

Influence of the perception of organizational justice on work engagement: intervention of job satisfaction

Rosana Santos de Oliveira

PhD in Accounting, Universidade Federal de Santa Catarina (UFSC)
Rua Roberto Sampaio Gonzaga - Trindade, CSE/UFSC, Florianópolis - SC, CEP: 88040-900.
E-mail: oliveiraufsc2021@gmail.com
ORCID: <https://orcid.org/0000-0001-9413-2394>

Carlos Eduardo Facin Lavarda

PhD in Accounting, Universidade de Valência
Professor at Universidade Federal de Santa Catarina (UFSC)
Rua Roberto Sampaio Gonzaga - Trindade, CSE/UFSC, Florianópolis - SC, CEP: 88040-900.
E-mail: elavarda@gmail.com
ORCID: <https://orcid.org/0000-0003-1498-7881>

Abstract

The study evaluated the influence of perceived distributive, procedural, and interactional justice on work engagement, mediated by job satisfaction. A survey was conducted with 94 employees of accounting offices in the Northern Region. Partial least squares structural equation modeling (PLS-SEM) was used for data analysis. The results indicate that procedural justice has a positive influence on work engagement. In addition, distributive and interactional justice are positively associated with job satisfaction, which impacts work engagement. It was also possible to observe a full mediation of job satisfaction in the relationship between distributive justice and work engagement. As a theoretical contribution, the study presents new evidence on the relevance of organizational justice, highlighting the importance of fostering a fair environment for employees and expanding discussions by providing data in a specific regional context. In practical terms, the results offer guidance for managers and human resource professionals. They suggest that promoting respectful work environments, in which employees' dignity and rights are prioritized, is essential for strengthening job satisfaction and engagement.

Keywords: distributive justice; procedural justice; interactional justice; job satisfaction; work engagement.

1. Introduction

Organizational justice is a widely researched topic in the areas of management, applied psychology, and organizational behavior, with evidence of significant consequences for both organizations and their members (Cho et al., 2024; Parker & Kohlmeyer, 2005). Individuals in the organization perceive it through the evaluation of contributions made, rewards received, and decisions made fairly, without compromising what the employee should actually receive (Cropanzano et al., 2002; Mamić et al., 2024). It also refers to the priority that superiors should give to the respectful treatment of employees (Cropanzano et al., 2002; Niehoff & Moorman, 1993).

In the literature, organizational justice is often approached through three dimensions: distributive, procedural, and interactional, which are also adopted in this research (Cropanzano et al., 2002). Although the three dimensions of organizational justice are related to each other,

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studies have shown that they are independent concerning employee attitudes at work (Colquitt et al., 2001; Niehoff & Moorman, 1993).

When individuals feel respected and treated with dignity, they tend to develop a positive attitude towards their work and their employer, in addition to perceiving their work in an overall favorable manner (Lambert et al., 2021). This recognition of fairness in the organizational environment is associated with an increase in job satisfaction (Mamić et al., 2024). The positive perception of organizational justice can induce desirable behaviors, such as employee satisfaction (Lambert et al., 2021; Mamić et al., 2024). This satisfaction is understood as a positive emotion resulting from an individual's evaluation of their work (Locke, 1969; Mamić et al., 2024), which includes the realization of their personal values through the professional activities they perform (Locke, 1969).

Efforts to strengthen organizational justice are essential because employees tend to adopt a positive attitude toward their jobs when they perceive the organization as fair, which contributes to greater work engagement (Cho et al., 2024). Engaged employees make more effort because they identify with the work they do, develop a sense of belonging, and contribute to positive outcomes for both their own development and the growth of the organization (Hinojosa-López, 2022). Furthermore, when employees experience positive feelings about their work, this can increase their job satisfaction, which can encourage engagement in work activities (Hinojosa-López, 2022).

Previous studies have confirmed a significant and positive influence of organizational justice on job satisfaction. Research conducted by López-Cabarcos et al. (2015) with hotel employees in northern Portugal, Dal Vesco et al. (2016) with employees of a production cooperative in southern Brazil, Firoozi et al. (2017) with university professors in Iran, and Aeknarajindawat and Jermstiparsert (2020) with employees of pharmaceutical organizations in Thailand corroborate this claim.

Furthermore, the literature also presents positive and significant evidence of organizational justice in work engagement, as demonstrated by Cao et al. (2020) in a study with nurses in China, and Oliveira and Ferreira (2016), who analyzed professionals from the public, and private and third sector organizations. The relationship between job satisfaction and engagement was addressed by Hinojosa-López (2022) in a survey of bank employees.

Although the literature already has proven the relationship proposed in this study, investigations in the Brazilian context are still lacking, especially in regions with distinct cultural characteristics, such as the North of the country. Furthermore, this study fills a gap in research on perceived organizational justice along with job satisfaction and work engagement, in addition to providing evidence on the mediating effect of job satisfaction.

Previous studies on organizational justice in certain contexts, such as accounting firms, are still limited. Parker and Kohlmeyer (2005) examined the relationship between organizational justice and turnover within large public accounting organizations in Canada. Beuren et al. (2017) investigated the relationship between the dimensions of organizational justice and job satisfaction in accounting service providers in the northern region of the state of Santa Catarina. This study addresses this gap in the literature by providing new evidence for the field of study and including other variables, contributing to the advancement of theoretical and practical knowledge.

Thus, the advancement of knowledge on organizational justice is incontestable, given its importance for human behavior in organizations (Assmar et al., 2005). Parker and Kohlmeyer (2005) state that although organizational justice is a well-established topic in areas such as psychology and management, its presence in the accounting literature is relatively limited, which encourages new research.

Bearing this in mind, the study seeks to fill the gaps identified with the objective of assessing the influence of the perceptions of distributive, procedural, and interactional justice

on work engagement, mediated by job satisfaction. To this end, a survey was conducted with 94 employees of accounting firms in the Northern Region of Brazil.

In view of this, the relevance of this research lies in the set of variables, intending to provide evidence on organizational justice and its consequences perceived by employees, both when considered fair and unfair, concerning job satisfaction and engagement. This study focuses on a context of intense stress, in which several factors, such as legal demands and relationships with colleagues, supervisors, and clients, can directly or indirectly affect the perceived justice or injustice in the workplace.

The study contributes to theory by linking organizational justice, job satisfaction, and work engagement, making it possible to promote more equitable treatment of employees, encourage effective communication, and offer rewards aligned with employee needs. In addition, it seeks to demonstrate how job satisfaction can impact individual engagement. By exploring this relationship, the research expands the understanding of how the perception of justice and satisfaction can positively impact the work environment, strengthening relationships between managers and employees.

Furthermore, this study offers practical contributions to managers and organizational leaders, highlighting that fair and inclusive practices are fundamental not only for the individual well-being of employees but also for increasing their satisfaction and engagement, directly contributing to organizational growth and sustainability (Rasool et al., 2021).

2. Theoretical Framework and Hypotheses

2.1 Organizational Justice and Work Engagement

Studies show that individuals react differently to fair or unfair situations at work, and these reactions affect their behavior (Colquitt et al., 2001; Cho et al., 2024; Parker & Kohlmeyer, 2005). The discussion about how individuals perceive justice in the workplace began in the 1960s, especially with Adams' (1965) work on equity theory. This theory explores how individuals view fairness in relationships between employees and organizations (Assmar et al., 2005).

