Lisbon School of Economics & Management
Universidade de Lisboa

MASTER

MANAGEMENT

MASTER´S FINAL WORK

Dissertation

THE IMPACT OF ORGANIZATIONAL JUSTICE ON STRESS AND THE ROLE OF WORK-FAMILY BALANCE IN THIS RELATIONSHIP

CAROLINA MELO AMBRÓSIO SILVA PINHÃO

MARCH - 2023

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SUPERVISION:

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GLOSSARY

DJ – Distributive Justice.

IJ – Interactional Justice.

OJ – Organizational Justice.

PJ – Procedural Justice.

WFB – Work-Family Balance.

WFC – Work-Family Conflict.

WFE – Work-Family Enrichment.

FWC – Family-Work Conflict.

FWE – Family-Work Enrichment.

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ABSTRACT AND KEYWORDS

As employment demographics and environments change, organizational justice, work-family balance, and stress are becoming increasingly important topics of study in the modern workplace. It is essential to study the relationship between organizational justice, work-family balance, and stress, because it contributes to employee well-being, retention, productivity, organizational effectiveness, and legal/ethical compliance. It is possible for organizations to create a supportive work environment that benefits both employees and the organization at large by understanding these dynamics.

The purpose of this study was to investigate the direct and indirect effects of organizational justice on employee stress, with work-family balance serving as a mediator. A questionnaire with measures about stress, work-family balance, and organizational justice was administered to a sample of 50 participants. Regression analysis was used to investigate the direct effects, while Baron and Kenny's Mediation Analysis was used to analyse the mediating relation.

Regarding the direct influence of perceptions of organizational justice on stress, the results showed no evidence of them existing, since the variables lacked statistical significance. However, the findings found statistical significance on a direct impact of perceptions of organizational justice on work-family balance, proposing that higher levels of perceived organizational justice are associated with better work-family balance.

Regarding the mediating relation, considering work-family balance, the results also did not prove its existence, since the variables did not show statistical significance.

Linked to sustainable development goals, promoting organizational justice and work-family balance aligns with various SDGs, including Goal 3 (Good Health and Well-being), in the way that the study discusses aspects of stress and mental health, which are integral to ensuring healthy lives and promoting well-being for all. A decent work environment requires organizational justice and work-family balance, which are key components of Goal 8 (Decent Work and Economic Growth). Finally, Goal 10 (Reduced Inequalities) emphasizes how organizational justice plays a crucial role in reducing inequalities within organizations.

Keywords: Organizational Justice; Stress; Work-Family Balance

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1. INTRODUCTION

A significant amount of research has recently been conducted on organizational justice, work-family balance, and stress. Researchers have become increasingly interested in these concepts because of their significant impacts on individuals and organizations in recent years. Understanding these concepts and addressing the challenges they present to individuals and organizations as they grow in importance is essential.

Organizational justice has been studied extensively in management and organizational behaviour. In recent years, researchers have examined factors contributing to perceptions of fairness and justice within organizations, the effects of organizational justice on employee satisfaction and well-being, and how organizations can promote fairness and justice. According to Cropanzano *et al*. (2005), organizational justice is the perception of fairness in an organization's policies, procedures, and practices. Organizations benefit greatly from studying organizational justice because it clarifies the elements that influence how fairness is perceived and the effects of unfair treatment. Those who perceive fair treatment are more likely to be committed to their organization and job (Cropanzano *et al.*, 2005). On the other hand, when workers believe they are being mistreated, they may feel stressed, experience job dissatisfaction, and exhibit a lack of commitment to the company (Cropanzano *et al.*, 2005).

Furthermore, some research has been done on work-family balance, including studies on the causes of work-family conflict, the effects of work-family conflict on well-being and job satisfaction, and the tactics that people and organizations may use to support work-family balance. The balance between work and personal life refers to how well an individual can remain productive, happy, and satisfied with life (Kashyap *et al.*, 2016). Work-family balance has received more attention recently, and many organizations have implemented policies and initiatives to assist it (Grandey, 2001). The study of this concept is crucial as it affects individuals' well-being, job and life satisfaction, and productivity (Kashyap *et al.*, 2016). Keeping a balance between work and family responsibilities has become increasingly difficult as the world becomes faster-paced and the work environments have become more demanding (Grandey, 2001). Work-life balance, employee well-being, and life satisfaction must be prioritized by employers in order to promote a healthy and productive workplace (Kashyap *et al*.,2016).

Moreover, lots of research has been carried out on stress, including its causes, how it affects health and productivity at work, and how people and organizations can handle it. According to researchers, stress is the term used to describe the emotional and physical reaction to situations or events deemed threatening or demanding. Over the past few years, employee stress levels have increased. There are several reasons, including personal and family health concerns, increased workload, changes to work arrangements, and COVID-19 (Saleem *et al.*, 2021). The study of stress is essential since it helps businesses create methods to lessen stress and encourage employee well-being by understanding the causes of it as well as its effects.

Regarding the connection between the three variables, Judge and Colquitt's 2004 study examined the relationship between organizational justice, stress, and the role of work-family conflict as a mediator. Researchers sought to understand how employees' perceptions of fairness within the organization influence their stress experiences and the role of work-family conflict in mediating these relationships. This study highlights the role of work-family conflict as a crucial element in this relationship and emphasizes the significance of organizational fairness in managing employee stress levels. It gives employers important information about how to effectively manage employee stress while fostering a fair and supportive work environment.

The present research aims to analyse the relationship between organizational justice and stress and how work-family balance mediates this interaction. This study intends to enrich the research on these topics by contributing to the existing literature.

