

Optimization Of Work Organization In A Brazilian Federal Public Administration Institution

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Abstract:

This Study Presents A Detailed Analysis Of The Organization Of Work In A Federal Educational Institution Located In The Federal District, Brazil. Using The Model Proposed By The Work Context Assessment Scale (Eact), Aspects Related To The Work Environment In This Institution Of The Brazilian Federal Public Administration Were Investigated. The Research Conducted With A Quantitative Approach, Characterized As A Descriptive And Inferential Study. To Collect The Data, A Survey Was Carried Out, Known As Survey Research, Through A Questionnaire Made Available To The Institution's 1,294 Effective Federal Public Servants, Resulting In 424 Responses. This Work Proposes That The Organization Of Work In Institutions Of The Brazilian Federal Public Administration Incorporates The Principles Of Activity Ergonomics, In Order To Promote The Satisfactory Development Of Activities Both For The Institution And For Its Servants, Users And The External Community Related To The Mission And View Of The Researched Institution.

Keywords: *Work Organization, Activity Ergonomics, Educational Administration, Public Administration.*

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I. INTRODUCTION

Work Organization (OT) encompasses a process of recognition and integration of the tasks to be performed. It is the process of determining and delegating responsibilities and authorities, as well as establishing relationships between workers, sectors and institutions, to allow people to work productively to achieve goals (Lacombe, 2009).

According to Ferreira and Mendes (2008), Work Organization comprises the elements that reflect the perspectives and practices of people management and administration of activities. For Lacombe (2009), TO can be seen as the ability to efficiently use all available resources to achieve the desired goals.

These TO elements, presented in Figure 1, are established both formally and informally, and assess the performance of the work itself (Ferreira & Mendes, 2008). The formal organization encompasses the organizational structure formally established and instituted by the organization. The informal organization encompasses the spontaneous relationships that arise among workers, based on characteristics and common goals of these workers, often unrelated to the organization's intentions (Lacombe, 2009).