Organizational justice refers to employees' perceptions of how organizations treat them fairly (Colquitt et al., 2001), which generally represents employees' internal feelings about the fairness of organizational policies and measures related to individual interests. In the literature, organizational justice is commonly explored through three dimensions: distributive, procedural, and interactional, which are also adopted in this study (Cropanzano et al., 2002). The distributive dimension refers to individuals' perception of the fair distribution of resources (salary, remuneration, service, and reward) based on the activities performed (Greenberg, 1994). The procedural dimension is related to the fairness of the processes used for decision-making (Ölcer, 2015). The interactional dimension refers to the sensitivity that managers have towards the individuals affected by a decision, the fair provision of information, and explanations of decisions made (Greenberg, 1994; Olcër, 2015).

When employees perceive the environment as fair, they tend to feel more connected to their work (Cho et al., 2024). This sense of equity promotes an environment in which they feel valued and respected, strengthening their bond with the organization and increasing their engagement (Cho et al., 2024). Work engagement is a phenomenon observed in the organizational environment, characterized by the physical, emotional, and mental well-being of employees when carrying out their activities (Schaufeli et al., 2002). It is also often defined as a lasting and positive state of mind related to work, which is characterized by vigor, dedication, and absorption (Schaufeli et al., 2002).

Given this, the literature indicates that organizational justice has a positive influence on work engagement (Cao et al., 2020; Cho et al., 2024; Oliveira & Ferreira, 2016; Park et al.,

2016). The study by Oliveira and Ferreira (2016) emphasized the relevance of perceived organizational justice and resilience as factors that promote work engagement. The results showed that distributive and interpersonal justice had significant positive impacts on the engagement of professionals in public, private, and third-sector organizations (Oliveira & Ferreira, 2016). The authors highlighted that distributive justice had a stronger predictive effect than interpersonal justice, suggesting that, in the sample investigated, the fair distribution of resources proved to be a more effective practice for boosting work engagement than just dignified and respectful treatment (Oliveira & Ferreira, 2016).

In the study carried out by Park et al. (2016), the relationship between organizational justice and work engagement was analyzed considering employee self-leadership as a mediating variable. The research, in an organizational context in South Korea, involved the participation of 237 employees. The results showed that fair treatment in the workplace influences employees' perception of their social identity, thus promoting their work engagement. Employees who perceive a fair environment tend to take on proactive responsibilities, make decisions more autonomously, and dedicate themselves intensely to organizational improvement, demonstrating enthusiasm and a sense of challenge (Park et al., 2016).

In China, Cao et al. (2020) surveyed 569 nurses and concluded that organizational justice directly affects high work engagement. Furthermore, the authors emphasize that improving organizational justice can increase both nurses' engagement and their perception of the quality of care. This improvement can also contribute to reducing turnover intentions, an essential factor in improving the quality of services provided (Cao et al., 2020).

Finally, Cho et al. (2024) showed that organizational justice has a positive and significant effect on work engagement among general and public service workers in a public organization in South Korea. The authors highlight that the dimensions of distributive justice and procedural justice are fundamental predictors for enhancing employee engagement. Based on the evidence presented, the first hypothesis is proposed:

H₁: Distributive justice (H_{1a}), procedural justice (H_{1b}), and interactional justice (H_{1c}) have a positive influence on work engagement.

2.2 Organizational Justice and Job Satisfaction

The perception of organizational justice makes employees believe their contributions will be fairly recognized (Cho et al., 2024). This feeling of justice also allows employees to feel more valued concerning their work (Lambert et al., 2021). Likewise, perceiving that procedures and processes are conducted fairly reinforces a positive view of the work environment (Lambert et al., 2021).

In addition, being treated with dignity and respect tends to promote a more pleasant and satisfying experience at work (Lambert et al., 2021). When results are perceived as fair, this tends to generate positive emotions, which can contribute to greater job satisfaction (Dal Vesco et al., 2016; Lambert et al., 2021). This job satisfaction is characterized as an emotional state of the employee, not only about their work environment but also their contentment in their personal life (Cavanagh, 1992).

From this perspective, employee satisfaction stimulates the quality of services offered by the organization (Beuren et al., 2017). Dissatisfied employees tend to demonstrate negative behaviors, which can impact customer service, factors that directly affect the organization's reputation (Beuren et al., 2017; Cao et al., 2020).

The literature presents evidence on the relationship between organizational justice and job satisfaction. In the study by López-Cabarcos et al. (2015), hotel employees in Northern Portugal perceive that both distributive justice and interactional justice positively and significantly influence their job satisfaction. The authors suggest that the lack of a relationship

between procedural justice and job satisfaction may be associated with the characteristics of the Portuguese hotel industry, in which there are limitations on autonomy in decision-making, restrictions on expressing opinions on work processes, and few opportunities to participate in organizational procedures (López-Cabarcos et al., 2015). Dal Vesco et al. (2016), in a study with employees of a production cooperative, found a significant and positive relationship between distributive justice and interactional justice with job satisfaction. On the other hand, the relationship between procedural justice and satisfaction was not confirmed (Dal Vesco et al., 2016).

Firoozi et al. (2017) revealed that among the dimensions of organizational justice—including distributive, procedural, and interactional justice—distributive justice exerts a positive influence on all dimensions of job satisfaction. This encompasses satisfaction with supervisors, colleagues, promotion policies, compensation, and fringe benefits, specifically among teachers in Iran. The authors highlight that distributive justice, related to the allocation of resources and opportunities within the organization, is often prioritized by teachers until their needs are fully met. In addition, procedural justice demonstrates the ability to predict satisfaction with colleagues and supervisors (Firoozi et al., 2017). In contrast, interactional justice does not have a significant contribution to the dimensions of job satisfaction (Firoozi et al., 2017).

Beuren et al. (2017) identified a positive correlation between perceptions of justice in several dimensions—such as distributive, procedural, interpersonal, informational, and task justice—and job satisfaction of employees of accounting services organizations in the Northern Region of Santa Catarina. Thus, the higher the feeling of justice in work activities, the greater the satisfaction of workers about their jobs (Beuren et al., 2017).

Other studies, such as that by Aeknarajindawat and Jermstittiparsert (2020), have shown that organizational justice has a positive impact on the job satisfaction of employees in pharmaceutical organizations in Thailand. Moreover, Bernd and Beuren (2020) corroborated that organizational justice, both distributive and procedural, significantly influences job satisfaction among internal audit professionals. The authors suggest that job satisfaction tends to increase to the extent that professionals feel adequately rewarded for their efforts and when formal policies related to processes are transparent (Bernd & Beuren, 2020).

Mamić et al. (2024) state that nurses' job satisfaction tends to increase when they perceive a high level of fairness in interpersonal treatment during organizational procedures. In addition, the perception that decision-making in the organization is fair and that their contributions are adequately rewarded also contributes to this increase in satisfaction (Mamić et al., 2024). Based on the information presented, it is feasible to propose the second research hypothesis:

H₂: Distributive justice (H_{2a}), procedural justice (H_{2b}) and interactional justice (H_{2c}) have a positive influence on job satisfaction.

2.3 Job Satisfaction and Work Engagement

When an employee feels that their expectations regarding job characteristics are met, they experience job satisfaction (Hinojosa-López, 2022). This satisfaction can generate positive feelings, which tend to foster engagement in the workplace (Hinojosa-López, 2022). Engaged employees are more productive, creative, and innovative, which benefits both their professional development and the success of the organization (Cavanagh, 1992; Hinojosa-López, 2022).

