# Relation between perceived organizational justice and job satisfaction

## Abstract

**Objective**: The study aims to verify the relation between the perceived distributive justice of rewards, tasks, procedural, interpersonal and informational justice and job satisfaction.
**Method**: Survey involving employees from accounting service providers, resulting in 140 valid questionnaires. The perceived justice was analyzed from the reward distributive, task distributive, procedural, interpersonal and informational perspectives. Job satisfaction was analyzed in relation to the colleagues, wage, head, work itself and promotions.
**Results**: The correlations evidence strong associations among all dimensions of justice. The perceived justice and satisfaction scores are low. The highest perceived justice is found in the interpersonal dimension, while the highest level of satisfaction is related to the head. Differences in gender, age, length of experience and targets did not affect the perceived justice and satisfaction. Nevertheless, differences were observed concerning the reception of variable remuneration.
**Contributions**: The study contributes to the theoretical refinement by analyzing associations between five dimensions of justice and five categories of job satisfaction. Overall, perceived justice is analyzed in only three main dimensions and satisfaction at work is captured in general.
**Key words**: Distributive justice; Procedural justice; Interactional justice; Job satisfaction.

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## 1. Introduction

Organizational justice has developed as a multidimensional concept, in which new dimensions emerge with the development and deepening of its studies (Ahmadi, Daraei, Rabiel, Salamzadeh & Takallo, 2012). There is still no consensus among scholars though about what dimensions constitute the construct of organizational justice. While some scholars (Alexander & Ruderman, 1987; McFarlin & Sweeney, 1992; Martin & Bennet, 1996) consider only two dimensions, others point out three (Goldman, 2003), four (Colquitt, Conlon, Wesson, Porter & Ng, 2001; Souto & Rego, 2003; Rego & Souto, 2004) and even five dimensions (Rego, 2000; Rego, 2001; Rego, 2002).

The first two dimensions that were the focus of organizational scholars include distributive justice, developed based on Adams' (1965) studies, and procedural justice, introduced by Thibaut and Walker (1975). Subsequently, with the study by Bies and Moag (1986), the third dimension of organizational justice emerges, called "interactional justice". Studies contemporaneous with those of Bies and Moag (1986), such as Greenberg (1993a) and Colquitt *et al.* (2001), have led to the division of interactional justice into two dimensions, interpersonal justice and informational justice. Subsequently, Rego (2000) provided empirical evidence of a fifth dimension: the distributive justice of tasks.

Regardless of the number of dimensions considered, however, organizations are currently concerned with how their employees experience justice, not only in terms of the rewards they receive from the employment relationship, but also the way they are treated by the organizational system and its agents (Lamertz, 2002). This concern is partly due to the fact that literature has shown that higher levels of perceptions of justice are generally associated with more positive behaviors in the workplace (Rahim, Magner & Shapiro, 2000).

Although the ultimate goal (the economic-financial outcome) remains the same, the way organizations seek to achieve such results is changing over time. It was realized that profit maximization was not only due to better sales policies or cost reduction, but also started to consider the well-being of the individuals responsible for the organization's activities, providing them with more pleasant and more just work environments.

In this perspective, employee satisfaction turns into a relevant aspect of the organization, since it has been increasingly demonstrated that profitability, productivity, employee retention and customer satisfaction are associated with levels of employee satisfaction, as satisfied and motivated employees will generate greater empathy and customer satisfaction, which will positively influence organizational performance (Lai Wan, 2007). Due to the consequences that satisfaction can exert on workers and their performance, satisfaction in the work environment has become a phenomenon scholars have studied worldwide (Martinez & Paraguay, 2003).

Several studies have been carried out in a wide range of environments and situations about the impact of organizational justice on the level of employee satisfaction. In the international literature, investigations were conducted with officials of the US Federal Government (Alexander & Ruderman, 1987), private company employees (McFarlin & Sweeney, 1992), university officials and professors (Firoozi, Kazemi & Sayadi, 2017), hotel staff (López-Cbarcos, Pinho & Rodríguez, 2015), besides meta-analyses (Cohen-Charash & Spector, 2001; Colquitt *et al.*, 2001). The Brazilian literature shows less works that deal with the reflexes of organizational justice on job satisfaction. Among the few studies identified, the most noteworthy is that of Dal Vesco, Popik and Beuren (2016), involving employees of a cooperative.

Nevertheless, we did not identify studies that addressed this issue among employees of accounting service providers. Parker and Kohlmeyer (2005) examined the role of organizational justice in an employee's decision to leave a public accounting firm. The results of the survey with 76 accountants pointed out that perceived equity influences turnover intentions through organizational commitment and job satisfaction. The authors investigated only distributive justice and satisfaction at work was assessed in its general aspect.

Thus, the following research question is asked: What is the relationship between the perception of organizational justice and job satisfaction of employees of accounting service providers? Thus, the main objective of the study is to verify the relation of the perceived reward and task distributive, procedural, interpersonal and informational justice with job satisfaction. The research field is that of accounting service providers, showing a work environment prone to stress, as it demands that individuals comply in the accomplishment of their activities and get frequent recycling on financial, fiscal and occupational legislation. The relationship between people is intense, with co-workers, superiors and clients. From the tensions and organizational procedures inherent to work, feelings of injustice / justice can emerge, reflected in the individuals' satisfaction.