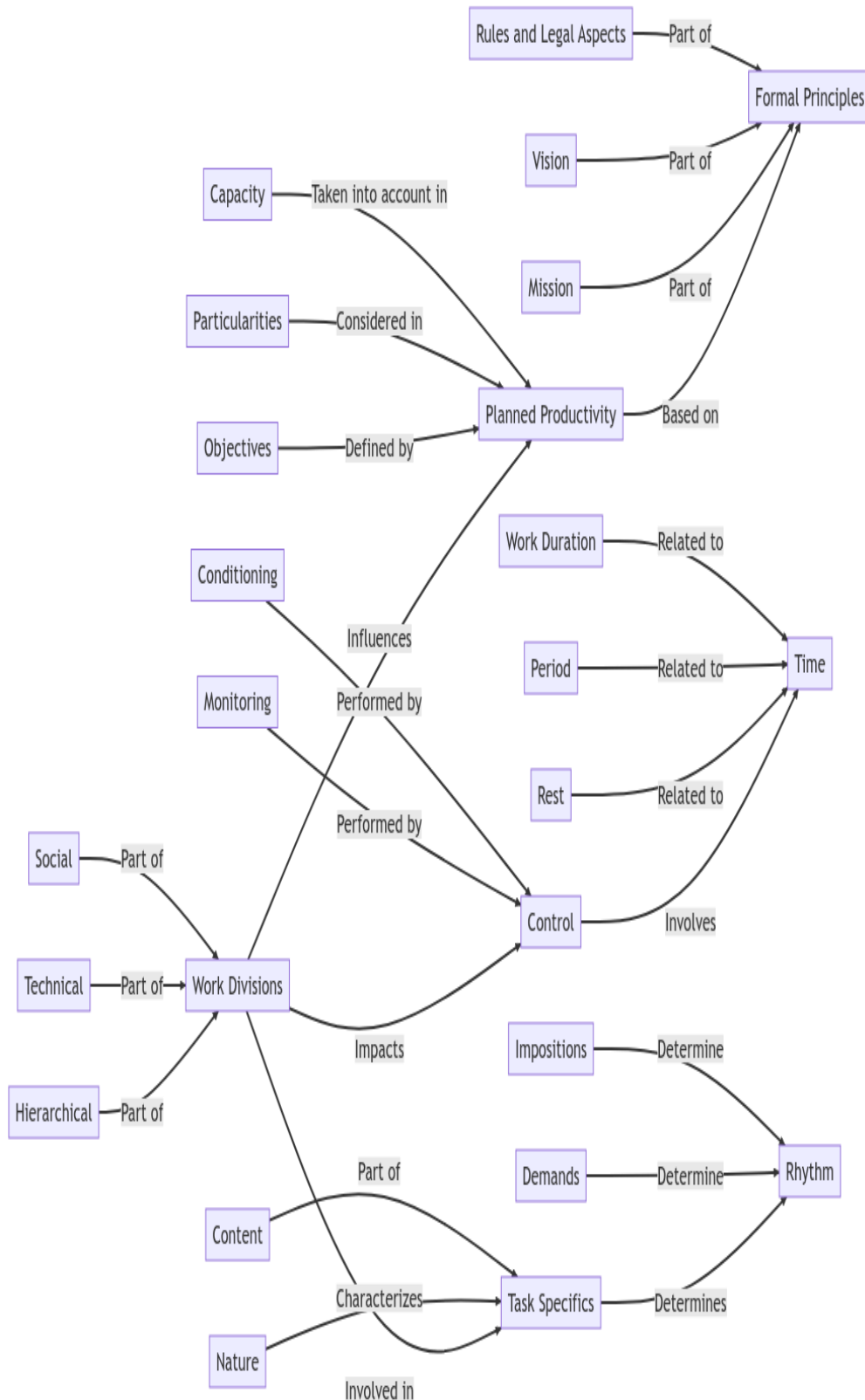


Figure 1. Work Organization Components. **Source:** Ferreira and Mendes (2008).

As shown in Figure 1, Work Organization is related to the divisions of work, norms, controls, distribution, rhythms and characteristics of tasks. The division of labor can be understood from the systemic observation of the organization's technical and social characteristics. This social and technical system perspective proposed by the Theory of Contingency examines the social repercussions of technological changes in work

processes (Doron & Françoise, 2006).

The divisions of labor result from the organization and decomposition of the complexity and variety of the productive process into small tasks, so that each worker or group is responsible for a limited aggregate of tasks. Thus, there may be better control of the execution of tasks and efficiency with the development of specific skills. This can speed up the execution of tasks with better assimilation and appropriation of work, despite the risk of making it monotonous (Lacombe, 2009).

The hierarchical division of labor at the FI can be better understood by a resolution that presents the organization chart of the researched institution. The organizational structure established in this Resolution contains the descriptions of the coordinations and boards, the attributions of powers, the interactions of provision of services to be provided and the formal communications established.

According to Lacombe (2009), the organization chart is a synthesized graphic representation of the organizational structure. In it, the names of the defined sectors, their hierarchical positions and the predominant formal relations between these sectors are indicated. The organizational charts of the institution in question are structured in an understandable and standardized way. The analysis of the organization chart can help identify and correct mistakes in the structuring of tasks, such as excessive hierarchical verticalization and controversial subordinations (Lacombe, 2009).

However, the existence of organizational charts does not necessarily guarantee that the institution is well organized. The organizational chart is just a means of explaining and identifying the formally established ordering and interactions, facilitating the formalization of tasks. Despite being theoretically easy to change, in practice, interactions between sectors and workers tend to be resistant to change (Lacombe, 2009).

Control is related to the inspection of a situation and stems from the understanding that achieving the desired results requires specific behaviors. It aims to regulate workers' responses in the face of established contexts. The lack of control can stimulate negative responses and impair workers' performance (Doron & Françoise, 2006).

Controlling requires monitoring or measuring the results achieved in relation to the planned objectives and goals, in order to adopt necessary corrective actions in the planning or execution of tasks. This involves identifying and analyzing relevant circumstances and information, as well as the sources of possible irregularities, to monitor whether the organization's actions are in line with established objectives. Control is effective when there is a defined organization chart in the institution, with duties and authorities properly designated, in order to minimize conflicts (Lacombe, 2009).

The concept of control has several meanings and applications. In short, the control aims to achieve or maintain a reference standard. In this sense, feedback and the definition of parameters are essential elements for motivation, since the determination of goals and purposes stimulates attempts at control (Cooper & Argyris, 2003).