The literature presents evidence on the relationship between job satisfaction and work engagement. The study by Pauli et al. (2017) identified a positive and significant relationship between job satisfaction and engagement among public school teachers. The authors highlight that essential factors for promoting satisfaction and engagement of these professionals include attention to the main psychological needs of teachers, in addition to the management of organizational conflicts (Pauli et al., 2017). These factors, when considered, contribute to a

school environment that is more adjusted to the demands of teachers, favoring their well-being and dedication to the activities carried out (Pauli et al., 2017).

Sia et al. (2021) found that satisfaction with pay and relationships in the workplace directly influences the three dimensions of work engagement: vigor, dedication, and absorption. In particular, satisfaction with salary gains and benefits, as well as positive interaction with colleagues, is essential to raise employee engagement, resulting in greater energy, commitment, and immersion in the activities performed (Sia et al., 2021). These findings indicate that, for Malaysian public servants to show high levels of engagement, they need to be satisfied with their financial compensation and relationships with colleagues (Sia et al., 2021).

Other studies also demonstrate this relationship, such as that of Ng et al. (2021), which showed a positive correlation between satisfaction and work engagement among healthcare professionals in hospitals in Malaysia. Hinojosa-López (2022) also suggests that the positive experience of working in a bank, by meeting expectations about bank employment benefits, generates greater engagement among employees. These results indicate that engagement tends to increase when bank employees are satisfied with their work.

Understanding job satisfaction and work engagement is equally relevant in other contexts, such as among accounting firm employees. Identifying the factors that promote employee satisfaction and engagement can be essential to improving the quality of services provided. Satisfied and engaged employees positively impact the provision of these services, since a healthy work environment contributes to the well-being and quality of life of employees (Cavalcante et al., 2014). Based on the evidence presented, the third hypothesis is suggested:

H₃: Job satisfaction has a positive influence on work engagement.

2.4 Organizational Justice, Job Satisfaction and Work Engagement

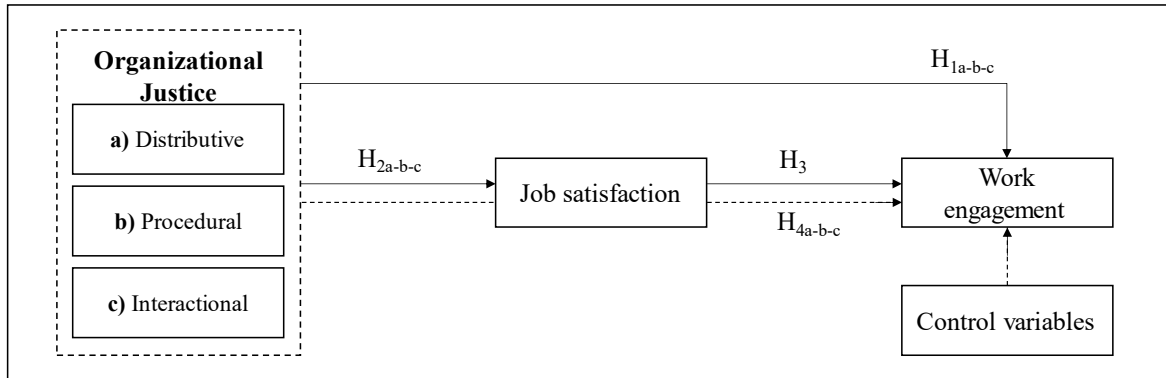
The perception of justice in the workplace, developed by individuals, contributes to a more equitable and welcoming environment (Niehoff & Moorman, 1993). This notion of a fair organizational context tends to stimulate engagement in the activities performed (Cao et al., 2020; Cho et al., 2024; Oliveira & Ferreira, 2016). When the perception of justice and engagement are combined with job satisfaction, individuals can not only intensify their dedication to tasks but also manifest a more positive attitude and commitment to organizational goals (Cho et al., 2024; Oliveira & Ferreira, 2016). Additionally, this satisfaction reinforces the feeling of appreciation, encouraging them to contribute more actively to the success of the organization and to promote a more collaborative and productive work environment (Lambert et al., 2021).

Although the literature does not yet contain evidence on the mediating role of job satisfaction between the dimensions of organizational justice and work engagement, related studies, such as that by Bernd and Beuren (2020), have shown the influence of job satisfaction on the relationship between organizational justice and turnover intentions. The results confirmed the mediation in both dimensions (distributive and procedural), suggesting an indirect influence of justice perceptions on internal auditors' turnover intentions (Bernd & Beuren, 2020). Distributive justice had partial mediation through job satisfaction, while procedural justice revealed full mediation (Bernd & Beuren, 2020).

Thus, the perception of justice in organizational processes, including resource allocation and equity in the rules and procedures applied (Parker & Kohlmeyer, 2005), strengthens satisfaction in the work environment, promoting a more collaborative and harmonious space. Thus, hypothesis H₄ is raised: an organizational environment perceived as fair, in distributive, procedural, and interactional terms, by accounting firm employees, can improve work engagement, mediated by job satisfaction. Figure 1 illustrates the relationships of the hypotheses proposed in this study.

H4: Job satisfaction mediates the relationship between distributive (H_{4a}), procedural (H_{4b}), and interactional (H_{4c}) justice on work engagement.

Figure 1
Theoretical model



Note 1: The control variables are age, education, gender, and time in the position.

Note 2: The straight lines represent the direct relationships between the hypotheses, while the dotted line indicates the indirect relationship.

3. Research Methods

A survey was conducted in April and May 2023, using convenience snowball sampling (Patton, 2014), in which participants indicated other potential respondents. The target population was employees of accounting firms (Northern Region of Brazil).

The data were collected through an online questionnaire (Google Forms) sent to the owners of accounting firms via social media (WhatsApp). In total, 342 messages were sent requesting authorization to participate in the survey. These 342 firms were identified from the first contacts the researcher already had and, from there, other potential respondents emerged, providing their contact details.

In the first contact, details were presented about the objective of the study and the ethical precautions involved, to guarantee the anonymity of the participants, the confidentiality of their information, the appropriate treatment of the data collected, and the exclusive use of this data for academic purposes. Furthermore, participants were assured the right to withdraw from the study at any time, without the need to provide justification.

After consent to participate, the questionnaire was sent to the owners, who were responsible for sharing it with their employees. A total of 62 owners agreed to participate in the survey, resulting in the retrieval of 97 questionnaires. However, three respondents did not agree to participate in the survey, resulting in a final sample of 94. Based on the criteria established by Faul et al. (2009), the minimum sample size required to ensure a statistical power of 0.80 and a significance level of 0.05, considering an average effect size of 0.15, would be 77 responses. Therefore, the sample composed of 94 responses exceeds the established criteria, providing an adequate basis for the analysis through structural equation modeling.

The research instrument (Appendix A) consists of 48 objective multiple-choice questions on a seven-point Likert scale. The first construct, which was measured based on the assertions of Niehoff and Moorman (1993), explores the perception of organizational justice, covering distributive, procedural, and interactional justice. The scale ranges from 1 (I completely disagree) to 7 (I completely agree). The second construct, measured with statements of Cavanagh (1992), contemplates job satisfaction with the organization in which one works. Scale: 1 (I completely disagree) to 7 (I completely agree). The third construct, measured by the assertions of Schaufeli et al. (2002), addresses work engagement in three dimensions: vigor, dedication, and absorption, using a scale of 1 (Never) to 7 (Always). In this study, the procedure

adopted by Castanha et al. (2020) was followed, considering work engagement as a single construct and measuring it as a second-order latent variable, with the approach of repeating indicators.