In addition, the study aims to evaluate if certain characteristics (gender, age, company time, and adoption of the variable remuneration system) imply significant differences in perceived justice and job satisfaction. Research such as Sweeney and McFarlin (1997) and Choi (2010) points out that individuals' characteristics may explain different perceptions of justice. Sweeney and McFarlin (1997) argue that women tend to emphasize fair procedures and interpersonal relationships, unlike men, who often emphasize distributive justice. Therefore, this analysis may be useful, for example, in setting goals, in the granting of variable remuneration, in interpersonal relationships, as they can elicit different feelings of justice and job satisfaction.

Chetty and Neeraja (2017) alert that job satisfaction is reflected in other organizational outcomes, such as organizational commitment, organizational citizenship behavior and managerial effectiveness, among others, and perceived justice constitutes an important predictor of job satisfaction. Thus, it is pertinent to investigate which perceptions of justice are associated with specific dimensions of job satisfaction. In this sense, this study is justified from a theoretical perspective by providing evidence of the relationship between the dimensions of organizational justice and job satisfaction, thus contributing to the theoretical framework.

According to Assmar, Ferreira and Souto (2005), Brazilian studies on organizational justice are sparse. In this sense, this study adds up to the Brazilian literature on the subject, providing evidence on the role of organizational justice in the work environment, in this case accounting services providers. The understanding of how justice relates to employee satisfaction can contribute to improving relationships between organizations and their employees, reflecting on their satisfaction and performance. It should be noted that most of the studies did not consider specific dimensions of job satisfaction, besides not considering the task justice, which may offer insights for future research.

## 2. Theoretical framework

### 2.1 Organizational justice

Organizational justice can be understood as the psychology of justice applied to the organizational environment, focusing on the perceptions of justice existing in the relations between workers and their organizations (Assmar, Ferreira, & Souto, 2005). According to Omar, Ferreira, Souto, Delgado, Assmar, González and Galáz (2007), the concept of organizational justice is related to the perceptions that employees have about what is right or wrong within the organizations they belong to.

Greenberg (1993b) argues that people will behave altruistically to the organization they work in if they believe they are being treated fairly. This belief will contribute to their maintaining positive attitudes towards work, supervisors and the organization, such as following the decisions of the superiors, avoiding antisocial behavior, besides displaying commitment and quality in their work, job satisfaction, health and well-being (Tepper, 2001). On the other hand, when they consider that they are being treated unfairly, this can generate feelings of anger, dissatisfaction and demotivation, which results in a decrease in productivity and quality of work and absenteeism (Omar *et al.*, 2007).

Research on organizational justice has evolved under different dimensions over the years. For Klendauer and Deller (2009), organizational justice is analyzed based on three dimensions: distributive justice, procedural justice and interactional justice. Colquitt (2001), in turn, proposes to dismember interactional justice in two distinct dimensions: interpersonal justice and informational justice. Rego (2000), when investigating the theme of organizational justice, considered a fifth dimension: the justice of tasks, this being a division of distributive justice.

Distributive justice is defined as the justice of results, such as salaries, rewards, promotions, profits distributed to workers, and the classification obtained in the performance assessment. Its approach is based on the Equity theory, in that individuals tend to evaluate distributive justice based on the proportionality between results and the effort required to achieve them (inputs), comparing their results with those of other individuals (Adams, 1965). If it is perceived that ratios are equal and that there is equality, there will be feelings of satisfaction and justice, which will increase job satisfaction and the intention to remain in the organization (Colquitt et al., 2001; Souto & Rego, 2003; Langevin & Mendoza, 2013).

The procedural justice comprises the perceptions of justice related to the procedures used in the systems of performance assessment, salary increases and promotions, recruitment and selection processes, resource allocation (Leventhal, 1980; Souto & Rego, 2003; Sotomayor, 2007). Procedural justice considers the methods, mechanisms, means and procedures used in determining the results (Cohen-Charash & Spector, 2001). Leventhal (1980) established six procedural rules that indicate whether or not individuals perceive a particular procedure as fair: consistency, absence of biases and personal interests, accuracy of information, correction (or correction/appeal mechanisms), representativeness of those involved in processes and ethics.

In contrast to distributive justice, which is related to a specific outcome, such as pay, procedural justice is more related to organizational outcomes, such as organizational commitment and organizational citizenship behaviors (Masterson, Lewis, Goldman & Taylor, 2000; Cohen-Charash & Spector, 2001; Colquitt et al., 2001). Greenberg (1987) attributes greater power to procedural justice than to distributive justice as, when procedures are perceived to be fair, workers are less concerned with unfair outcomes and tend to regard as fair what is unfair, exhibiting positive behaviors.

The third dimension is interactional justice, which focuses on the quality of interpersonal treatment by the organization, or how management behaves in relation to the beneficiary of justice (Cohen-Charash & Spector, 2001; Colquitt et al., 2001). It refers to the interpersonal treatment or the level of perceived equity in the way employees are treated in the organization. Interactional justice encompasses managers' behaviors towards subordinates, such as the degree of honesty, sensitivity and respect shown during interaction. In contrast to procedural justice, in which perceptions of injustice are related to the organization, perceptions of interactional injustice are directed at the superior (Masterson et al., 2000).