2. Literature Review

2.1. Organizational Justice

According to Cropanzano *et al.* (2005), "human beings have long reflected on the nature of fairness.". Rawls' (2001) theory of justice as fairness describes the development of a society where the people have equal rights and cooperate within a system of equality. Moreover, Colquitt (2012) declared that fairness perceptions differ from favourable and satisfactory outcomes, according to many studies. According to those same studies, there is also evidence of a striking correlation between fairness perceptions and critical attitudes and behaviours, including organizational commitment, trust in management, citizenship

behaviour, counterproductive behaviour, and task performance (Cohen-Charash & Spector, 2001; Colquitt, 2012; Skitka *et al.*, 2003). Blanchard (1986) stated that "fairness and equity are synonymous." Adam's (1965) work reported that equity theory seeks to strike a balance between the inputs and outputs of employees.

Cropanzano *et al.* (2007) defined organizational justice as "a personal evaluation of the ethical and moral standing of managerial conduct.". Accordingly, the same authors state that three components of justice exist and are correlated with one another: distributive justice, procedural justice, and interactional justice (interpersonal and informational justice).

2.2. Distributive Justice

Regarding distributive justice, Lamont (2017) defines it as "the study of the morality of the distribution of economic goods and services.". The author also argues that social mobility and the awareness of economic structures were two factors that led to the rise of this justice. As a result of the industrial revolution that increased social mobility, people became increasingly aware of alternative economic structures in other countries (Lamont, 2017). Consequently, moral considerations of new and better economic structures arose (Lamont, 2017).

In management, distributive justice addresses the reality that not all employees are treated equally, meaning that the allocation of outcomes at work is different (Cropanzano *et al.*, 2007). Cropanzano *et al.* (2005) state that the quantity and quality of results employees generate should determine their outcomes. Moreover, Adam's (1965) equity theory claims that workers react to outcome allocation by comparing their ratio of outcomes to inputs to the ratios of other workers that seem like appropriate comparisons. If those ratios match, an individual feels equitably compensated (Colquitt, 2012). If the ratios do not match, the workers may perceive unfairness and injustice. However, employees can have adverse behaviour if they do not feel equal to their co-workers (Burton *et al.,* 2010). Moreover, Biswas *et al.* (2013) defended that rewards and punishments must be administered impartially to achieve distributive justice. The same authors also argue that comparing input-output ratios can lead to individuals exerting more or less effort, changing their organizational involvement. Likewise, Konovsky *et al.* (1987) suggested that the perception of distributive justice increases the employees' level

of commitment toward their organization. Tyler's (1984) research also revealed that outcome satisfaction ratings were significantly influenced by distributive justice.

2.3. Procedural Justice

According to Gangl (2003), the social psychological study of procedural justice began nearly 50 years ago by discovering that different dispute resolution procedures result in very different fairness judgments, no matter how the dispute is resolved. Greenberg and Tyler (1987) defined procedural justice from Thibaut and Walker's (1975) work as "the perceived fairness of the means used to make decisions.". The same authors defended that procedural and distributive justice differ in the way that people's reactions to payment decisions are the focus of a distributive orientation to justice in the workplace. In contrast, a procedural orientation focuses on the people´s reaction to how payment decisions are made. Additionally, Ngodo (2008) stated that procedural justice concerns how employees determine whether they have been treated fairly at work and how that determines other work-related factors. Moreover, according to Thibaut and Walker's (1975) procedural justice theory, employees are more likely to react favourably if an unfavourable outcome is perceived as fair (Cropanzano *et al.*, 2005). The same authors maintained that when the employees hold process control, allowing them to voice their concerns to influence decision-making, the procedures will likely be deemed fair. Furthermore, Leventhal (1980) enlarged the concept of procedural justice in resource allocation (Colquitt, 2012). Greenberg and Tyler (1987) claimed that Leventhal's (1980) work reported that fairness is measured by the extent to which allocations are consistent, bias is suppressed, accurate information is used, it is correctable, it represents all recipient concerns, and it is based on ethical and moral principles.

2.4. Interactional Justice

The need for interactional justice is evident when concerns are expressed about the appropriate conduct of decision-makers throughout the implementation of procedures (Bies & Moag, 1986). According to Bies (2001), individuals also consider social or communicative factors when evaluating fairness in addition to formal outcomes and

procedures. In other words, they consider how others have treated them (Cropanzano & Molina, 2015). Interactional justice is divided into interpersonal and informational justice (Cropanzano *et al.*, 2005). According to Cropanzo and Molina (2015), interpersonal justice refers to treating people with dignity and respect. In an interpersonally fair transaction, personal attachments, unwarranted harshness, intolerance, and other such things would not be used (Cropanzano & Molina, 2015). Moreover, for employees to judge an organization as fair, no matter how just its remuneration and procedures are, they have to feel good and treated fairly by it (Przęczek *et al.*, 2021).

As its name applies, informational justice refers to providing relevant evidence and explanations (Cropanzo & Molina, 2015). Likewise, Colquitt (2001) also stated that informational justice means producing accurate and adequate information. Kernan and Hanges (2002) defended that informational justice is the reliability and caliber of information received during the exchange process. A lack of such information or inadequate quality will lead the employees to believe they have been mistreated (Greenberg, 2000). Interactional justice involves employees evaluating not only the distribution effects and the course of the process but also how the results and process are communicated (Przęczek *et al.*, 2021).