Four control variables—age, education, gender, and time in the position—were included in the model about work engagement. Age and time in the position were measured continuously, considering the participants' years of experience and age. Gender was measured as a binary variable, in which 0 represents female and 1 represents male. Education was measured based on the respondents' academic background, using a five-level scale: 1 for high school, 2 for undergraduate, 3 for specialization or MBA, 4 for master's, and 5 for doctorate. The use of control variables concerning the dependent variable was commonly adopted in other studies, to provide evidence of the influence of individual characteristics, as by Oliveira et al. (2024).

These constructs were used in previous studies on the topic, such as Castanha et al. (2020) and Dal Vesco et al. (2016), with instruments already validated in the Brazilian context. Despite this, before its application, a pre-test was carried out with two accountants to verify the understanding of the questions. Further adjustments to the instrument were not necessary.

For data analysis, the Structural Equation Modeling technique was used, estimated using the Partial Least Squares method (PLS-SEM) in the SmartPLS v.4 software (Ringle et al., 2022). PLS was chosen because of its ability to use relatively small samples (Hair et al., 2019). The bootstrapping method, with 5,000 resamples, was used to analyze the measurement model and the significance of the relationships between the latent variables. A bias-corrected and accelerated confidence interval and a two-tailed test were used, as proposed by Hair et al. (2019).

4. Analysis and Discussion of Results

Regarding the sample profile, 51.1% of the participants were male, and 48.9% were female. This indicates that there is no gender distinction in the accounting firms represented in the sample. As for the age range, respondents ranged from 17 to 58 years old, with an average of 31 years.

About the academic background, 60.6% of the participants had an undergraduate degree, while 25.5% had a specialization or MBA. Considering the functions performed in the firms, there was a diversity of positions, such as accountant (15%), manager (13%), accounting assistant (13%), office assistant (6%), administrative assistant (6%), tax analyst (5%), among others.

The length of professional experience ranged from 1 to 40 years, with an average of 5 years. Most firms in the sample were medium and small, with an average of 4 employees. Furthermore, all states were represented by respondents. However, the significant majority of participants are concentrated in the states of Pará (65), Amazonas (10) and Rondônia (9).

4.1 Descriptive statistics of the variables

The results of the descriptive statistical analysis applied to each research variable are presented in Table 2. This analysis includes the minimum and maximum values, the mean, the standard deviation, and the coefficient of variation of the variables investigated.

Table 2

Descriptive statistics

Variables	Minimum	Maximum	Mean	Standard deviation	Coefficient of variation
Distributive justice	1	7	4.81	1.92	39.92
Procedural justice	1	7	4.98	1.98	39.76
Interactional justice	1	7	5.18	1.95	37.64
Job satisfaction	1	7	4.93	2.03	41.18
Work engagement	1	7	5.13	1.85	36.06

According to the results in Table 2, the participants had a moderate perception of organizational justice. The mean values indicate a concentration around the value 5 on the scale, which corresponds to a partial agreement. However, this perception is not uniform across all dimensions, since the coefficient of variation exceeds 30%.

Among the dimensions of organizational justice, interactional justice presented the highest mean value and the lowest coefficient of variation. These results show that superiors maintain a positive relationship with their subordinates, which contributes to a more positive perception of interactional justice. Procedural justice had the second-best mean value (4.98) among the dimensions of organizational justice. These results suggest that the perceived justice in this dimension is not uniform, which also applies to distributive justice, which obtained the lowest mean value among the dimensions.

Among the variables analyzed, the dimension of distributive justice exhibited the greatest variation, signaling a considerable divergence in the participants' responses. The mean value obtained for the procedural dimension is similar to that reported by Beuren et al. (2017) in a study with accounting firm employees, which was 4.79 on a 7-point scale.

Job satisfaction and work engagement obtained mean values close to 5 on the assessment scale. The value for job satisfaction was 4.93, while for work engagement was 5.13. However, it is important to highlight a significant variation, with coefficients above 30%, indicating low uniformity in the participants' responses. This suggests that perceptions of these variables varied considerably among individuals.

When analyzing the maximum and minimum values, the participants used the entire assessment scale, covering the extremes. This indicates that some employees expressed high scores for organizational justice, job satisfaction, and work engagement, represented by the maximum value of 7, while others presented lower perceptions of these variables, reflected by the minimum value of 1. This diversity of responses indicates the presence of feelings of injustice, dissatisfaction, and disinterest among employees, specifically about the understanding of distributive justice. In general, these indications point to a variation in employees' perceptions and emotions to the different aspects evaluated.

4.2 Measurement and Structural Model

Initially, Harman's single-factor test (Podsakoff et al., 2003) was performed to check for common method bias in the data. The first factor explained 34.68% of the total variance, indicating that there are no significant limitations caused by common method bias in the data. Additionally, the non-response bias test was performed, using the first-last comparison criterion, due to the impossibility of identifying those who chose not to respond to the questionnaire (Mahama & Cheng, 2013). For this analysis, the *t*-test for independent samples was applied, comparing the responses to the study assertions of the first 10% of respondents with the last 10%, considering a significance level of 5% (Mahama & Cheng, 2013). Both the common method bias and non-response bias tests were performed using SPSS software, and it was found that there are no significant differences in the data of this study.

In the initial stage of structural equation modeling, the measurement model is analyzed. This process includes the evaluation of the indices associated with the factor loadings of the items, the internal consistency and composite reliability, and convergent and discriminant validity (Hair et al., 2019). The values referring to the reliability and validity of the variables are listed in Table 3.

Table 3

Reliability and validity of the model

Constructs	WE	DJ	IJ	PJ	JS
Work Engagement (WE)	0.886				
Distributive Justice (DJ)	0.750	0.925			
Interactional Justice (IJ)	0.823	0.905	0.961		
Procedural Justice (PJ)	0.845	0.880	0.912	0.931	
Job Satisfaction (JS)	0.813	0.852	0.860	0.827	0.924
Average Variance Extracted (AVE) >0.50	0.932	0.855	0.923	0.832	0.855
Cronbach's Alpha >0.70	0.980	0.944	0.990	0.958	0.986
Composite Reliability (CR) >0.70	0.976	0.959	0.991	0.967	0.987

Note: The diagonal bold values are the square roots of the average variance extracted, while the off-diagonal values indicate the correlations between the latent variables.

To calculate the AVE and CR of the second-order latent construct (work engagement), calculations were performed in Microsoft Office Excel, using the indicators of the external loadings, as recommended by Bido and Silva (2019). This approach was adopted due to the limitation of the software, which does not recognize the second-order construct directly.

A reliability check was carried out on the indicators of each construct, and it is recommended that the values be greater than 0.70. Factor loadings between 0.40 and 0.70 should only be excluded if this exclusion increases the AVE and CR (Hair et al., 2017). In this sense, there was no need to exclude any indicator.