Greenberg (1993a) proposed the unfolding of interactional justice in two dimensions: interpersonal justice and informational justice, thus introducing a four-dimensional model of organizational justice. For Colquitt et al. (2001), interpersonal justice reflects the extent to which people are treated with cortesy, dignity and respect by the authorities or the stakeholders in the execution of procedures or the determination of results. Thus, fair treatment is expected to enhance the perceived justice, increase the degree of acceptance of decisions and provoke positive reactions (Greenberg, 1993a), while informational justice focuses on the explanations given to people, why procedures have been used in a certain way or why the results have been distributed in a certain way (Colquitt et al., 2001). Thus, it is assumed that explanations and justifications make decisions more transparent, helping to mitigate negative reactions when perceiving injustices and to minimize adverse responses to unfavorable results obtained (Greenberg, 1993a).

Rego (2000), in the validation of a measure of perceived organizational justice, demonstrated that the best concept of justice considers five dimensions. In the research conducted by the author, distributive justice was divided into two independent dimensions, and the new dimension was denominated "task distributive justice". Thus, while distributive justice focuses on the distribution of rewards, the dimension identified by Rego (2000) refers to the distribution and allocation of tasks, workload and responsibilities in the work environment.

There is no consensus among researchers about the distinction between procedural justice and interactional justice, nor on the division of the latter into interpersonal and informational (Beuren, Klein, Lara, & Almeida, 2016). Konovsky (2000) recommends the distinction though, considering that there is sufficient literature demonstrating that the three dimensions (procedural, interpersonal and informational) are unique types of justice. Studies, such as Colquitt (2001), Colquitt *et al.* (2001), Rego (2001), Souto and Rego (2003), and Rego and Souto (2004), present empirical evidence that the division of interactional justice is pertinent, as interpersonal justice affects different organizational outcomes of informational justice.

In this study, we chose to use the five-dimensional model of organizational justice, also aiming to verify whether the various dimensions are mutually related. We also decided to consider the task justice, hardly investigated in research, and the concept is applicable to the employees of accounting service providers.

## 2.2 Job satisfaction

Job satisfaction has aroused the interest of scholars from various fields since the 1930s. This interest stems from the influence that satisfaction can exert on the worker, affecting his physical and mental health, attitudes and professional and social behavior (Martinez & Paraguay, 2003).

Initially, job satisfaction was associated with and often incorrectly confused with motivation. Scholars of this approach considered job satisfaction as a component of motivation that led workers to exhibit favorable behavior indicators, such as increased performance and productivity, company time and reduced absenteeism. From this trend, theories have emerged, such as the Motivation-Hygiene and Need Satisfaction theories (Siqueira, 2008).

Even after more than eighty years of research on the subject, however, there is still no consensus on concepts, theories or theoretical models about job satisfaction though. This difficulty in establishing a common definition is partially due to the fact that job satisfaction is a subjective phenomenon, which can vary from person to person, from circumstance to circumstance, and subject to internal and external influences on the environment (Martinez & Paraguay, 2003).

Between the 1970s and 1980s, scholars started to conceive the concept of satisfaction as an attitude. Thus, Robbins (2005: 61) defined job satisfaction as "an individual's general attitude toward his or her job". In that period, satisfaction was considered as a factor capable of predicting different work behaviors, such as productivity, performance, turnover and absenteeism (Siqueira, 2008).

Another aspect of studies on job satisfaction came to consider it as an emotional state. Locke (1969) understood job satisfaction as a pleasant emotional state resulting from an individual's assessment of his work. Siqueira (2008) alerts that job satisfaction enters the 21st century as a multiple concept that addresses affectivity in the work environment, constituting an affective bond of the individual with his work.

Despite these different conceptions, the dimensions of job satisfaction have undergone few changes over the years. Among them, the dimensions that were maintained in the course of decades were satisfaction with wages, satisfaction with co-workers, satisfaction with heads, satisfaction with promotions and with the actual work. Considering job satisfaction as an individual's pleasurable experiences in the work environment, each of the five dimensions represents a source of such experiences (Siqueira, 2008).

In this sense, Siqueira (2008) presents the Job Satisfaction Scale (EST) composed of 25 items, whose objective is to measure the worker's degree of contentment in relation to his work. The EST was created and validated in Brazil and is based on a multidimensional view of job satisfaction. Its items cover the five theoretical dimensions, as shown in Figure 1.

| Dimensions | Definitions |
|---|---|
| Satisfaction with wage | Satisfaction with the wage received in comparison to how much the individual works, professional capacity, cost of living and efforts to accomplish the work. |
| Satisfaction with co-workers | Satisfaction with cooperation, friendship, trust and relationship with co-workers. |
| Satisfaction with head | Satisfaction with organization and professional capacity of the head, his interest in the subordinates' work and understanding between them. |
| Satisfaction with promotions | Satisfaction with the number of promotions, the guarantees offered to who gets promoted, the company's promotion policy and the waiting time for promotion. |
| Satisfaction with nature of job | Satisfaction with interest aroused by the tasks, capacity to absorb the worker and range. |

**Figure 1.** Dimensions of job satisfaction

Source: adapted from Siqueira (2008).