2.5. Stress

Stress was first defined in 1936 by Han Selye as "the non-specific response of the body to any demand" (Fink, 2010; Tan & Yip, 2018). More specifically, and according to many researchers, stress is a condition of mental or emotional tension or strain brought on by complex or demanding situations. The two types of stress discussed in this research relate to family and work.

Randall et al. (2013) reported that family stress is any source that affects one or more family members at a specific time. It impacts the emotional ties that bind them, their moods, their well-being, and the preservation of their relationships (Randall *et al.*, 2013). Many factors contribute to this stress, including long work hours, inflexible schedules, childcare demands, and others (Randall *et al.*, 2013).

Comish and Swindle (1994) defined work stress as "a mental and physical condition which affects an individual's productivity, effectiveness, personal health and quality of work" (Poloski *et al.,* 2007). According to Cary (1983), a wide range of things, such as

heavy workload, tight deadlines, job insecurity, and conflicts with co-workers or supervisors, can trigger this stress. Similarly, the findings of Andrew and Anthony (2006) stated that a few cross-sectional studies found that working too hard, having poor supervisory support, and having little input into decision-making leads to debilitating health outcomes, such as depression, anxiety, emotional exhaustion, immune deficiency disorders, and cardiovascular disease, among others.

2.6. Stress and Distributive Justice

Distributive justice in organizations refers to the fair distribution of rewards, resources, and opportunities.

According to Pérez-Rodríguez *et al.* (2019), distributive justice can influence employee stress levels. For example, Ferreira et al. (2018) stated that employees may experience stress if they believe rewards and opportunities are not distributed fairly. Also, stress may occur when employees are underpaid or overworked (Lim & Teo, 1999).

H1a): Distributive Justice negatively influences Stress.

2.7. Stress and Procedural Justice

Procedural justice in organizations refers to the fairness and transparency of the procedures and processes used to make decisions and allocate resources.

In organizations, procedural justice can affect employee stress levels in various ways (Pérez-Rodríguez *et al.*, 2019). For example, employees may experience stress if they feel that the decision-making and resource allocation processes are not fair or transparent (Dilsiz, 2018). Also, according to Cloutier et al. (2018), workers who believe that their workplace's decision-making processes are fair and that their ideas and concerns are considered to experience less psychological distress.

H1b): Procedural Justice negatively influences Stress.

2.8. Stress and Interactional Justice

Interactional justice in organizations refers to how people interact with one another and the perceived fairness of these interactions.

It has been suggested by Perez-Rodriguez et al. (2019) that interactional justice, directly and indirectly, predicts job stress through relationships mediated by positive and

negative emotions. According to Judge and Colquitt's (2004) research, informational justice and stress are negatively related, meaning that when informational justice exists in an organization, the stress perceived by employees decreases. For example, Qin and Zhang's (2022) research found that, employees may feel frustrated and unfairly treated if they do not feel the information used to make decisions is accurate or complete. Also, employees who lack access to relevant or timely information may feel stressed (Qin & Zhang, 2022; Lind, 2001). Moreover, following Blau's (1981) work, employees' stress levels can be reduced when they receive support from colleagues and supervisors. Employees may experience frustration and injustice if they encounter rudeness, disrespect, and lack of consideration, and their contributions are not valued in their interactions with colleagues or supervisors.

H1c) Interactional Justice negatively influences Stress.

2.9. Work-Family Balance

According to Greenblatt (2002), in the past, families usually provided a male worker and a female caregiver. However, nowadays, more women are integrating into the workforce leaving behind the stereotypical caregiver status. Also, many families have been facing difficulties due to the rising costs of preparing children for professional success and caring for the elderly. These circumstances have increased employees' financial, temporal, and social burdens related to the family, which, in consequence, are affecting their working behaviours.

Greenblatt (2002) describes the concept of work-life balance as "the absence of unacceptable levels of conflict between work and nonwork demands.". Related to this term is the work-family balance definition. Greenhaus and Allen (2011) characterize work-family balance as "the extent to which an individual's effectiveness and satisfaction in work and family roles are consistent with their life values at a given point in time". Work-family balance ties together two key aspects of modern working life, including the conflict between work and family (WFC) and the enrichment between work and family (WFE) (Frone, 2003).

2.10. Work-Family Conflict

According to Greenhaus and Beutell (1985), WFC is "a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect.". This term is bidirectional, meaning that WFC arises when work activities interfere with family obligations, and FWC arises when family activities interfere with work obligations (Netemeyer *et al.*, 1996). The conservation of resources theory (Hobfoll, 1989) states that prolonged stress caused by WFC, negatively impacts job performance and health. Furthermore, some authors believe that WFC can be reduced by providing adequate organizational support and a work environment that supports this balance (e.g., a flexible work schedule, reasonable wages, and adequate professional autonomy) (Chen *et al.*,2021; Labrague & Obeidat, 2022). Obrenovic *et al.* (2020) found that WFC influences psychological well-being and safety, ultimately impacting job performance and satisfaction.