All variables showed Cronbach's alphas and CR above 0.70, meeting the minimum threshold recommended by Hair et al. (2019). This indicates that the statements, as a set, are reliable. Regarding convergent validity, the AVE indicated that each variable accounted for explaining more than half of the variance of its indicators, exceeding the minimum limit proposed by the literature. Thus, the convergent validity of the variables is confirmed.

Discriminant validity was assessed using the Fornell-Larcker criterion, which compares the square roots of the AVEs of each construct with the correlations between the variables. The square roots of the AVEs must be greater than the correlations between the variables (Hair et al., 2017). All discriminant validity values of the variables exceeded the coefficients of the correlation matrix, both vertically and horizontally, which indicates acceptable discriminant validity.

A Variance Inflation Factor (VIF) analysis was conducted to ensure the absence of multicollinearity between the latent variables; the values of which must be less than 5, ideally less than 3 (Hair et al., 2019). It was confirmed that there was no multicollinearity between the variables since all values were below 5. These analyses validate our measurement model, allowing us to proceed to the analysis of the structural relationships, as shown in Table 4.

Table 4
Structural model results

Hypotheses	Beta (β)	t-value	p-value	Decision	
Direct effects					
H _{1a} DJ -> WE	-0.252	1.472	0.141	Reject	
H _{1b} PJ -> WE	0.542	2.698	0.007***	Accept	
H _{1c} IJ -> WE	0.193	0.822	0.411	Reject	
H _{2a} DJ -> JS	0.389	3.360	0.001***	Accept	
H _{2b} PJ -> JS	0.086	0.519	0.604	Reject	
H _{2c} IJ -> JS	0.428	2.285	0.022**	Accept	
H ₃ JS -> WE	0.394	2.355	0.019**	Accept	
Indirect effects					Mediation
H _{4a} DJ -> JS -> WE	0.153	2.036	0.042**	Accept	Total
H _{4b} PJ -> JS -> WE	0.034	0.488	0.626	Reject	-
H _{4c} IJ -> JS -> WE	0.169	1.453	0.146	Reject	-
Control variables					
C ₁ Age -> WE	-0.001	0.015	0.988		

C ₂	Education -> WE	0.045	0.804	0.421
C ₃	Gender -> WE	-0.195	1.804	0.071*
C ₄	Time in the position -> WE	0.033	0.587	0.557

Note 1: Distributive Justice (DJ); Work Engagement (WE); Interactional Justice (IJ); Job Satisfaction (JS); Procedural Justice (PJ). Control 1 (C₁); Control 2 (C₂); Control 3 (C₃); Control 4 (C₄). Significant at *p<0.1; **p<0.05; ***p<0.01.

Note 2: Structural model assessment (R²): job satisfaction (0.771) and work engagement (0.770). Predictive Relevance (Q²): job satisfaction (0.654) and work engagement (0.585).

In the analysis of direct effects, hypothesis H_{1a} postulated a positive relationship between distributive justice and work engagement but did not present statistical support for its acceptance. In contrast, hypothesis H_{1b} assumed a positive relationship between procedural justice and work engagement and was validated ($\beta = 0.542$; $p < 0.01$). However, no statistically significant evidence was found for hypothesis H_{1c}, which predicted a positive relationship between interactional justice and work engagement.

Hypotheses H_{2a} and H_{2c}, which postulated a positive relationship between distributive justice ($\beta = 0.389$; $p < 0.01$) and interactional justice ($\beta = 0.428$; $p < 0.05$) with job satisfaction, were corroborated by the results obtained. In turn, no statistical evidence was found to accept hypothesis H_{2b}, which suggested a relationship between procedural justice and job satisfaction. Hypothesis H₃ postulated a positive relationship between job satisfaction and work engagement and was confirmed by the results ($\beta = 0.394$; $p < 0.05$).

In addition to direct relationships, indirect effects were also investigated. Mediation occurs when the relationship between an independent variable and a dependent variable is influenced by a third variable (Bido & Silva, 2019). Thus, hypothesis H_{4a}, which advocated that job satisfaction mediates the relationship between distributive justice and work engagement, was accepted ($\beta = 0.153$; $p < 0.05$). Full mediation was observed since the direct effect was not significant, while the indirect effect was significant (Bido & Silva, 2019). However, hypotheses H_{4b} and H_{4c} did not present statistically significant evidence, indicating that job satisfaction does not mediate the relationship between procedural and interactional justice and work engagement.

The empirical results showed that the control variables (age, education, and time in the position) had no statistical significance concerning work engagement, indicating that these variables did not influence the proposed model. On the other hand, the control variable gender revealed a significant and negative relationship, demonstrating that male individuals tend to present slightly lower levels of work engagement than female individuals.

Analyses of the general adjustment indicators of the model were carried out. The R² coefficient, which represents the explanatory power, was 0.771 for job satisfaction and 0.770 for work engagement, indicating that it is above 26%, which is equivalent to a significant explanatory power of considerable effects (Cohen, 1988). In addition, the Q² coefficient, which verifies whether the values of the endogenous variables are greater than zero (Hair et al., 2019), demonstrated results above zero, being 0.654 for job satisfaction and 0.585 for work engagement, evidencing the accuracy of the model. In the effect size test (f²), which assesses the construct's ability to explain the model. For job satisfaction (3.197), the effect is large, and for work engagement (0.259), the effect is medium (Cohen, 1988)

4.3 Discussion of Results

Hypothesis (H_{1a}) predicted a positive relationship between distributive justice and work engagement and was not confirmed. This differs from the findings of Cao et al. (2020), Cho et al. (2024), Oliveira and Ferreira (2016), and Park et al. (2016), which indicated that when employees perceive a fair environment, they tend to demonstrate greater engagement in their activities. This outcome can be explained by the specific environment of these employees, in which, in addition to external demands, such as those of legislation and customers, there are

also internal factors, such as the assignment management among employees and the perceived justice in this process. The studies by Oliveira and Ferreira (2016), Cho et al. (2024), and Park et al. (2016) suggest that fair treatment in the workplace influences employees' perceptions, which favors their engagement.

Hypothesis (H_{1b}) was confirmed, evidencing a positive relationship between procedural justice and work engagement. This corroborates Park et al. (2016), Cao et al. (2020), and Cho et al. (2024), which also identified a positive relationship between organizational justice and work engagement. The consistency of these findings suggests that the perception of fair processes is essential in fostering employee engagement in the accounting firms in the sample. Furthermore, when managers gather information from employees before making decisions and show concern for listening to them, this tends to improve engagement in daily activities.

This behavior has a positive impact on the provision of services, quality, and agility in the delivery of activities, which can vary considerably between accounting firms. Thus, consensus on the perception of procedural justice becomes crucial in this setting, since it facilitates employee engagement in their tasks. As registered in the study by Cao et al. (2020), this perception of justice can also contribute to reducing turnover by instigating greater engagement at work.

On the other hand, hypothesis (H_{1c}) was not supported, indicating that interactional justice is not positively related to work engagement. Such finding contradicts the study by Oliveira and Ferreira (2016). This difference can be attributed to particularities in the samples or the characteristics of the accounting firms analyzed. Interactional justice can be understood within the context of the sample, especially about how decisions are made by the manager and the characteristics that shape employee perception. In this environment, the lack of consideration of employees' needs, honesty, rights, and implications of managerial decisions contributes to the lack of this relationship. Thus, the perception of interactional justice may not be observed in this specific context.