In this study, the EST developed by Siquera (2008) was used to evaluate the satisfaction of employees of accounting service providers. This scale has already been used and validated in the research by Suehiro, Santos, Hatamoto and Cardoso (2008) and Rueda, Baptista, Souza and Degenhardt (2010).

Research has been carried out to identify which factors could trigger levels of job satisfaction or dissatisfaction. The perceived organizational justice can affect levels of job satisfaction. Thus, some studies and their findings are related to the perceived organizational justice versus job satisfaction.

## 2.3  Relation between organizational justice and job satisfaction

The perceived organizational justice can have an impact on employee satisfaction. In this sense, several researchers have conducted studies to verify the relationship between organizational justice and job satisfaction. McFarlin and Sweeney (1992) conducted a study involving 675 bankers and found that both procedural and distributive justice are significantly related to job satisfaction. Martin and Bennet (1996) came up with similar results when conducting a survey of 1,377 employees of a financial services company.

Aryee, Budhwar and Chen (2002), when researching employees of an Indian public organization, found indirect effects of procedural and interactional justice and direct and indirect effects of distributive justice on job satisfaction. Choi (2011), in conducting a study with employees from 24 US government departments, found that high levels of justice (distributive, procedural and interactional) are positively related to job satisfaction. Ahmadi *et al.* (2012) reached the same conclusions when they investigated employees and managers of two large factories in Iran.

Dal Vesco, Popik and Beuren (2016) found a significant relation between the distributive and interactional dimensions and job satisfaction of 110 employees of a production cooperative. They did not find the same effect in relation to procedural justice though. Colquitt *et al.* (2001) conducted a meta-analytical review of 183 studies on organizational justice and found that the distributive and procedural dimensions of organizational justice are highly related to job satisfaction, while the interpersonal and informational dimensions are moderately related to job satisfaction. Thus, the first hypothesis of the study was elaborated:

- **H1:** Perceptions of distributive, procedural, interpersonal, informational, and task justice are positively related to job satisfaction.

Confirmation of the H1 hypothesis will indicate that when individuals perceive a greater sense of justice in work activities, they will have greater job satisfaction. It is expected that the results for this hypothesis are similar to those of Colquitt *et al.* (2001).

McFarlin and Sweeney (1992) and Martin and Bennet (1996) observed in their studies that the distributive dimension is the strongest predictor of job satisfaction. The results of Choi's (2011) research also revealed that the distributive dimension of organizational justice is more strongly associated with job satisfaction than the other dimensions. Nadiri and Tanova (2010) observed that distributive justice is a stronger predictor of job satisfaction than the procedural and interactional dimensions. Thus, the second hypothesis of the research was elaborated:

- **H2:** The perception of distributive justice is more strongly related to job satisfaction than the other dimensions of organizational justice.

In contrast to the results presented, Alexander and Ruderman (1987) identified procedural justice as a stronger predictor of job satisfaction than distributive justice. This research was conducted with 2,800 US government employees. Warner, Reynolds, and Roman (2005) found that distributive justice is never a stronger predictor of job satisfaction than procedural justice. These divergences may have occurred because of the sample used.

Confirmation of the hypothesis H2 will indicate that the justice of the ends is more related to job satisfaction, converging with the results of McFarlin and Sweeney (1992), Martin and Bennet (1996) and Choi (2011), but diverging from the results of Alexander and Ruderman (1987) and Warner, Reynolds and Roman (2005).

Other studies have shown that different dimensions of organizational justice can be predictive of certain dimensions of job satisfaction. DeConinck and Stilwell (2004) found that procedural justice is an important predictor of satisfaction with the supervisor, while distributive justice is a strong predictor of payment satisfaction. Zainalipour, Fini and Mirkamali (2010) found a positive correlation between the three dimensions of organizational justice (distributive, procedural and interactional) with satisfaction with supervision (heads), co-workers, payment and promotions.

The authors also found a positive correlation between satisfaction with growth, status and work conditions and the informational, procedural and distributive dimensions. Based on the results of these studies and the characteristics of each dimension of justice, it is believed that certain dimensions of justice are more related to a specific type of job satisfaction, such as distributive justice and satisfaction with salary and promotions. This assumption is due to the fact that each dimension of justice affects specific organizational results (Masterson *et al.*, 2000).

## 3. Research Method

### 3.1 Population and sample

A questionnaire was sent by Google Docs to the employees of 30 companies that provide accounting services from cities in the North of the state of Santa Catarina, which were chosen intentionally. The choice of the cities was due to the researchers' access to the contacts needed to carry out the survey. It was decided to distribute the research instruments to the largest accounting offices of the chosen cities.

In response, 167 answered questionnaires were received, 27 of which presented problems, some with no answers and others with two answers to the same assertion. These were eliminated, leaving 140 valid questionnaires for analysis. The profile of the respondents comprised gender, age, academic background, training area, company time, work sector, function, time on the job, formal goals and receipt of variable remuneration.

Most respondents (70.71%) are female. In relation to age, the majority (82.14%) is between 16 and 30 years old. As for the level of education, there is a large number of respondents with incomplete higher education (45%), but the number of respondents with complete undergraduate and postgraduate degrees (44.29%) is also high. Among the respondents with complete higher education, the Accountancy course stands out with 72.22%. Most respondents with a specialization degree focused on Tax Management (34.62%), followed by Accounting (23.08%) and Controllership and Finance (15.38%).