Control is related to the inspection that assesses whether predetermined standards have been implemented in the quality and characteristics of materials, processes, items, tools, products, services. This control aims to achieve and retain the quality level of the products and services offered as established standards (Lacombe, 2009).

This inspection refers to the concept of the control cycle, which aims to inspect performance in general, to verify whether the parameters are adequate, whether the procedures impair organizational behavior, whether the results reach the reference indicators, among other aspects (Cooper & Argyris, 2003).

Planned productivity aims to measure the relationship between the products or services obtained and the resources used in their production. Productivity demonstrates the efficiency with which production resources are operationalized. Therefore, measure the amount of goods or services performed by each worker (Lacombe, 2009).

Among the formal precepts of the organization are the mission, vision and values defended. The mission relates to the objective, purpose or result, usually permanent, which the organization aims. They are the main objectives that explain the reason for the existence of the organization. The vision is a way of envisioning the desired future and communicating it to those involved. The values are principles that guide the actions of the organization and the workers, conceiving multiple ethical parameters and different priorities (Lacombe, 2009).

The temporal orientation conceived in the sense of cultural priorities as punctuality or even a cultural sense of the past, present or future. The punctuality orientation presents considerable distinctions from a perception of tardiness as something unpleasant and disgusting or something circumstantial of minor importance. On the other hand, while some cultures focus on admiring and revering ancient and traditional aspects, other cultures seem to focus on the present rather than extolling traditions (Cooper & Argyris, 2003). These temporal characteristics influence the CPBS of organizations.

Time is abstractly related to the sensation of duration. It can be expressed in past, present and future. It is a capture that seeks to measure, divide and compare with determined and invariable elements in order to dimension the expected duration. R introduces the notion of temporality, related to perceptions of circumstances and people's conceptions (Comte-Sponville, 2003).

In organizations there is the use of terms such as standard time, calculated time or time measured in work processes. Thus, standardized methods are established for carrying out work in favorable circumstances and with educated workers (Lacombe, 2009). These time definitions are used to prescribe tasks and monitor or even constrain workers to carry out activities according to the imposed standards.

Ergonomic non-compliance with the concept of Work Organization requires people management to select, train and develop workers, having to adapt them to previously defined provisions, including anomalies in the modes of production of goods or services to be offered by the organization. The constructed logic requires workers to adapt to the specificities of OT. Observances are secondary to the characteristics of the workers and the negative influences or inadequacies that OT can have on the CPBS (Guérinet *et al.*, 2001).

In this sense, Antloga *et al.* (2014) emphasized studies that establish an association between rigidity in the Work Organization (OT) and the occurrence of suffering in the work environment. The importance of a careful observation of the OT is highlighted for the implementation of adequate strategies for mediation of the work context.

II. METHODOLOGY

Goal definition:

The objective of this study is to carry out a descriptive analysis of the Organization of Work in an Institution of the Brazilian Federal Public Administration, using the model proposed by the Work Context Assessment Scale (EACT).

Selection of institution and study context:

The institution selected for this study is a federal educational institution located in the Federal District, Brazil. The context of production of goods and services of this institution will be the focus of the research.

Literature review:

A literature review will be carried out to theoretically support the study, using the article as reference "Experimental planning factorial: a brief review" de Oliveira *et al.* (2018), publicado no International Journal of Advanced Engineering Research and Science.

Data collect:

Data collection will be carried out through the application of the Work Context Assessment Scale (EACT) to employees of the selected institution. The scale consists of a set of items that assess different aspects of Work Organization, such as work rhythm, time pressure, interactions between sectors, among others.

Data analysis:

The collected data will be tabulated and statistically analyzed using descriptive analysis techniques, such as means, standard deviation and percentages. Inferential analyzes will be used, such as analysis of variance (ANOVA), to identify possible significant differences between the evaluated conditions.

Interpretation of results:

The results will be interpreted in light of the existing literature and the objectives of the study, seeking to understand the situation of Work Organization in the investigated institution. Strong points and possible areas for improvement identified will be highlighted.

Report preparation:

The results and conclusions will be presented in a research report, which will include a detailed description of the methodology, the results found and their implications, as well as recommendations to improve the Organization of Work in the institution.

Discussion and dissemination of results:

The results and conclusions of the study will be discussed internally with the institution's managers and may be disclosed at scientific events or published in academic journals, thus contributing to the advancement of knowledge in the area of Public Administration and Work Organization.