2.11. Work-Family Enrichment

A great deal of research on WFB focus on conflict rather than enrichment (Greenhaus & Beutell, 1985). Despite this, positive relationships between work and family have emerged (Carlson *et al.*, 2006; Greenhaus & Powell, 2006). The concept of enrichment was first introduced by Greenhaus and Powell (2006), according to Van den Eynde and Mortelmans 2020 study. Greenhaus and Powell (2006) defined WFE as “the extent to which experiences in one role improve the quality of life in the other role.”. Also, just like WFC, WFE is considered to be bidirectional. That is, work experiences can benefit one's family life (WFE), and family experiences can benefit one's work life (FWE) (Jain & Nair, 2013). In light of the WFE theory, Greenhaus and Powell (2006) proposed a model that stated that WFE follows two paths, the instrumental path and the affective path, by enhancing the number of resources generated by one but which benefit another role. According to Greenhaus and Powell (2006), the instrumental path describes the exchange of expertise, resources, and tangible benefits between the work and family spheres. The authors emphasize how knowledge gained in the work/family domain, such as time management, problem-solving, and communication skills, can improve performance and satisfaction in the family/work domain. The affective path focuses on the psychological and emotional experiences related to work and family and how they

might benefit one another. Favourable experiences, such as accomplishment and success at work, can have a favourable impact on a person's disposition and sense of fulfilment in the family sphere. Similarly, good experiences at home, such as caring households and mental stability, can boost a person's ambition and perspective on work.

2.12. WFB and Distributive Justice

Distributive justice ensures that all workers are treated equally and justly and that resources are allocated equitably (Cropanzano *et al*., 2005). Omar *et al.* (2018) found that promotions at work improve employees' moods, thus enhancing their performance at work and in their families, increasing WFE and decreasing WFC. Besides, Monika and Ritika's (2022) research, based on the conservation of resources theory developed by Hobfoll (1989), revealed that workers could use work resources to balance work and family life, recover losses, and expand their skills. Thus, the resources reduce the worker's stress and help them remain productive at work and in their families, decreasing WFC and increasing WFE (Agrawal & Mahajan, 2022).

H2a): Distributive Justice positively influences WFE and negatively influences WFC.

2.13. WFB and Procedural Justice

The fairness of the methods and processes followed to make judgments and distribute resources is referred to as procedural justice (Thibaut and Walker, 1975). It focuses on ensuring that choices are transparent, objective, and consistent and that all parties are treated with dignity and respect (Thibaut and Walker's, 1975). Employee trust and satisfaction with the decision-making process are higher in an environment where procedural justice exists, which helps to lessen WFC (Siegel et al., 2005). Similarly, Judge and Colquitt (2004) found a negative relationship between procedural justice and WFC, meaning that in the presence of procedural justice, WFC is likely to decrease. Accordingly, Andrade and Ramirez (2019) found that tension generates when employees perceive procedures as unfair and incorrect. Moreover, according to Monika and Ritika's (2022) research, procedural justice produces pleasant feelings and emotions, leading to WFE.

H2b): Procedural Justice positively influences WFE and negatively influences WFC.

2.14. WFB and Interactional Justice

Greenberg (1993) defines interpersonal justice as the fairness and equity of interpersonal interactions and relationships within organizations. In this concept, others must be treated with kindness, respect, and fairness, and their rights must not be violated (Greenberg, 1993). Thibaut and Walker (1975) stated that a positive work environment occurs when employees feel treated fairly and respectfully at work, and their opinions and perspectives are valued. Hence, a positive work environment can positively impact family lives (Monika & Rikita, 2022). Among other things, Andrade and Ramirez (2019) affirmed that supervisors demonstrate interpersonal justice by making themselves accessible, facilitating parental leave, and allowing flexible working hours. As a result, they are discouraging sacrificing essential family matters for work's sake, increasing WFE and decreasing WFC (Andrade &Ramirez, 2019).

Greenberg (1993) stated that informational justice refers to accurate and complete information provided to employees concerning organizational policies, procedures, and decisions. Transparency and honesty in presenting information ensure that employees understand and participate in decision-making processes (Greenberg, 1993). According to Minseo et al. (2022), employees find it difficult to mentally disconnect from their jobs when they leave the workplace due to a lack of informational justice. They are more prone to ruminate and ponder the unjust and unpleasant treatment they receive from superiors after work, which may increase WFC (Minseo *et al*., 2022). Moreover, in Beauregard's (2014) view, there is a negative connection between WFC and informational justice, for example, when employees need clear communication and information about their job responsibilities, work schedule, and opportunities for work-life balance, and the supervisor does not provide them with that. Because of this, employees may experience more stress and conflict in balancing their work and family lives, increasing WFC and decreasing WFE (Beauregard, 2014). On the other hand, if employees are provided with transparent and accurate information, they may feel more supported (Beugre & Baron, 2001).

H2c): Interactional Justice positively influences WFE and negatively influences WFC.

2.15. Stress and WFC

Stress and WFC are closely related. WFC can be a source of stress, according to Elahi *et al.* (2022). A conflict between work and family life occurs when the demands of work and family life are incompatible (Greenhaus & Beutell, 1985).

Judge *et al.* (2006) noted that, WFC itself can be stressful, as it may lead to frustration, guilt, and resentment. If people cannot effectively manage work and family demands, they may experience additional stress as they attempt to balance them (Chen *et al.*, 2022).

H3a): WFC positively influences Stress.

2.16. Stress and WFE

WFE is associated with increased well-being, job satisfaction, career satisfaction, and family satisfaction (Jaga & Bagraim, 2011).

According to Carlson et al. (2006), a person who is in a good mood and stress-free after work is likely to respond to family members with greater positivity, patience, and happiness. These will ultimately improve his or her impact and performance as a family member. Similarly, McNall *et al.* (2010) found that individuals who experience WFE are better able to handle stressful situations.

H3b): WFE negatively influences Stress.