In terms of company time, more than half (52.86%) of the respondents work in the company between one and five years. The number of respondents who have worked at the company less than a year is also considerable (27.86%), while the number of employees over 10 years old is reduced (7.14%). This suggests staff turnover, which may signal a lack of perceived justice and job satisfaction.

Among the respondents, 26.43% work in the accounting sector, 15.71% in the tax sector, 13.57% in the personnel sector, while the majority (33.57%) work in more than one sector. In relation to the function performed, the most important are accounting assistant (17.14%), tax-accounting assistant (15%) and fiscal assistant (11.43%). Some respondents serve as coordinator or manager of the sector (7.86%) and accountant (7.86%). Regarding the time on the job, we highlight the range of one to five years, which concentrated 55% of the responses, followed by the range of up to one year, with 30.71% of the responses.

Regarding the goals, 72.14% of respondents work with pre-established formal goals. The number of respondents with variable remuneration is not very significant though, totaling 18.57% of the sample analyzed.

## 3.2 Research instrument and data analysis procedures

The perceived organizational justice and job satisfaction of employees of accounting service providers were measured using the variables exposed in the research construct, as shown in Figure 2.

| Variables | Dimensions | Goal | Verification |
|---|---|---|---|
| Organizational justice (Rego, 2001) | Distributive justice Procedural justice Interpersonal justice Informational justice Task distributive justice | Identify the perceived organizational justice in the work relations of accounting service providers. | 30 statements were presented, being 6 for each dimension of justice, on a scale from 1 to 7, with 7 indicating high perceived justice and 1 low perceived justice and/or feeling of injustice. |
| Job satisfaction (Siqueira, 2008) | Satisfaction with wage Satisfaction with co-workers Satisfaction with head Satisfaction with promotions Satisfaction with nature of job | Verify the level of job satisfaction among co-workers at accounting service providers | 25 statements were presented, being 5 for each dimension of satisfaction, on a scale from 1 to 7, with 1 indicating complete dissatisfaction and 7 complete satisfaction. |

**Figure 2.** Research construct

Source: elaborated by the authors.

The questionnaire was structured in three blocks, directed at the employees of accounting service providers. The first block aimed at identifying the level of employee satisfaction; the second block was aimed at assessing the respondents' perceived organizational justice; the last block captured the profile of the survey respondents. The assertions were taken from the studies by Rego (2001) and Siqueira (2008).

Before taking the questionnaire to the field, a pre-test was applied in order to investigate possible problems the respondents could perceive. The pre-test was answered by ten people working in companies that provide accounting services, none of whom were part of the sample. In the application of the pre-test, some changes were indicated in the formulation of the questionnaire.

In the data analysis, we used descriptive statistics, Pearson's correlation and the non-parametric Mann-Whitney and Kruskal-Wallis tests of medians. In the descriptive statistics, the minimum and maximum, means, standard deviation and variation coefficient of the variables were determined. Pearson's correlation was applied to verify if there is a coherent and systematic association between the variables observed and the strength of the association of those variables. The relationship / association between all dimensions of organizational justice and all dimensions of job satisfaction was analyzed.

Finally, in order to meet the complementary objective, the Mann-Whitney and Kruskal-Wallis tests were applied to assess whether the characteristics of gender, age, company time, existence of work goals and adoption of the variable remuneration system imply differences in perceived justice and job satisfaction. In this sense, the perceived justice and job satisfaction of five main groups were compared: (i) gender: male versus female; (ii) goals at work, whether or not respondents had pre-established goals; (iii) variable remuneration, if the variable remuneration system is established or not in the organizations of the respondents; (iv) age of the respondents, divided into three groups: up to 25 years, from 26 to 30 years, over 30 years; and (v) company time, up to one year, from one to five years, up to five years. Mann-Whitney's U-test was used to analyze the differences in the first three groups (gender, goals at work and variable remuneration), while the Kruskal-Wallis test was applied to analyze differences in age groups and company time.

## 4. Data Description and Analysis

### 4.1 Descriptive Statistics

In Table 1, we present data related to the descriptive statistics applied in each variable of the research construct. The minimum and maximum, the means, standard deviation and variation coefficient of the investigated variables were determined.

Table 1

**Descriptive statistics of variables**

| Variables | Minimum | Maximum | Mean | Standard Deviation | Variation coefficient |
|---|---|---|---|---|---|
| Reward distributive justice | 1 | 7 | 4.55 | 1.83 | 40.29 |
| Task distributive justice | 1 | 7 | 5.38 | 1.53 | 28.41 |
| Procedural justice | 1 | 7 | 4.79 | 1.68 | 35.06 |
| Interpersonal interaction justice | 1 | 7 | 5.55 | 1.53 | 27.51 |
| Informational interaction justice | 1 | 7 | 5.02 | 1.70 | 33.93 |
| Satisfaction with wage | 1 | 7 | 4.39 | 1.67 | 38.05 |
| Satisfaction with co-workers | 1 | 7 | 5.50 | 1.24 | 22.50 |
| Satisfaction with head | 1 | 7 | 5.65 | 1.41 | 24.97 |
| Satisfaction with promotions | 1 | 7 | 4.25 | 1.86 | 43.80 |
| Satisfaction with nature of job | 1 | 7 | 5.33 | 1.30 | 24.31 |

Source: research data.

