

The main limitation in this research is the fact that only students from federal universities were included. The differences between public and private universities are well-known. In addition, only women were shown in the analysis of the interviews, as women's ease to express their feelings could explain a greater perception of injustice. As the theme is incipient in the academic environment, it is important to highlight that the results of this study cannot be generalized as a profile of accounting students in Minas Gerais. Thus, further research can be developed based on the results presented here.

As a suggestion, this study could be replicated in private higher education institutions. Students from private institutions may have different perceptions of justice than those pointed out here, as they are engaged in a context that often diverges from students at public universities. Thus, it is expected that the research will contribute to the improvement of the pedagogical practices of teachers and course coordinators.

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