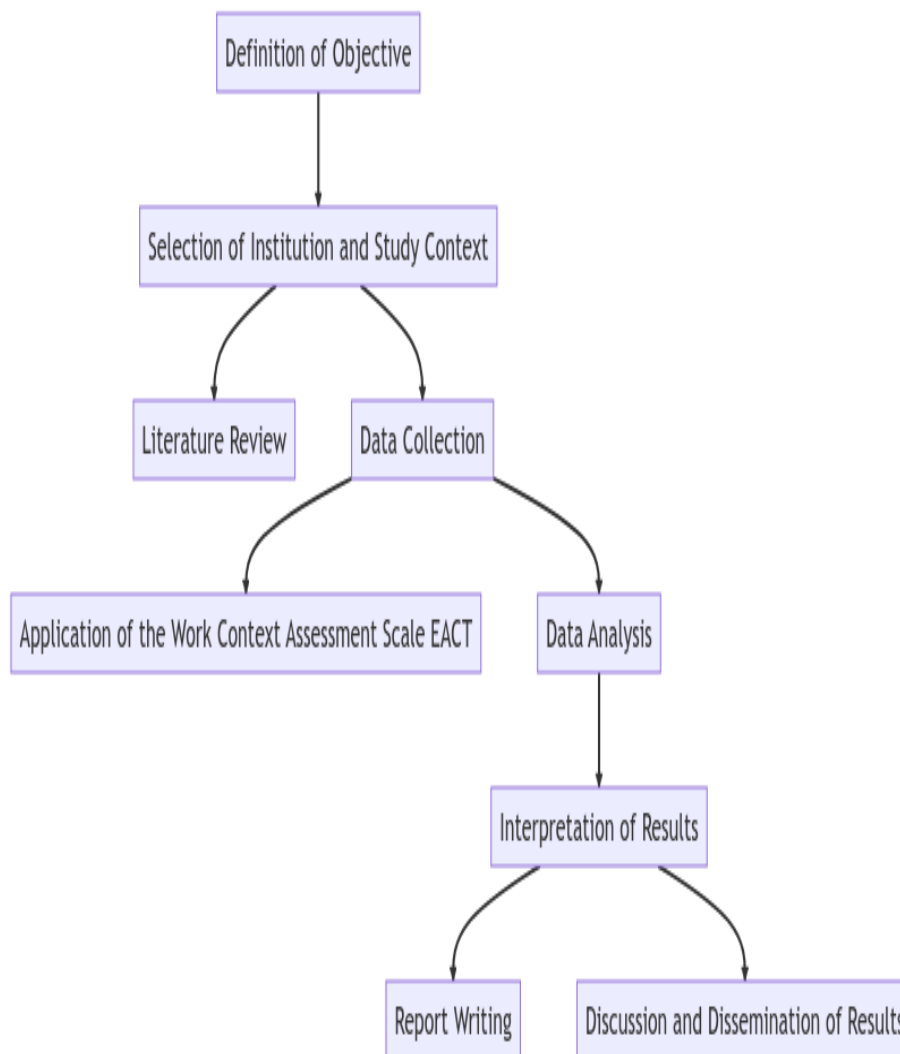


Figure 2. Organization of research in this study. Source: De Oliveira et al. (2018), adapted by the authors for the organization of this research.

As for the methodological procedures, this research fits as a data collection, known as Survey research. Data collection was carried out using the Google Forms® platform, and later, the data were transferred to Microsoft Excel® spreadsheets and to the Stata® software, version 16, where descriptive and inferential analyzes were performed.

For the variables of sociodemographic characterization of the employees of the researched institution, gross distributions and percentages were calculated. The scores of items related to the Work Organization construct were analyzed by calculating position and dispersion measures for each item. These analyzes were conducted separately for each of the ten units of the researched institution, as well as for the institution as a whole.

In the inferential analysis, one-way Analysis of Variance (ANOVA) tests were applied to identify differences in means between the scores obtained in each item on different campuses. ANOVA is a statistical test that compares the means of three or more groups, used to assess the probability of a difference between two or more conditions, considering possible sampling errors (Field, 2009).