According to Table 1, the respondents perceive organizational justice in a moderate way, as the averages were concentrated around 5, corresponding to "I slightly agree" in the scale. This perception is not homogeneous in all dimensions though, as the variation coefficient is greater than 30% in some of them. The interpersonal justice obtained the highest average and the lowest variation coefficient. This denotes that superiors have good relationships with their subordinates, which increases the perceived interpersonal justice scores. In the same sense, satisfaction with the head presented the highest average among the dimensions of job satisfaction. Rego and Souto (2004) also found a greater perception of interpersonal justice among employees from public and private companies.

The task distributive justice presented the second best average (5.38) among the organizational justice dimensions, with a variation coefficient of less than 30%. This suggests that the perceived justice in this dimension is homogeneous. The same did not occur with the reward distributive justice, which presented the lowest average among the dimensions of justice. This dimension presented the highest variation coefficient among the justice variables though, which reveals great discrepancy among the answers.

The averages of informational and procedural justice were, respectively, 5.02 and 4.79 but, in both dimensions, the variation coefficient was higher than 30%, which suggests non-homogeneity among the responses. The average found here for the procedural dimension was close what Nadiri and Tanova (2010) found among hotel employees, of 3.69 on a 5-point scale.

With regard to satisfaction, levels in all dimensions were moderate. The dimensions of satisfaction with salary and promotions are negatively highlighted - both presented averages close to 4, the center point of the scale, which indicate neither satisfaction nor dissatisfaction. These two dimensions presented high variation coefficients though, indicating low levels of uniformity among the responses. On the other hand, like satisfaction with the head, satisfaction with co-workers and the nature of the job presented fairly high levels, with variation coefficients inferior to 30%, which reveals convergence among the responses.

The analysis of maxima and minima shows that the respondents used the whole scale, as there were responses at both ends. This shows that, while some respondents presented high scores of satisfaction and perceived justice, represented here by the maximum 7, others presented low perceived justice and satisfaction, represented by the minimum 1. In general, there are indications of feelings of injustice and dissatisfaction regarding remuneration, promotions and organizational procedures, which imply changes in the providers of accounting services, especially with regard to promotion practices.

## 4.2 Correlations between the dimensions of justice and job satisfaction

Table 2 shows the Pearson correlations between the variables analyzed. The five dimensions of justice were correlated with the five dimensions of job satisfaction. In addition, an average of all satisfaction variables was obtained to obtain a score called general satisfaction, which was also related to each dimension of organizational justice.

Table 2

**Pearson's correlations among variables**

| Variables | JD | JP | JINT | JINF | JDT | SS | SCO | SCH | SP | SN | SG |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Distributive justice (JD) | 1 | | | | | | | | | | |
| Procedural justice (JP) | 0.852** | 1 | | | | | | | | | |
| Interpersonal interaction justice (JINT) | 0.701** | 0.823** | 1 | | | | | | | | |
| Informational interaction justice (JINF) | 0.759** | 0.900** | 0.875** | 1 | | | | | | | |
| Task distributive justice (JDT) | 0.705** | 0.805** | 0.736** | 0.756** | 1 | | | | | | |
| Satisfaction with wage (SS) | 0.889** | 0.758** | 0.672** | 0.690** | 0.636** | 1 | | | | | |
| Satisfaction with co-workers (SCOL) | 0.243** | 0.393** | 0.404** | 0.370** | 0.429** | 0.326** | 1 | | | | |
| Satisfaction with head (SCH) | 0.633** | 0.717** | 0.819** | 0.732** | 0.662** | 0.652** | 0.478** | 1 | | | |
| Satisfaction with promotions (SP) | 0.726** | 0.783** | 0.679** | 0.702** | 0.647** | 0.761** | 0.388** | 0.574** | 1 | | |
| Satisfaction with nature of job (SN) | 0.618** | 0.714** | 0.667** | 0.686** | 0.710** | 0.664** | 0.545** | 0.651** | 0.711** | 1 | |
| General Satisfaction (SG) | 0.799** | 0.844** | 0.801** | 0.791** | 0.758** | 0.871** | 0.619** | 0.813** | 0.880** | 0.860** | 1 |

** $p < 0.01$.

Source: research data.

Table 2 shows that all the research variables are mutually related with 99% significance, and all dimensions of organizational justice presented strong positive correlations. These results converge with the research by Colquit *et al.* (2001), Rego (2002), Souto and Rego (2003), Rego and Souto (2004) and Sotomayor (2007). These correlations, according to Rego (2002), are based on a methodological and psychometric difficulty, the (non) independence of the dimensions of organizational justice.