Thus, among the dimensions of organizational justice, our findings reveal that procedural justice is the factor with the greatest impact on work engagement. This indicates that employees perceive decisions as impartial and recognize the possibility of questioning them (Niehoff & Moorman, 1993; Olcër, 2015). This result was also observed in the study by Cho et al. (2024), which identified procedural justice as one of the main predictors of increased employee engagement.

Hypotheses H_{2a} and H_{2c} suggest a positive relationship between distributive and interactional justice and job satisfaction. These results are in line with previous research, such as those by López-Cabarcos et al. (2015), Dal Vesco et al. (2016), Firoozi et al. (2017), Aeknarajindawat and Jermisittiparsert (2020), Beuren et al. (2017), Bernd and Beuren (2020) and Mamić et al. (2024). This indicates that employees in the sample studied tend to perceive decisions in activities as being fair and recognize an exchange of information between the manager and employees, which contributes to harmony in the decisions made. This process drives employee satisfaction, whether related to recognition, motivation, benefits, educational incentives, salary appreciation, opportunities provided by the firms, or work routines (Cavanagh, 1992). These factors are fundamental for employee satisfaction to promote other important aspects within this environment.

These findings corroborate the importance of the perceived justice of accounting firms' employees in promoting job satisfaction. Distributive justice, which involves the perception that rewards and resources are distributed equitably, and interactional justice, which refers to the quality of interactions between managers and employees, are fundamental to building a fair and harmonious work environment (Colquitt et al., 2001; Greenberg, 1994; Niehoff & Moorman, 1993; Olcër, 2015).

By promoting distributive justice, ensuring that rewards are distributed fairly, and interactional justice, fostering an environment of respect, honesty, and open communication, accounting firms can contribute to enhancing job satisfaction in the sample studied. Thus, understanding and promoting the perception of justice in organizational practices and interactions is essential to cultivating a healthy and motivating work environment that favors employee satisfaction.

Hypothesis H_{2b} was not significantly supported, indicating that procedural justice does not have a significant relationship with job satisfaction. This result is in line with the study by Dal Vesco et al. (2016). However, it is important to note that the study by Bernd and Beuren (2020) detected a positive relationship between these variables with internal audit professionals. This finding suggests that the perception of employees in the sample regarding organizational processes and procedures may not have a direct impact on job satisfaction. Although procedural justice may play a key role in other organizational contexts, as evidenced by Beuren et al. (2017), which showed that all dimensions of organizational justice instigate the satisfaction of accounting service employees in the Northern Region of Santa Catarina, this was not observed in the sample examined here.

This result suggests that the influence of procedural justice may vary according to the regional context. The sample from the Northern Region shows that only distributive and interactional justice are related to greater satisfaction in the workplace. More importantly, perceptions of justice can be influenced by contextual and cultural factors specific to each organization and sample studied. Therefore, it is important to consider these nuances when interpreting the results.

H₃ was confirmed, suggesting a positive relationship between job satisfaction and work engagement, agreeing with the studies by Pauli et al. (2017), Sia et al. (2021), Ng et al. (2021), and Hinojosa-López (2022). This indicates that employees of accounting firms in the Northern Region experience greater work engagement when they are satisfied with several aspects, such as the benefits received, communication in the workplace, incentives offered, salary appreciation, promotion opportunities, and perceived organizational justice (Cavanagh, 1992). Moreover, they find meaning and satisfaction in work routines (Locke, 1969).

This finding is consistent with the literature, highlighting the importance of job satisfaction as a key factor in promoting employee engagement. By delivering a work environment that values and meets the needs of employees, organizations can cultivate greater engagement, resulting in enhanced productivity, quality of work, and employee well-being.

Regarding mediation, only the mediation of job satisfaction in the relationship between distributive justice and work engagement showed statistical evidence. This highlights the importance of job satisfaction as a mechanism capable of amplifying the effects of perceived distributive justice on employee engagement (Bernd & Beuren, 2020; Parker & Kohlmeyer, 2005). Thus, the weight of job satisfaction is evident, highlighting that managers of the accounting firms in the sample should be aware of strategies that promote employee satisfaction, thus aiming to increase engagement in the workplace.

Finally, the control variables age, education, and time in the position of the respondents showed no significant impact on the proposed model. The results suggest that there is no distinction in the work engagement of the employees in the sample based on age, education, or years of experience. This lack of relationship may be influenced by the average age of the participants, 31 years old, although the age range is relatively heterogeneous, ranging from 17 to 58 years old. Regarding education, most participants had completed undergraduate studies (60.6%). Furthermore, the mean time in the position was 5 years, which may indicate a certain stability in responsibilities and work engagement. On the other hand, gender presented significant statistical evidence, suggesting that women demonstrate greater work engagement

than men. This result can be because women present higher levels of vigor, absorption, and dedication in the tasks they perform in the accounting offices in the sample.

Thus, in the context of the sample of employees of accounting firms in the Northern Region, employee age, education level, and years of experience are not determining factors for work engagement. Other factors, such as perceived organizational justice and job satisfaction, appear to play a more significant role in promoting employee engagement.

These insights may be useful for managers and human resources professionals in implementing organizational practices and policies that promote justice, as well as improve employee satisfaction and engagement. These findings can guide the adoption of strategies that aim to strengthen positive interactions between managers and employees, develop recognition and reward programs, improve internal communication, and create opportunities for professional growth and development. In this way, organizations will be able to promote a healthy work environment (Rasool et al., 2021).

By developing a healthy, encouraging, and equitable work environment, organizations can foster employee satisfaction and engagement. This contributes to the effective implementation of management control once satisfied and engaged employees tend to be more productive, committed to organizational goals, and willing to collaborate to achieve the desired results.

Therefore, by considering perceptions of organizational justice, job satisfaction, and work engagement, organizations have the opportunity to develop management control practices that promote a positive and service-friendly environment, thus aligning organizational goals with employee well-being.

5. Conclusion and Recommendations

In conclusion, our results provide important insights into the relationship between perceptions of organizational justice, job satisfaction, and work engagement among employees of accounting firms in the Northern Region of Brazil. The perceived distributive and interactional justice did not demonstrate a positive and significant relationship with work engagement, while procedural justice showed a positive relationship. Furthermore, distributive and interactional justice had a positive relationship with job satisfaction, and the latter with work engagement. In addition, job satisfaction was identified as an important mediator in the relationship between distributive justice and work engagement.

These findings have theoretical implications as they contribute to the understanding of the influences of organizational justice and job satisfaction on employee engagement. The results highlight the importance of the quality of interactions between managers and employees, demonstrating that respectful, empathetic, and honest treatment can promote greater work engagement. Likewise, the perception of distributive and interactional justice improves job satisfaction. Furthermore, the mediation of job satisfaction highlights the compensatory role that satisfaction can have in the relationship between the perception of distributive justice and engagement.

These findings expand our understanding of how perceived justice and satisfaction affect engagement, allowing us to advance theories related to organizational behavior and people management. Moreover, in the context of accounting firms, the study contributes by providing new evidence on employees' perceptions of organizational justice and its benefits, advancing an incipient field of research, especially in other regional contexts.

From a practical point of view, the results have relevant implications for managers and human resources professionals. Promoting positive and respectful interactions between managers and employees, as well as creating a work environment that values employee satisfaction, can be an effective strategy for increasing work engagement. This can be achieved

through inclusive leadership practices, recognition and reward programs, transparent communication policies, and opportunities for professional development and growth.