2.17. Work-Family Balance as a mediator between Organizational Justice and Stress

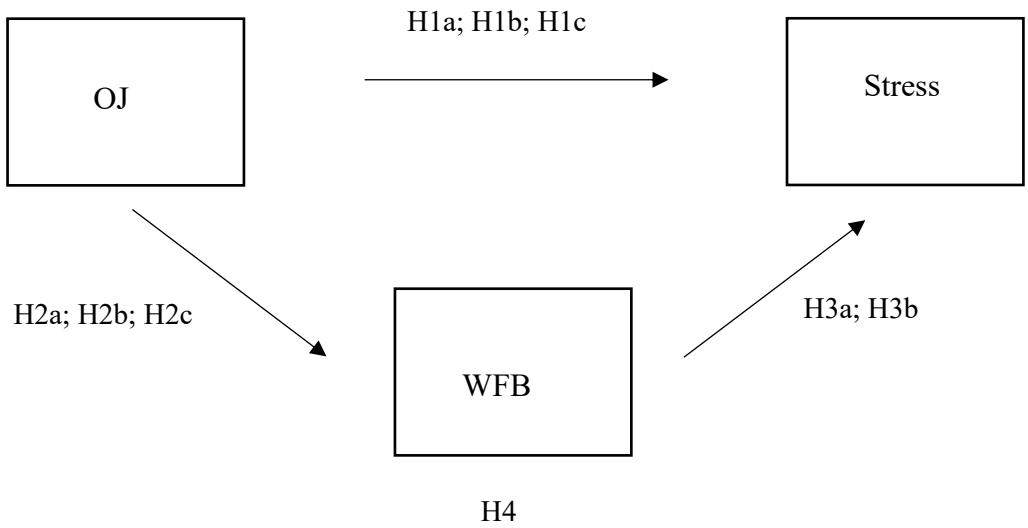
Work-family balance may serve as a mediating factor in stress levels related to organizational justice. As noted earlier, organizational justice can directly influence employee stress levels due to the perception of their work environment (Pérez-Rodriguez *et al.*, 2019). An organization that employees perceive to be fair and just can lead to feelings of support and value from their employer, which can lower their stress levels (Sun, 2019).

On the other hand, with its influence on WFB, organizational justice can also indirectly affect employees' stress levels. WFC was found to mediate the relationship between organizational justice and stress in Judge and Colquitt's (2004) study, indicating that WFC partially explains the effect of perceived fairness on stress. According to them, when an organization implements policies and activities that support WFB, such as paid parental leave, flexible schedules, and on-site childcare services (Grandey, 2001), it can alleviate

the conflict between work and family, which in turn reduces stress levels. To support this, Chen *et al.* (2022) stated that poor mental health is more likely to occur when employees cannot balance work and personal responsibilities.

H4) Organizational justice has an indirect negative influence on stress, using WFB as a mediator.

Figure I - Conceptual Model



3. METHODOLOGY

3.1. Data Collection

For this study, data from a sample of 50 individuals was gathered using the online survey platform Qualtrics. The participants were contacted primarily using WhatsApp among other online programs.

3.2. Participants Description

The online survey was answered by 99 participants, of which only 50 answers were considered valid, due to the fact that some answers were incomplete and were damaging

the results, and also the presence of outliers. Regarding gender, 33 (67.3%) were female, and 16 (32.7%) were male, adding a total of 49, given that one respondent didn't answer the question. The participants' ages ranged between 20 to >50 years, with greater relevance for the age group of 20 to 30 years, representing 40% of the respondents. The age groups of 31 to 40 years and 41 to 50 years were equally distributed, each representing 14% of the participants. Lastly, the age group >50 years represented 32% of the respondents. Regarding the education level, 29 participants have a master's degree (58%), 16 have a bachelor's degree (32%), only 1 participant has until high-school (2%), and 4 have a PhD (8%). As for marital status, 21 respondents are married (42%), and 29 are single (58%). Concerning the number of children, 26 respondents don't have any (52%), 6 have one (12%), 13 have two (26%), 4 have three (8%), and only 1 has four (2%). The professional experience was analysed using descriptive statistics, given that it was determined by the number of working years, a continuous variable. The years ranged from 0 to 34, with an average of 14,10 years and a standard deviation of 11,883 years.

3.3. Variables and their operationalization

The metric quality of scales was measured using Cronbach's alpha, a statistical indicator of a scale or test's internal consistency or reliability (Taber, 2018). The method is frequently used in social and behavioural sciences to determine if a set of items can measure a concept (Taber, 2018). Internal consistency is considered acceptable when Cronbach's alpha is 0.7 or higher (Taber, 2018).

Work-Family Balance was measured using a questionnaire developed by Geurts and his colleagues in 2005, the Survey Work-Home Interaction-Nijmegen (SWING). The SWING questionnaire is a technique that is frequently employed in research to evaluate how work and home life interact and how this might impact employee well-being and productivity (Geurts et al., 2005). The 27 items of the SWING questionnaire are divided into four categories: negative work-home interference, negative home-work interference, positive work-home interference, and positive home-work interference. Participants are asked to rate the frequency with which they experience specific situations related to their work and home lives. In this study, negative work-home interference and negative home-work interference were used to predict work-family conflict using statements like *"You do not fully enjoy the company of your spouse/family/friends because you worry about*

work." and *"You have difficulty concentrating on your work because you are preoccupied with domestic matters."*. Positive work-home interference and positive home-work interference were used to predict work-family enrichment using statements such as *"You fulfill your domestic obligations better because of the things you have learned on your job."* and *"You manage your time at work more efficiently because at home you have to do that as well."* The items were rated using a Likert scale ranging from 1 (*"Never"*) to 5 (*"Always"*). The variables *negative work-home interference* and *negative home-work interference* produced Cronbach's alphas of 0.778 and 0.743, suggesting good reliability. The variables *positive work-home interference* and *positive home-work interference* displayed Cronbach's alphas of 0.890 and 0.927, indicating excellent reliability