Differently from the results found by Souto and Rego (2003) and Rego and Souto (2004), in which the strongest association occurred between the interpersonal and informational dimensions, in this study, it was verified that the strongest correlation was found between the procedural and informational dimensions. The correlation between interpersonal and informational justice was the second strongest association though. These results may explain the fact that some researchers, such as Aryee, Budhwar and Chen (2002), Goldman (2003), Nadiri and Tanova (2010) and Ahmadi *et al.* (2012) do not consider interpersonal and informational justice as distinct dimensions, considering them as interactional. The dimensions of interactional justice were more correlated to procedural justice than to distributive justice though. This fact may explain the understanding of authors like McFarlin and Sweeney (1992), who understand interactional justice as a branch of procedural justice and not as an independent dimension. For this reason, these authors consider only two dimensions: distributive and procedural.

It should be noted that a strong correlation was also found between distributive justice and procedural justice. This result converges with the studies by Sweeney and McFarlin (1997), who also identified a strong correlation between these two dimensions. Similarly, other authors, such as McFarlin and Sweeny (1992), Aryee, Budhwar and Chen (2002) and Ahmadi *et al.* (2012) found a moderate correlation between distributive justice and procedural justice.

In the bivariate correlation between the dimensions of organizational justice and job satisfaction, all dimensions of justice were strongly correlated with the satisfaction. This result supports the hypothesis H1, that perceptions of distributive, procedural, interpersonal, informational and task justice are positively related to job satisfaction. It also converges with the results of McFarlin and Sweeney (1992), Martin and Bennet (1996), Colquitt *et al.* (2001), Choi (2011), Ahmadi *et al.* (2012) and Dal Vesco, Popik and Beuren (2016), who found a positive relationship between the dimensions of justice addressed in their studies and job satisfaction. Thus, the greater the sense of justice in work activities, the greater their job satisfaction will be.

The dimension of organizational justice that showed the strongest association with job satisfaction, different from what we expected, was procedural justice, which leads to the rejection of the hypothesis H2 that the perception of distributive justice is more strongly related to job satisfaction than the other dimensions of organizational justice. This result differs from that found by McFarlin and Sweeney (1992), Martin and Bennet (1996), Choi (2011) and Firoozi, Kazemi and Sayadi (2017) and converges with Alexander and Ruderman (1987) and Warner, Reynolds and Roman (2005). It is inferred that the respondents placed greater emphasis on the procedures employed in the distribution of rewards and not on the reward itself. This result is in line with the research by Chetty and Neeraja (2017), in which procedural justice was the dimension of justice employees from a software company assessed as the most relevant.

When analyzing the dimensions of job satisfaction individually, one can see that, as shown in the literature, different dimensions of justice correlate more strongly with certain dimensions of satisfaction. In this sense, in the analysis of means, interpersonal justice was shown to be more strongly associated with satisfaction with leadership, that is, the more just the superior's treatment of his subordinate, the greater his satisfaction with the superior.

Distributive justice, as expected, correlated more strongly to satisfaction with salary and promotions. This result is consistent with the research by DeConinck and Stilwell (2004) and indicates that, the greater the perception that the rewards received are fair, the greater the satisfaction with these rewards. Procedural justice also presented a strong correlation with satisfaction with salary and promotions, which means that not only the justice of the rewards received, but also the perceived justice in the distribution process is determinant for the satisfaction with the rewards, as advocated by Leventhal (1980).

The informational justice showed a strong relation with satisfaction with the head and a moderate relation with satisfaction with salaries and with the nature of the job. The task distributive justice proved to be more strongly related to satisfaction with the nature of the job. This result was already expected, given the theoretical definitions of both variables. Finally, none of the dimensions of organizational justice was strongly associated with satisfaction with co-workers. The relationships found were moderate for the interactional and task distribution dimensions, while the other dimensions of justice showed a weak relationship with satisfaction with co-workers. Thus, the relationship between feelings of justice and job satisfaction refers to organizational aspects (rewards, processes and tasks) and interaction between heads and subordinates, but without significant effects of the interaction with co-workers.

Researchers have given less attention to interactional justice, as pointed out by López-Cabarcos, Pinho and Rodríguez (2015), but the results of this research appoint that perceived procedural and interactional justice were the main predictors of overall job satisfaction, to the detriment of distributive justice. This indicates that respondents may be involved in two types of exchange: with their supervisor and with the organization.

## 4.3 Control variables and perceived justice and job satisfaction

As a complement, the Mann-Whitney and Kruskal- Wallis tests were applied to assess whether gender, age, company time, existence of work goals characteristics and the adoption of the variable remuneration system imply significant differences in perceived justice and job satisfaction. In these tests, if the level of significance corresponds to 0.05 or less, this will indicate that there are differences among the groups analyzed.

Table 3

**Mann-Whitney and Kruskal-Wallis tests**

| Variables | Mann-Whitney test | | | Kruskal-Wallis test | |
|---|---|---|---|---|---|
| | Gender | Targets | Variable Remuneration | Age | Length of service |
| Distributive justice | 0.976 | 0.588 | 0.085 | 0.860 | 0.672 |
| Procedural justice | 0.635 | 0.085 | 0.003 | 0.878 | 0.604 |
| Interpersonal interaction justice | 0.429 | 0.138 | 0.008 | 0.999 | 0.476 |
| Informational interaction justice | 0.963 | 0.058 | 0.002 | 0.725 | 0.597 |
| Task distributive justice | 0.178 | 0.063 | 0.013 | 0.684 | 0.520 |
| Satisfaction with wage | 0.766 | 0.381 | 0.072 | 0.313 | 0.895 |
| Satisfaction with colleagues | 0.544 | 0.113 | 0.899 | 0.836 | 0.087 |
| Satisfaction with head | 0.902 | 0.099 | 0.290 | 0.903 | 0.643 |
| Satisfaction with promotions | 0.863 | 0.089 | 0.040 | 0.926 | 0.473 |
| Satisfaction with nature of job | 0.850 | 0.010 | 0.036 | 0.988 | 0.107 |

Source: research data.