Considering the field studied, since it is an environment with regional peculiarities, the study seeks to contribute to the understanding that factors related to perceived justice can be a competitive advantage for accounting firms. By aligning these factors with employee satisfaction, it is possible to provide higher quality and faster services, since employee engagement will be intensified. This highlights the importance of a fair environment, which becomes essential in this context.

With respect to social implications, job satisfaction and employee engagement are fundamental to achieving the United Nations Sustainable Development Goals (SDGs). This is directly reflected in SDG 8–Decent Work and Economic Growth, which emphasizes the importance of productive, fair, and inclusive jobs. It is also linked to SDG 3–Good Health and Well-Being, which prioritizes employee well-being. By establishing a healthy, motivating, and equitable work environment, organizations help to reduce inequalities (SDG 10), providing equal opportunities for development and recognition. By focusing on employee satisfaction and engagement, organizations not only improve the quality of work life, productivity, and talent retention but also play a crucial role in shaping a future that is sustainable and inclusive for all.

The present research was conducted with employees of accounting firms in the Northern Region, which limits the generalization of the results to other organizations or geographic regions. Another limitation of the study is that the data were collected for convenience, which prevented the coverage of a larger number of accounting firms. In addition, individual variables that could have influenced the relationship proposed in the study were not considered.

Future studies are suggested to address these gaps. Additional investigations may determine other factors that may mediate or moderate the relationship between organizational justice, job satisfaction, and work engagement. More research is needed to explore other variables and specific contexts to obtain a deeper understanding of the relationship between job satisfaction and work engagement. This will allow the development of more targeted and effective strategies to promote employee satisfaction and engagement.

Furthermore, other factors should be taken into account, such as organizational culture, leadership style, and individual employee characteristics, which may also play a role in the relationship between organizational justice, job satisfaction, and work engagement.

References

- Adams, J. S. (1965). Inequity In Social Exchange. *Advances in experimental social psychology*, 2, 267–299. [https://doi.org/10.1016/S0065-2601\(08\)60108-2](https://doi.org/10.1016/S0065-2601(08)60108-2)
- Aeknarajindawat, N., & Jermstittiparsert, K. (2020). Does Organization Justice Influence the Organization Citizenship Behavior, Job Satisfaction & Organization Outcomes?. *Systematic Reviews in Pharmacy*, 11(1), 489-496.
- Assmar, E. M. L., Ferreira, M. C., & Souto, S. de O. (2005). Justiça organizacional: uma revisão crítica da literatura. *Psicologia: Reflexão e Crítica*, 18(3), 443–453. <https://doi.org/10.1590/S0102-79722005000300019>
- Bernd, D. C., & Beuren, I. M. (2020). Percepção de justiça organizacional e seus reflexos na satisfação e intenção de turnover de auditores internos. *Revista Universo Contábil*, 16(1), 07. <https://doi.org/10.4270/ruc.2020101>
- Beuren, I. M., Santos, V. dos, Marques, L., & Resendes, M. (2017). Relação entre Percepção de Justiça Organizacional e Satisfação no Trabalho. *Revista de Educação e Pesquisa Em Contabilidade (REPeC)*, 11(0), 69–86. <https://doi.org/10.17524/repec.v11i0.1721>
- Bido, D. de S., & Da Silva, D. (2019). SmartPLS 3: especificação, estimação, avaliação e relato. *Administração: Ensino e Pesquisa*, 20(2), 488–536. <https://doi.org/10.13058/raep.2019.v20n2.1545>

- Cao, T., Huang, X., Wang, L., Li, B., Dong, X., Lu, H., Wan, Q., & Shang, S. (2020). Effects of organisational justice, work engagement and nurses' perception of care quality on turnover intention among newly licensed registered nurses: A structural equation modelling approach. *Journal of Clinical Nursing*, 29(13–14), 2626–2637. <https://doi.org/10.1111/jocn.15285>
- Castanha, E. T., Beuren, I. M., & Gasparetto, V. (2020). Influência da comunicação interna e do engajamento no desempenho de tarefas de servidores públicos. *Revista Internacional de Relaciones Públicas*, 10(20), 179–200. <https://doi.org/10.5783/RIRP-20-2020-10-179-200>
- Cavalcante, M. M., Siqueira, M. M. M., & Kuniyoshi, M. S. (2014). Engajamento, bem-estar no trabalho e capital psicológico: um estudo com profissionais da área de gestão de pessoas. *Pensamento & Realidade*, 29(4), 23.
- Cavanagh, S. J. (1992). Job satisfaction of nursing staff working in hospitals. *Journal of Advanced Nursing*, 17(6), 704–711. <https://doi.org/10.1111/j.1365-2648.1992.tb01968.x>
- Cho, H., Ardichvili, A., & Cho, D. (2024). Organizational justice and work engagement of public service workers and general workers in South Korea: moderating role of supportive learning environment. *European Journal of Training and Development*. <https://doi.org/10.1108/EJTD-04-2024-0047>
- Cohen, J. (1988). Statistical power analysis for the behavioral sciences. New York: *Psychology Press*.
- Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C. O. L. H., & Ng, K. Y. (2001). Justice at the millennium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology*, 86(3), 425–445. <https://doi.org/10.1037/0021-9010.86.3.425>
- Cropanzano, R., Prehar, C. A., & Chen, P. Y. (2002). Using social exchange theory to distinguish procedural from interactional justice. *Group & organization management*, 27(3), 324–351.
- Dal Vesco, D. G., Beuren, I. M., & Popik, F. (2016). Percepção de justiça na avaliação de desempenho e satisfação do trabalho. *Enfoque: Reflexão Contábil*, 35(3), 121. <https://doi.org/10.4025/enfoque.v35i3.28333>
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149–1160. <https://doi.org/10.3758/BRM.41.4.1149>
- Firoozi, M., Kazemi, A., & Sayadi, N. (2017). A Study of the Relationship between the Components of Organizational Justice and the Dimensions of Job Satisfaction of Physical Education Teachers. *Pertanika Journal of Social Sciences & Humanities*, 25(2).
- Greenberg, J. (1994). Using socially fair treatment to promote acceptance of a work site smoking ban. *Journal of Applied Psychology*, 79(2), 288–297. <https://doi.org/10.1037/0021-9010.79.2.288>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Hair, F., Jr., Hult, G.T.M., Ringle, C.M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks, CA: Sage.
- Hinojosa-López, J. I. (2022). The mediating role of job satisfaction between quality in work factors and work engagement. *Revista de Administração de Empresas*, 62(4). <https://doi.org/10.1590/s0034-759020220410x>
- Lambert, E. G., Tewksbury, R., Otu, S. E., & Elechi, O. O. (2021). The Association of Organizational Justice with Job Satisfaction and Organizational Commitment among