The bibliographic research carried out to theoretically support the study adopted the thematic analysis technique to categorize the literature. Specialized books in the area were consulted, as well as publications available on the Capes journal portal for the last ten years. A comprehensive review of the literature was carried out, using the principles of activity ergonomics and work organization as a methodological reference.

This research followed ethical guidelines and was submitted to the Ethics Committee for Research in Human and Social Sciences (CEP/CHS) of the University of Brasília (UnB), through the CAAE process: 50944421.0.0000.5540, obtaining a reasoned assent. The analysis of the results based on the perceptions reported by the participants in each of the items, considering the standard deviation in relation to the mean (Ferreira & Mendes, 2008). The Work Organization dimension was evaluated through the items listed in the Quadro 1.

NUMBER	FACTOR DESCRIPTION
1.1	Fast pace of work
1.2	Fulfillment of tasks under time pressure
1.3	Presence of charge for results
1.4	Rigidity in the rules for executing tasks
1.5	performance inspection
1.6	Insufficient staff to carry out tasks
1.7	Expectations of unrealistic results
1.8	Lack of time for rest breaks at work
1.9	Division between planners and executors
1.10	precarious working conditions

FRAME 1. Work Organization measurement items. **Source:** Ferreira and Mendes (2008).

In the researched institution, there are effective civil servants entering two careers: the Technical-Administrative in Education (TAE) and Teachers of Basic, Technical and Technological Education (EBTT). According to the researched Institution, there are 1,294 effective public servants, comprising a population of 592 TAE and 702 EBTT Teachers. The research reached a probabilistic sampling of 32.77% of this universe, with 424 effective civil servantsrespondents (IFB, 2021).

To estimate the sample size of this study, the formula was adopted $n = S * Z^2 * N / (S * WITH^2 * It is^2(N - 1))$, in which: S = 0.92 [sample variance obtained in the Antloga study *et al.* (2014), considering the Work Organization factor]; Z² = standard deviation squared, related to the 95% significance level; e² = sampling error of 5% squared; N = 1,294. Thus, the estimated minimum sample size is 402 participants. The present study reached 424 respondents and, therefore, obtained a significance level of 95%.

DATA ANALYSIS

The study includes the participation of 424 federal civil servants from a Federal Teaching Institution (IF). Among the respondents there is a predominance of females (56.8%), civil servants not occupying a function or management position (67.2%) and the segment of EBTT Professors (55.2%).

Table 1 presents the measures referring to the set of ten items that make up the FI's Work Organization. In this table there are measures of position, which include the mean and median of these items. AND dispersion measures, comprised of the minimum and maximum value available to respondents, in addition to the calculated standard deviation and interquartile range.

Table 1. Work Organization Factors construct scores

Items	Minimum/Maximum	Average	DP [†]	Median	IIQ [‡]
1.1 The pace of work is accelerated	1/5	3,90	0,83	4	3
1.2 Tasks are completed under time pressure	1/5	3,56	0,92	4	4
1.3 Charging for results is present	1/5	3,37	0,99	3	4
1.4 The rules for performing the tasks are strict	1/5	3,24	1,05	3	4
1.5 There is performance monitoring	1/5	2,87	1,05	3	4
1.6 The number of people is insufficient to carry out the tasks	1/5	3,48	1,16	3	4
1.7 Expected results are unrealistic	1/5	2,63	1,02	3	4
1.8 Lack of time to take a rest break at work	1/5	2,98	1,16	3	4
1.9 There is division between who plans and who executes	1/5	2,93	1,09	3	4
1.10 Working conditions are precarious	1/5	2,46	1,02	2	4

[†] Standard deviation. [‡] Interquartile range.

The Work Organization Factors construct had a lower, average of scores in the items "The working conditions are precarious" and "There is supervision of performance", while the highest averages were identified in the items "The pace of work is accelerated" and "The tasks are fulfilled with time pressure" (Table 1) .