The results of the Mann-Whitney test show that there is no difference in the perceived justice and satisfaction between men and women as significance levels were not lower than 0.05 for any of the variables. This result differs from the study by Sweeney and McFarlin (1997) that women tend to place greater emphasis on procedural justice rather than outcomes, while men have shown a stronger emphasis on distributive justice. It converges with the results by Cohen-Charash and Spector (2001) though, in that regardless of age, sex, race, schooling and possessions, people tend to perceive justice in a similar way.

Regarding the goals, only satisfaction with the nature of the job had a significance level lower than 0.05. This indicates that the group that has goals presents levels of satisfaction with the nature of the job different from those who do not have goals.

As for variable remuneration, the group that receives some type of variable remuneration perceives four dimensions of organizational justice (procedural, interactional, informational and task distributive), differently from those that do not receive variable remuneration. This opinion difference is also observed in the levels of satisfaction with the promotions and satisfaction with the nature of the job. Group averages show that those who receive some type of variable remuneration feel greater justice and satisfaction compared to those who do not receive variable remuneration.

These results indicate that having goals does not modify the sense of justice, however, the variable remuneration system can be an indicator to strengthen such feelings and, consequently, to reinforce job satisfaction, which differs from the results by Odelius and Santos (2008), who did not observe differences in the perceived justice between employees who receive only fixed remuneration and those who receive variable remuneration.

The results of the Kruskal-Wallis test indicate that there is no difference in the perception of organizational justice and job satisfaction among the different age groups of the respondents and among their company time as, for none of the analyzed variables, significance levels were lower than 5%. This result is in line with the research by Cohen-Charash and Spector (2001), which did not identify a difference in perceived justice according to respondents' ages either.

## 5. Final Considerations

In this research, we aimed to verify the relationship between the perceived reward distributive, task distributive, procedural, interpersonal and informational justice and job satisfaction. The results showed that all dimensions of organizational justice presented a strong and positive mutual correlation, which converges with the results by Colquit *et al.* (2001), Rego (2002), Souto and Rego (2003), Rego and Souto (2004) and Sotomayor (2007). This finding draws attention to a difficulty reported in the literature, the (non) independence of the dimensions of organizational justice.

The low scores of organizational justice some respondents appointed denote little perception of justice in the workplace in all the observed dimensions (reward distributive, task distributive, procedural, interpersonal and informational). This fact may also explain the low job satisfaction scores observed among the individuals in the sample, which suggests that the increase in the perceived organizational justice can bring about an increase in the level of satisfaction and, consequently, in the performance.

In the correlation analysis, it was observed that all dimensions of organizational justice presented a strong positive correlation with satisfaction at work, which converges with the results by McFarlin and Sweeney (1992), Martin and Bennet (1996), Colquitt *et al.* (2001), Choi (2011), Ahmadi *et al.* (2012) and Dal Vesco, Popik and Beuren (2016), and implies the non-rejection of the hypothesis H1, that perceptions of distributive, procedural, interpersonal, informational and task justice are positively related to job satisfaction.

Regarding the hypothesis H2, the results appointed that procedural justice has a stronger correlation with job satisfaction. This result provides evidence to reject H2, that distributive justice is more strongly related to job satisfaction than the other dimensions of organizational justice. This result is in line with Alexander and Ruderman (1987) and Warner, Reynolds and Roman (2005).

In the relationship between the different dimensions of organizational justice and job satisfaction, it was observed that, in line with the study by DeConinck and Stilwell (2004), distributive justice was more strongly related to satisfaction with payment and promotions. We also identified a strong relationship between these dimensions of satisfaction and procedural justice. It is argued that not only the rewards are considered, but also the procedures by which these rewards are distributed. Interaction and informational justice were more strongly associated with satisfaction with the head, which indicates that fair treatment and providing explanations about procedures and decisions contribute to the subordinate's level of satisfaction with his superior.

The Mann-Whitney and Kruskal-Wallis tests revealed that the perceived justice and level of satisfaction are independent of respondents' gender, age and company time. Regarding goal setting, it was observed that this procedure does not give rise to greater feelings of justice, nor does it impact the job satisfaction as a whole. On the other hand, the variable remuneration system is an element that interferes with the feelings of justice and, consequently, with greater job satisfaction. Thus, the setting of goals should be accompanied by variable remuneration if a greater sense of justice is sought.

It should be emphasized, however, that the results presented are restricted to the sample analyzed. The limitations of the research, the statistical techniques employed in the data analysis and the number of organizational justice dimensions used are also highlighted since, as emphasized in the literature review, there is no consensus regarding the number of dimensions that constitute the organizational justice construct. As suggestions for future research, it is recommended to investigate the impact of perceived organizational justice and job satisfaction on employee commitment and performance. Other studies can focus on the antecedents of perceived justice.

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