Colquitt's Organizational Justice Scale, a tool intended to measure employees' opinions of fairness inside a company, was used to quantify organizational justice. The scale was created by Jason A. Colquitt in 2001, consisting of 20 items, and evaluates four components of organizational justice: distributive (4 items), procedural (7 items), interpersonal (4 items), and informational justice (5 items) (Omar *et al.,* 2018). In this research, 4 items with statements like *"Your outcome reflects the effort you have put into your work."* were used to measure distributive justice. To quantify procedural justice, 3 items with affirmations such as *"Your organization's procedures are applied consistently."* were applied. Interpersonal justice was evaluated using 2 items with statements like *"Your supervisor treats you with dignity."*. Finally, 2 items with affirmations such as *"Your supervisor is candid in (his/her) communications with you."* were applied to assess informational justice. A Likert scale was used to rate the items, ranging from 1 ("Never") to 5 ("Always*"*). The variable *distributive justice* presented a very high level of reliability with a Cronbach's alpha of 0.960. The variables *procedural justice* and *interactional justice* generated Cronbach's alphas of 0.764 and 0.796, proposing acceptable levels of reliability.

Stress was measured with the Perceived Stress Scale (PSS). The tool was developed by Sheldon Cohen and his colleagues in 1983 and has been applied to research and clinical practice. The PSS questionnaire contains 10 items that measure how unpredictable, uncontrollable, and overwhelming people perceive their lives (*Perceived Stress Scale (PSS-10)*, n.d.)

In this research, participants were asked to rate each of the 10 items on a 5-point Likert scale, ranging from "Never" to "Always". Some examples of the statements used: *"In the last month, how often have you been upset because of something that happened unexpectedly?"* and *"In the last month, how often have you felt that you were unable to control the important things in your life?".* To ensure consistency in the interpretation of the data when analyzing the results, some items of this scale had to be reversed. In this research the following statements were reversed: *"How often have you felt confident about your ability to handle your personal problems?";"How often have you felt that things were going your way?";"How often have you been able to control irritations in your life?";"How often have you felt that you were on top of things?".*

The variable stress initially generated a Cronbach's alpha of -.172, indicating that the items used to measure the construct were not internally consistent and did not correlate. This negative outcome is due to the small sample size used in this study. However, three items from the analysis were eliminated to increase the survey's internal consistency. The Cronbach's alpha increased to 0.278 when the three items were taken out, indicating that the items under analysis had low internal consistency. The variable stress was nevertheless considered in the study despite the low alpha value.

Outliers were found in the dataset using box plots during the data cleaning procedure. The dataset had 20 outliers, or about 20% of the observations, which were found and eliminated. The outliers were an anomaly and not a representative sample of the population because they resulted from measurement errors.

4. Results

4.1. Exploratory Factor Analysis

When there are numerous variables present, as there were in this study, exploratory factor analysis (EFA) is a useful approach for determining the structure of a dataset (Sürücü *et al.,* 2022). One of the main advantages of this method is that it enables researchers to simplify datasets by identifying the important variables that are responsible for the interactions between the variables (Sürücü *et al.,* 2022). Total variance explained (TVE) in the context of EFA refers to the percentage of the total variance in the initial set of variables that is explained by the identified factors. Reis (2001) asserts that each component's TVE should be greater than 50%.

Every dimension (distributive, procedural, and interactional) of the construct *Organizational Justice* met this condition with TVEs of 89.421%, 68.854%, and 90.669%, respectively.

Every component (conflict and enrichment) met the criteria for the construct *Work-Family Balance*, with TVEs of 58.189% and 75.316%, accordingly.

With a TVE of 68.320%, the build Stress satisfied this requirement.

Every construct and dimension had TVE values above 50%, which indicated that the variables found in the EFA were significantly accounting for the variance in the original dataset. In other words, the identified factors accounted for more than half of the variability in the initial set of variables. As a result, the highlighted factors were probably deemed as significant and may have contributed to the understanding of the relationships between the variables in the dataset.

4.2. Pearson Correlations

Pearson correlations were used to determine the strength and direction of the linear relationship between two variables. As the table below shows, some correlations were statistically significant at a 0.01 level. However, the variables that didn't present any statistically significant correlation with another variable mean there is not enough evidence in the population to demonstrate that the correlations exist.

Table I - Pearson Correlations

	Work-Family Conflict	Work-Family Enrichment	Interactional Justice	Distributive Justice	Procedural Justice	Stress
Work-Family Conflict	1	.389**	.246	.517**	.517**	.099
Work-Family Enrichment		1	-.181	.751**	.751**	.148
Interactional Justice			1	-.034	-.034	.153
Distributive Justice				1	1.000**	.126
Procedural Justice					1	.126

Stress		1

** Correlation is significant at 0.01 level (2-tailed)

4.3. Baron and Kenny Mediation Analysis

The mediation analysis developed by Baron and Kenny (1986) examines whether a mediator variable can explain a relationship between the independent and the dependent variables. The method consists of a formula: C = C' + A*B. The C represents the direct effect of the independent variable (organizational justice) on the dependent variable (stress); C' represents the direct effect of organizational justice on stress when controlling for WFB; A represents the effect of organizational justice on the mediator variable (work-family balance); B represents the effect of work-family balance on the dependent variable stress. If the formula confirms, it means that the direct impact of organizational justice on stress can also be explained by an indirect effect using work-family balance as a mediator.