The higher the means identified, the worse the perceptions of the factors that make up the Organization of Work dimension of the CPBS in the FI. There is an accelerated perception of the execution of work in the PI in a serious situation, with the identification of a mean of 3.90 with a standard deviation of 0.83. This is the worst result among the thirty factors analyzed with the application of the EACT in the institution. This factor has a negative perception by the servers. According to Ferreira and Mendes (2008), there is a risk of generating discomfort at work, with a risk of illness, requiring immediate actions to extinguish or mitigate the causes.

according to In Table 1, tasks are performed under significant time pressure, with a mean of 3.56 and a standard deviation of 0.92 in item 1.2. There is a critical charge for results, with an average of 3.37 and a standard deviation of 0.99 in item 1.3. An accentuated rigidity is observed in the norms for the execution of the tasks, with an average of 3.24 and a standard deviation of 1.05 in item 1.4. The perception of performance supervision is evident, with an average of 2.87 and a standard deviation of 1.05 in item 1.5. There is a significant insufficiency in the number of workers hired to carry out the tasks, with an average of 3.48 and a standard deviation of 1.16 in item 1.6. The results charged are outside the available reality, with an average of 2.63 and a standard deviation of 1.02 in item 1.7. The lack of time for rest breaks at work is perceived, with a mean of 2.98 and a standard deviation of 1.16 in item 1.8. There is an evident division between those who plan and those who execute, with an average of 2.93 and a standard deviation of 1.09 in item 1.9. Precarious working conditions are rarely perceived, with an average of 2.46 and a standard deviation of 1.02 in item 1.10, which is the factor best evaluated by the employees of the FI in the Work Organization dimension.

Even so, this item 1.10 presents statistically significant differences between the *fields*, because the value of *fp* calculated with one-way ANOVA is less than 0.05. OItems 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8 and 1.9, from Table 1, presented a value of *fp* greater than 0.05 in the one-way ANOVA, indicating that the scores of these factors are not statistically different among the *campus* from FI. This statistical finding suggests that these factors can be worked on in full at the researched institution.

The averages and standard deviations of these nine Work Organization factors in the FI present a median perception, in which Ferreira and Mendes (2008) indicate evidence of a state of alert, which requires immediate actions in the short and medium term on the part of the institution so that damage to the institution's CPBS can be eliminated or at least minimized.

Figure 3 shows the dispersion of the scores of the factors that make up the Work Organization dimension in each of the FI units. In this boxplot Graph, the blue box represents identifies the measures of variability of this analIt is non-parametric comparison of responses between 25% and 75%. The vertical stroke on the box represents the median of responses in each unit. As outer horizontal lines represent the range of responses in each unit, representing scattered perceptions as the lengths of these horizontal lines increase. You blue dots represent the outliers, being data that differ significantly from the other data analyzed and are far from the median and may cause some irregularity in the results obtained. Each dot represents the response from a single server.