- Nigerian Correctional Staff. *International Journal of Offender Therapy and Comparative Criminology*, 65(2–3), 180–204. <https://doi.org/10.1177/0306624X20946926>
- Locke, E.A. (1969). What is job satisfaction? *Organizational Behavior and Human Performance*, 4(4), 309–336. [https://doi.org/10.1016/0030-5073\(69\)90013-0](https://doi.org/10.1016/0030-5073(69)90013-0)
- López-Cabarcos, M. Á., Machado-Lopes-Sampaio-de Pinho, A. I., & Vázquez-Rodríguez, P. (2015). The Influence of Organizational Justice and Job Satisfaction on Organizational Commitment in Portugal's Hotel Industry. *Cornell Hospitality Quarterly*, 56(3), 258–272. <https://doi.org/10.1177/1938965514545680>
- Mahama, H., & Cheng, M. M. (2013). The Effect of Managers' Enabling Perceptions on Costing System Use, Psychological Empowerment, and Task Performance. *Behavioral Research in Accounting*, 25(1), 89–114. <https://doi.org/10.2308/bria-50333>
- Mamić, M., Jovanović, T., Galić, S., Jelinčić, I., Mikšić, Š., Lovrić, B., Zirdum, I., Matković, K., Zukanović, G., Radmilović, G., Mendeš, T., Frančina, M., & Vukoja, I. (2024). Influence of Personality Traits and Organizational Justice on Job Satisfaction among Nurses. *Behavioral Sciences*, 14(3), 235. <https://doi.org/10.3390/bs14030235>
- Ng, L.-P., Choong, Y.-O., Kuar, L.-S., Tan, C.-E., & Teoh, S.-Y. (2021). Job satisfaction and organizational citizenship behaviour amongst health professionals: The mediating role of work engagement. *International Journal of Healthcare Management*, 14(3), 797–804. <https://doi.org/10.1080/20479700.2019.1698850>
- Niehoff, B.P., & Moorman, R.H. (1993). Justice as a mediator of the relationship between methods of monitoring and organizational citizenship behavior. *Academy of Management Journal*, 36(3), 527–556. <https://doi.org/10.2307/256591>
- Ölçer, F. (2015). The investigation of the relationship between organizational justice and turnover intention: the mediating role of organizational commitment. *Economic Computation & Economic Cybernetics Studies & Research*, 49(3).
- Oliveira, D. de F., & Ferreira, M. C. (2016). O impacto das percepções de justiça organizacional e da resiliência sobre o engajamento no trabalho. *Estudos de Psicologia (Campinas)*, 33(4), 747–755. <https://doi.org/10.1590/1982-02752016000400017>
- Oliveira, R. S., Almeida, M. N., & Lavarda, C. E. F. (2024). Integração eficaz: envolvimento, avaliação e comprometimento organizacional. *Revista de Contabilidade do Mestrado em Ciências Contábeis da UERJ*, 29(3), 3–17.
- Organização das Nações Unidas – ONU. (2015). Agenda 2030 para o Desenvolvimento Sustentável. <https://brasil.un.org/pt-br/91863-agenda-2030-para-odesenvolvimento-sustentavel>
- Parker, R. J., & Kohlmeyer, J. M. (2005). Organizational justice and turnover in public accounting firms: a research note. *Accounting, Organizations and Society*, 30(4), 357–369. <https://doi.org/10.1016/j.aos.2004.05.001>
- Park, Y., Song, J. H., & Lim, D. H. (2016). Organizational justice and work engagement: the mediating effect of self-leadership. *Leadership & Organization Development Journal*, 37(6), 711–729. <https://doi.org/10.1108/LODJ-09-2014-0192>
- Patton, M. Q. (2014). *Qualitative research & evaluation methods* (4. ed.). Sage Publications.
- Pauli, J., Tomasi, M., Gallon, S., & Coelho, E. (2017). Satisfação, conflitos e engajamento no trabalho para professores do ensino médio. *Revista Pensamento Contemporâneo Em Administração*, 11(4), 72. <https://doi.org/10.12712/rpca.v11i4.1004>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879.
- Rasool, S. F., Wang, M., Tang, M., Saeed, A., & Iqbal, J. (2021). How Toxic Workplace Environment Effects the Employee Engagement: The Mediating Role of Organizational

- Support and Employee Wellbeing. *International Journal of Environmental Research and Public Health*, 18(5), 2294. <https://doi.org/10.3390/ijerph18052294>
- Ringle, C. M., Wende, S., and Becker, J.-M. (2022). "SmartPLS." Oststeinbek: SmartPLS GmbH, <http://www.smartpls.com>.
- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The Measurement of Engagement and Burnout: A Two Sample Confirmatory Factor Analytic Approach. *Journal of Happiness Studies*, 3(1), 71–92. <https://doi.org/10.1023/A:1015630930326>
- Sia, S. P., Bahari, M. I. B., & Md Said, H. S. R. B. H. (2021). The role of tenure as a moderator to job satisfaction and work engagement. *GESJ: Education Science and Psychology*, 3(60), 19-29.

APPENDIX A

Research instrument

Block I. Organizational Justice

Scale: 1 (I completely disagree) to 7 (I completely agree)

Distributive Justice

DJ1. My work schedule is fair.

DJ2. I think my compensation level is fair.

DJ3. I consider my workload quite fair.

DJ4. Overall, the rewards I receive from the organization I work for are fairly fair.

DJ5. I feel that my job responsibilities are fair

Procedural Justice

PJ1. Work decisions are made by leadership impartially.

PJ2. My leadership ensures that all employee concerns have been heard before work decisions are made.

PJ3. To make work decisions, my leadership gathers accurate and complete information.

PJ4. My leadership clarifies decisions and provides additional information when requested by employees.

PJ5. All work decisions are applied consistently to all affected employees.

PJ6. Employees can question or appeal work decisions made by leadership.

Interactional Justice

IJ1. When decisions about my work are made, leadership treats me with kindness and consideration.

IJ2. When decisions about my work are made, leadership treats me with respect and dignity.

IJ3. When decisions about my work are made, leadership is sensitive to my personal needs.

IJ4. When decisions about my work are made, leadership deals with me honestly.

IJ5. When decisions about my work are made, leadership is concerned about my rights as an employee.

IJ6. Regarding decisions made about my work, leadership discusses the implications of the decisions with me.

IJ7. Leadership provides adequate justification for decisions made about my work.

IJ8. When making decisions about my work, leadership provides explanations that make sense to me.

IJ9. My leadership explains very clearly any decisions made about my work.

Block II. Job Satisfaction

Scale: 1 (I completely disagree) to 7 (I completely agree)

JS1. I feel recognized for the work I do.

JS2. I consider recognition of my work important.

JS3. I feel motivated to do my activities.

JS4. I am satisfied with the benefits provided by the organization.

JS5. I am satisfied with communication between members of the organization.

JS6. I am satisfied with the encouragement and education provided by the organization.

JS7. I am satisfied with the integration between employees.

JS8. I am satisfied with the salary appreciation.

JS9. I am satisfied with the opportunities that the organization provides.

JS10. I am satisfied with the promotions that the organization provides.

JS11. I am satisfied with the organizational justice of the organization.

JS12. I am satisfied with the routines carried out in the organization.

JS13. I am satisfied with my participation in the organization.

Block III. Work Engagement

Scale: 1 (Never) to 7 (Always)

Vigor

WE1. I feel full of energy at work.

WE2. I can keep working for long periods.

WE3. When I wake up in the morning I want to go to work.

WE4. I am very persistent in my work.

WE5. I am strong and vigorous in my job.

Dedication

WE6. My job is challenging.

WE7. My work inspires me.

WE8. I am excited about my work.

WE9. I am proud of the work I do.

WE10. My work is full of meaning and purpose.

Absorption

WE11. When I am working, I forget everything that is going on around me.

WE12. Time flies when I am working.

WE13. I get excited about my work.

WE14. I am immersed in my job.

WE15. I am happy when I am absorbed in my work.