Figure II - Direct effect of OJ on Stress

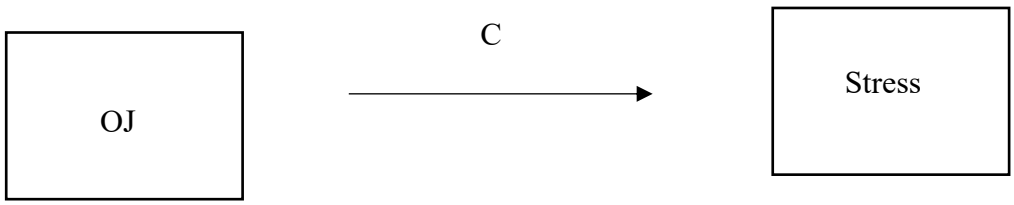
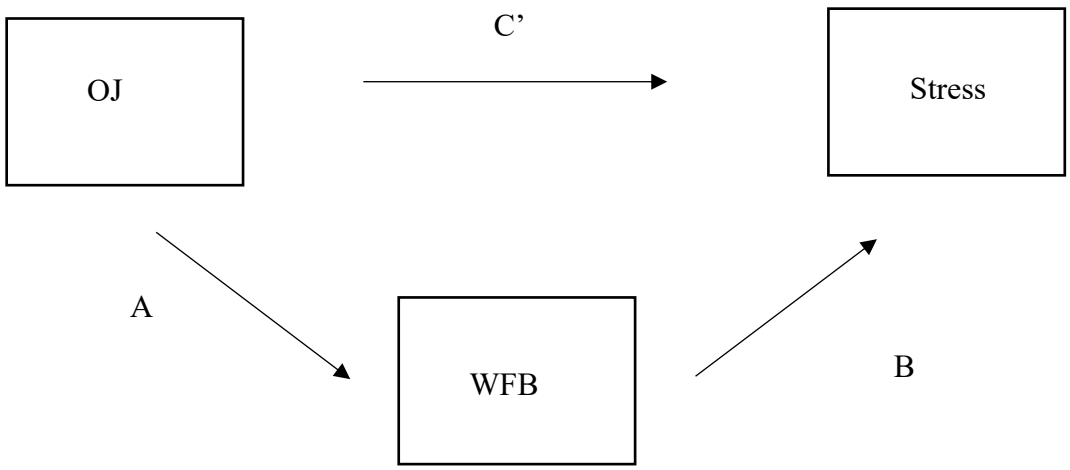


Figure II – Indirect effect of OJ on Stress



The first step for testing mediation is testing path C. If OJ is correlated and significantly predicts Stress, there is a direct effect of OJ on Stress. Given that none of the three types of organizational justice (distributive, procedural, and interactional) showed to be statistically significant towards stress, the hypothesis H1a, H1b, and H1c are rejected, concluding that there is, statistically, no direct effect of OJ on stress according to the results.

The second step is testing path A. If OJ is correlated and significantly predicts WFB, there is an effect of OJ on WFB, and OJ can predict Stress through WFB. Both distributive and procedural justice showed to be statistically significant towards WFB, therefore, accepting H2a and H2b. However, interactional justice did not present statistical significance towards WFB, thus, rejecting H2c. Regardless, the variable organizational justice showed to be statistically significant towards WFB, concluding that organizational justice has a direct effect on WFB.

The third step is testing path B. If WFB significantly predicts Stress when controlling OJ, there is an effect of WFB on Stress when holding OJ. Given that both WFE and WFC weren't statistically significant towards stress when controlling for OJ, the hypothesis H3a and H3b. The variable WFB also didn't present statistical significance meaning that there is no effect of WFB on stress when controlling for OJ.

The fourth step is testing path C'. If OJ no longer significantly predicts stress when controlling for WFB, WFB is a complete mediator between OJ and Stress. Or, if OJ continues to significantly predict Stress when controlling WFB, WFB is a partial mediator between OJ and Stress. Given that OJ didn't show to be statistically significant towards stress considering WFB and also didn't show to be statistically significant when not considering WFB, it means that WFB may not be a mediator between organizational justice and stress, rejecting hypothesis H4.

Table II – Path C

Observed variable	**Dependent variable**	**SD**	**Beta**	**t**	**p-value**
Organizational justice	Stress	.135	.180	1.212	.232
Distributive justice	Stress	.095	.126	.840	.405
Procedural justice	Stress	.095	.126	.840	.405

Interactional Justice	Stress	.115	.153	1.024	.312

Table III – Path A

Observed variable	Dependent variable	SD	Beta	t	p-value
Organizational justice	WFB	.158	.728	7.285	<.001
Distributive justice	WFB	.109	.745	7.662	<.001
Procedural justice	WFB	.109	.745	7.662	<.001
Interactional Justice	WFB	.199	.064	.441	.661

Table IV – Path B

Observed variable	Dependent variable	SD	Beta	t	p-value
Work-Family Balance	Stress	.122	.036	.167	.868
Work-Family Conflict	Stress	.078	-.002	-.012	.991
Work-Family Enrichment	Stress	.101	.057	.293	.771

Table V – Path C'

Observed variable	Dependent variable	SD	Beta	t	p-value
Organizational justice	Stress	.195	.154	.719	.476
Distributive justice	Stress	.142	.039	.176	.861
Procedural justice	Stress	.142	.039	.176	.861
Interactional Justice	Stress	.115	.148	.993	.348