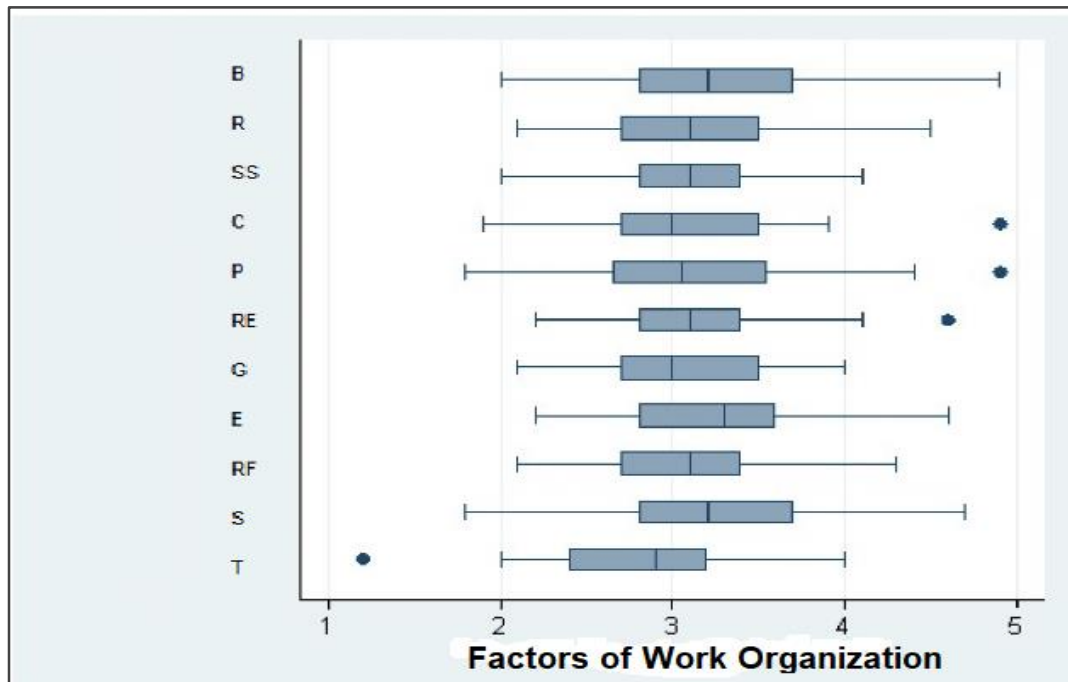


Figure 3. Representative boxplot graph of Work Organization factors construct scores by fields.

The researched institution's R unit has unfavorable perceptions of factors related to the fast pace of work, the lack of adequate personnel to carry out the tasks, the tension arising from the fulfillment of tasks no deadline, the pressure for results and the rigidity of the rules for the execution of the tasks. The Campus B demonstrates unfavorable perceptions of factors related to the fast pace of work, the tension resulting from the fulfillment of tasks no deadline, the lack of adequate personnel to carry out the tasks and the pressure for results.

Campus SS has negative perceptions of factors related to the fast pace of work, the tension resulting from the fulfillment of tasks no deadline, the lack of adequate personnel to carry out the tasks, the pressure for results and the rigidity of the rules for the execution of the tasks. Campus C has unfavorable perceptions of factors related to the fast pace of work, the pressure for results, the tension arising from the fulfillment of tasks no deadline and the lack of adequate personnel to carry out the tasks. Campus P has negative perceptions of factors related to the fast pace of work, the tension arising from the fulfillment of tasks no deadline, the lack of adequate personnel to carry out the tasks, the rigidity of the rules for the execution of the tasks and the pressure for results. Campus RE demonstrates unfavorable perceptions of factors related to the fast pace of work, the lack of adequate personnel to carry out the tasks, the tension resulting from the fulfillment of tasks no term and the rigidity of the rules for the execution of the tasks.

Campus G has negative perceptions of factors related to the fast pace of work, the tension resulting from the fulfillment of tasks no deadline, the rigidity of the rules for the execution of the tasks, the pressure for results and the lack of adequate personnel to carry out the tasks. Campus E has unfavorable perceptions of factors related to the fast pace of work, the lack of adequate personnel to carry out the tasks and the tension resulting from the fulfillment of tasks no term.

Campus RF has negative perceptions of factors related to the fast pace of work, the rigidity of the rules for carrying out tasks, the tension resulting from the fulfillment of tasks no deadline, the lack of adequate personnel to carry out the tasks and the pressure for results. Campus S demonstrates unfavorable perceptions of factors related to the fast pace of work, the tension resulting from the fulfillment of tasks no deadline, the pressure for results, the existence of conflicts in the work environment and the rigidity of the rules for the execution of tasks. On the other hand, Campus T has negative perceptions of factors related to the fast pace of work, the lack of adequate personnel to carry out the tasks and the tension resulting from the fulfillment of tasks.no term.

All IF units demonstrate a serious perception of the accelerated pace of the work carried out. In addition, in nine of the ten units of the FI, the servers indicated that the prescribed tasks are performed with a critical time pressure. In the other two units, Campus B and Campus SS, civil servants reported performing tasks under severe time pressure.

Thus, it is imperative that organizations assume a firm commitment to these precepts related to the public mission. This is essential to prevent public servants from experiencing a loss of meaning in relation to their activities, due to deficiencies in the organization's management procedures and working conditions (Jackson Filho, 2015).

By means of a one-way analysis of variance, no statistically significant differences were found in the Work Organization dimension between demands for results, rigidity of norms for carrying out tasks, performance inspections, the number of workers hired for the carrying out tasks, demanding unrealistic results, rest breaks at work and the existence of a division between those who plan and those who execute, among the ten units.

However, in item 1.10 of Table 1, the perception of some precariousness in working conditions is statistically different between the IF campuses. While the R, G and S units satisfactorily perceive this factor, the other campuses presented perceptions with a critical tendency in relation to it.

These findings reinforce the need to work on the organizational development of educational institutions. As highlighted by Lacombe (2009), this development is a complex educational process, based on experience, which uses justifiable behavioral methods and transforms beliefs, habits, attitudes, values and the organizational structure itself. In this way, educational institutions can better adapt to technologies, adversities and the accelerated pace of change.