Table VI - Evaluation of the hypotheses

Hypotheses	Confirmation
H1a) Distributive Justice negatively influences Stress.	Rejected
H1b) Procedural justice negatively influences Stress.	Rejected
H1c) Interactional Justice negatively influences Stress.	Rejected
H2a) Distributive Justice positively influences WFE and negatively influences WFC.	Accepted

H2b) Procedural Justice positively influences WFE and negatively influences WFC.	Accepted
H2c) Interactional Justice positively influences WFE and negatively influences WFC.	Rejected
H3a) WFC positively influences Stress.	Rejected
H3b) WFE negatively influences Stress.	Rejected
H4) Organizational justice has an indirect negative influence on stress, using WFB as a mediator.	Rejected

5. Discussion, Conclusions, Limitations and Future Investigations

5.1. Discussion

This study aimed to analyse organizational justice's direct and indirect effects on stress, considering work-family balance as a mediator. The direct effects of every dimension of organizational justice (distributive, procedural and interactional) on stress (H1a, H1b and H1c) and work-family balance (conflict and enrichment) (H2a, H2b and H2c) were tested. Also, the direct effect of work-family balance on stress was analysed (H3a and H3b). Lastly, the indirect effect of organizational justice on stress, using work-family balance (H4) was also tested.

Regarding the direct influence of organizational justice on stress, the results showed no statistical significance, meaning that it was impossible to prove that when in the presence of organizational justice, stress is reduced, as the study by Perez-Rodriguez et al. (2019) stated.

Concerning the direct effects of organizational justice on work-family balance, only the distributive and procedural justices were statistically significant, implying that when the employees have perceptions of these justices in their organization, their work-family balance increases, supporting the work of Agrawal and Mahajan (2022). and Judge and Colquitt (2004). However, interactional justice did not appear to be statistically significant, meaning that it was impossible to prove that work-family balance increases when in the presence of this variable, as the literature states.

Concerning the direct effects of work-family balance on stress, it was impossible to confirm that they exist since the associations between work-family conflict and

enrichment towards stress were revealed to be statistically insignificant. That is, the findings did not have enough evidence to support that a greater work-family balance leads to lower stress levels as Judge *et al.* (2006) affirmed.

In relation to the indirect influence of organizational justice on stress, taking into account work-family balance as a mediator, it was impossible to demonstrate that it exists since it was not statistically significant. Therefore, the findings did not have enough proof to support Judge and Colquitt's (2004) work that stated that the presence of justice and measures to reduce work-family conflict in organizations, can reduce stress among employees.

5.2. Conclusions

Organizational justice, stress, and work-family balance significantly affect employees' productivity and well-being. According to the literature review, employee stress levels can be influenced by how fair employees perceive their organization's rules and practices. Yet, various factors may contribute to the mechanism through which this association arises. The association between stress and organizational justice has been hypothesized to be mediated by work-family balance. It is a significant factor that can impact the productivity and well-being of employees. Investigating this issue is essential because it may provide insights into how businesses might support work-life balance and lessen employee stress.

A survey of 50 respondents was undertaken to examine organizational justice's direct and indirect impacts on stress using work-family balance as a mediator. The findings showed that employee stress levels are not connected to organizational fairness perceptions, either directly or indirectly, through work-family balance. However, the study found a direct relationship between the mediator work-family balance and some dimensions of organizational justice (distributive and procedural justice).

Overall, this study contributes to the understanding of the complex relationships between organizational justice, stress, and work-family balance and lays the groundwork for future research in this area even though it was unable to demonstrate that there are both direct and indirect effects of organizational justice on stress. Organizations can create strategies to improve employee well-being and overall performance by investigating these relationships further.

5.3. Limitations and Future Investigations

This study used work-family balance as a mediator to examine whether there are any direct or indirect impacts of organizational justice on stress. The extent to which the study question has been addressed, nonetheless, had some limitations.

The small sample size was one of the study's limitations. The reliability of the results was impacted by the small sample size of the participants' data. Lower sampling sizes can reduce the power of statistical tests, making it difficult to identify meaningful associations or effects.

The existence of outliers in the data was another limitation of this study. Sensitivity analyses were conducted to address the limitation of outliers by eliminating them and re-analysing the data, which led to the conclusion that the outliers needed to be removed.

Multicollinearity between distributive and procedural justice was present, which was another constraint and may have affected the reliability of the regression models.

Future studies that address outliers and multicollinearity issues while using bigger sample sizes should further extend and validate these findings.

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APPENDICES

Table A– Cronbach's Alpha

Variables	Cronbachs' alpha
Organizational Justice	
Distributive Justice	.960
Procedural Justice	.769
Interactional Justice	.796
Work-Family Balance	
Negative Work-Home Interference (Conflict)	.778
Negative Home-Work Interference (Conflict)	.793
Positive Work-Home Interference	.890
Positive Home-Work Interference	.927
Stress	.278

Table B– Exploratory Factor Analysis

Constructs and dimensions	% of variance explained
Organizational Justice	
Distributive Justice	89.421%
Procedural Justice	68.854%
Interactional Justice	90.669%

Work-Family Balance	
Work-Family Conflict	58.189%
Work-Family Enrichment	75.316%
Stress	68.320%

Table C – Mean and Standard Deviation (Pearson Correlations)

	Mean	**SD**
Work-Family Conflict	3.3571	1.06952
Work-Family Enrichment	3.4541	.87749
Interactional Justice	2.7800	.61578
Distributive Justice	3.3267	.72058
Procedural Justice	3.3267	.72058
Stress	2.3451	.46412