Information needs to be organized in an understandable and meaningful way to enable understanding by workers. Both written messages and auditory or visual communications must be coordinated by educational administrators, including overcoming asymmetries and privileges of information made available to only a few in the educational environment. The information transmitted in educational institutions must be available, be relevant and provide meaning to workers.

The educational institution can act in four categories of indicators. In the biological category, actions to monitor occupational health, safety at work and physical adjustments are coordinated. In the psychological category, workers are valued, psychological support is provided and actions are implemented to encourage motivation at work. In the social category, the offer of training, formal instruction and cultural or sports practices are contemplated. Finally, the organizational category includes ethical conduct, equitable career plans and managerial transparency (Maximiano, 2012).

III. FINAL CONSIDERATIONS

The research clipping, carried out through a survey, allowed to identify the perceptions of effective public servants in relation to the organization of work in a Federal Public Administration Institution. The graduations referring to the perceptions of these servers in relation to the ten factors that make up this dimension of work organization were analyzed in detail. The detailed analysis of each factor in each campus allowed a better understanding of this dimension in each of the ten units of the researched institution.

The research revealed that the worst perceptions in relation to Work Organization factors are related to the convictions of "The pace of work is accelerated" and "The tasks are fulfilled with time pressure". There is a marked perception of work acceleration in this institution, indicating a serious situation. This is the worst result among the factors analyzed with the application of the Work Context Assessment Scale at the institution. This negative perception by the servers can cause discomfort at work and present risks of illness, demanding immediate actions to eliminate or mitigate the causes of this perception.

The quality of teaching, research, extension and educational administration depends on an adequate organization of work, considering the health and well-being of teachers and administrative technicians in education in the fulfillment of the mission and vision of the institution in which they work.

Finally, this work proposes that the organization of work in an institution of the Brazilian federal public administration incorporates the principles of ergonomics of the activity, aiming to favor the satisfactory development of work both for the institution itself, as well as for its public servants, the users served and the external community involved.

REFERENCES

- [1]. Antloga, C.S., Maia, M., Cunha, K.R., & Peixoto, J. (2014). Work Context And Human Cost Of Work In A Brazilian Judiciary Body. *Science And Collective Health*, 19(12), 4787–4796. <https://doi.org/10.1590/1413-812320141912.22252013>
- [2]. Comte-Sponville, A. (2003). *Philosophical Dictionary*. Martins Fontes.
- [3]. Cooper, C., & Argyris, C. (2003). *Encyclopedic Dictionary Of Management*. Atlas.
- [4]. Doron, R., & Françoise, P. (2006). *Psychology Dictionary*. Attica Publisher.
- [5]. Ferreira, M.C., & Mendes, A.M. (2008). Work Context. In *measures Of Organizational Behavior: Diagnostic And Management Tools* (Pp. 111–123). Artmed.
- [6]. Field, A. (2009). *Discovering Statistics Using SPSS*. Artmed.
- [7]. Guérin, F., Laville, A., Daniellou, F., Duraffourg, J., & Kerguelen, A. (2001). *Understanding Work To Transform It: The Practice Of Ergonomics*. Blucher.
- [8]. IFB, I. F. De B. (2021). IFB In Numbers. <http://ifbemnumeros.ifb.edu.br/>
- [9]. Jackson Filho, J.M. (2015). Engagement At Work , Organizational Impediments And Becoming Ill: The Contribution Of Activity Ergonomics In The Brazilian Public Sector Engagement At Work , Organizational Impediments And Illness: Introduction Methods. *Brazilian Journal Of Occupational Health*, 7657(131), 98–108.
- [10]. Lacombe, F. J. M. (2009). *Business Dictionary: Over 6,000 Terms In English And Portuguese*. Hail.
- [11]. Maximiano, A. C. A. (2012). *General Management Theory: From The Urban Revolution To The Digital Revolution (7^o Ed)*. Atlas.
- [12]. De Oliveira, M., Lima, V. M., Yamashita, S. M. A., Alves, P. S., & Portella, A. C.. Experimental Planning Factorial: A Brief Review. *International Journal Of Advanced Engineering Research And Science*, V. 5, N. 6, P. 264164, 2018.