

Working Conditions In An Educational Institution Of The Brazilian Federal Public Administration

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SUMMARY:

This study is a part of the research on the Context of Production of Goods and Services of a federal educational institution, located in the Federal District—Brazil. Using the model proposed by the Work Context Assessment Scale (EACT), the Working Conditions of this Institution that makes up the Brazilian Federal Public Administration were analysed. The study was developed through a quantitative approach and, in relation to the purposes, it is a descriptive and inferential research. As for the means, this research is classified as a data survey, also known as Survey research. The research instrument was made available to the 1,294 effective federal civil servants of this institution, with 424 respondents. This work proposes that the Working Conditions in an educational institution of the Brazilian federal public administration contemplate precepts of the ergonomics of the activity and, thus, favor the satisfactory development of the work both for the institution itself and for its public servants, users served and the community. externally involved with the mission and vision of the researched institution.

Key words: Work conditions. Activity Ergonomics. Educational Administration. Public administration.

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I. INTRODUCTION

Working Conditions (WC) derive from the structural components of the work context. These working conditions are related to infrastructure and institutional support (Ferreira & Mendes, 2008). NoO Frame 1 presents the factors that make up the Working Conditions.

CATEGORIES	COMPONENTS
Physical space	signage, environment, weather, lighting, air, sound
Instruments	equipment, machines, instructions
Equipment	architectural arrangements, installations, furniture
Supplies	material, representative and informational items
organizational support	information, supplies, technologies and assistance

Frame 1. Components of the Conditions of Employment. Source: Ferreira and Mendes (2008).

These components presented in Frame 1 are related to the characteristics of the physical environment, equipment and raw material used, in addition to the available supports.

Insufficient working conditions make it difficult or unfeasible to overcome impasses in carrying out work activities. Circumstances are imposed of prevented activity or opposed activity, which can generate scenarios of wear and suffering for workers and unproductivity for organizations (Silva & Ramming, 2014).

Working Conditions require ergonomic adaptations, among other factors, due to their design often prioritizing technical and economic aspects. Only after defined, dispositions of the equipment, technologies to be used, activities to be performed, etc., that one thinks about which workers will interact with these production instruments (Guérinet *et al.*, 2001).

Studies, such as the one by Larchert Mota et al. (2014), found a direct relationship between working conditions and the occurrence of musculoskeletal problems in teachers and technical-administrative staff. As a measure of prevention and correction of these risks, it is recommended to carry out analyzes of the activities performed, aiming at the ergonomic adequacy of the working conditions.

Living with the threat of accidental or inconvenient events is harmful to work. Occupational accidents are tragic circumstances that can permanently or temporarily affect the health of injured workers under total responsibility, or part of the employer (Lacombe, 2009).

In this sense, the optimization of the productive process in an organization is intrinsically linked to the in-depth understanding of the work context (Ferreira & Mendes, 2008). Furthermore, the understanding and management of the evidence obtained from the perception of workers in relation to their work environment provide valuable resources to achieve the efficiency, effectiveness and effectiveness of production processes (Robbins et al., 2010). The assessment of workers' satisfaction and well-being contributes to the competitiveness and survival efforts of organizations in the globalized and demanding contemporary context (Cooper & Argyris, 2003).

Perception is the process by which individuals select, structure and understand stimuli arising from the circumstances of life and the actions of other individuals. It is related to the importance and meaning attributed to what is perceived, being a personal interpretation of what is observed. In organizations, workers' perceptions influence organizational behavior and productivity (Maximiano, 2012).

The perception of the realization of labor processes is described by Pina and Stotz (2014), based on studies by Dal Rosso (2008), through the distinction between work intensification, increased working hours and increased productivity. In work intensification, there is an increase in productivity or improvement in the quality of production processes due to greater effort on the part of the worker during the same period stipulated by the organization. In the increase of the working day, this occurs due to a greater effort on the part of the worker during a stipulated longer time. On the other hand, in the increase of productivity, there is an increase in production with the same effort of the worker and in the same established period.

The mere intensification of work is associated with exploitation of the worker, such as the extension of the working day, the requirement to fulfill the prescribed work within an established time, regardless of the working conditions offered, and the imposition of stress as a means of pressure in the management of people (Pina & Stotz, 2014).

From this perspective, there is a demand for educational administrators to seek to increase productivity instead of simply intensifying work or increasing working hours. Therefore, the performance of educational administrators needs to consider the perception of civil servants subjected to existing working conditions.

Robbins et al. (2010) identified studies that indicate that administrators may be overestimating what effective management is and misunderstanding the perception that workers have of related organizational aspects. Relevant evidence can be obscured by preconceived notions.

The systematic analysis of behavior is a possibility to overcome the improvised and random observation of organizational practices. This approach derives from the premise that behaviors are predictable, since they are supported by elementary congruences (Robbins et al., 2010). For this reason, it is proposed that educational administrators observe, organize and direct behavior in the organization.

Investigations on organizational behavior associate the hypothesis of job satisfaction with improvements in productivity, due to the potential for employee engagement. Detailed studies have shown favorable results resulting from improvement measures, such as the establishment of challenging tasks, flexibility of schedules and appropriate rewards. These measures can improve communication, supervision, and worker disposition. In turn, such advances can boost performance and, consequently, productivity (Cooper & Argyris, 2003).

Thus, the systematic study approach advocates the observation of work behaviors to obtain scientific insights on the causes and effects of professional activities (Robbins et al., 2010). Therefore, it is argued that behavioral analysis must be rigorously measured and interpreted.

The understanding of work allows the improvement of educational administration and the construction of more efficient ways of working. The development of this perspective, explored in this study, has a French-speaking aspect as opposed to the Anglo-Saxon approach (Alves, 2018).

The choice to develop this work based on the francophone approach reflects the various French influences in the formation of Brazilian thought, as reported by Chanlat (2021). Despite other influences, such as the Anglo-Saxon predominance, the author highlights several French-speaking influences in administrative sciences, arts, architecture, philosophy, among others.

Ergonomics in France is based on a structuring model, in which the activity is the result of a sequence of actions by workers, who have their own protagonism and mobilizations both in work performance and in self-preservation and personal improvement (Falzon, 2018).

In this approach, the focus of studies in ergonomics is the activity itself and not just the search for greater comfort through improvements and modifications in work instruments (Guérin et al., 2001). Ergonomics

encompasses a series of investigations, interventions and psychological and physiological adaptations in the Context of Production of Goods and Services (CPBS), to promote safety at work and occupational health (Doron & Françoise, 2006).

This francophone model starts from the perspective of the worker as an active being, committed not only to his own protection and improvement, but also to carrying out work activities (Falzon, 2018). That is, the perception of the activity's ergonomics contrasts with scientific management approaches, which are based on prescriptions and time and movement controls. Thus, workers' contribution is encouraged.

The French model draws a distinction between activity, being actual work, and task, which is prescribed work. The task encompasses the requirements, necessary resources and objectives to be achieved. The activity, on the other hand, is characterized by the actions of workers in the face of the demands of a task, influenced by the particularities of the tasks and the workers themselves, who perform the work in the organization and the conditions provided by the work context (Falzon, 2018).

For the ergonomics of the activity, it is essential to differentiate and distance the actual work from the prescribed work. While the former refers to what is actually done, with its contradictions and variations in context and people, the latter concerns the scheduled, specified and expected work. In this perspective, the activity involves the performance and stimulation of the worker in the articulation between the prescribed and the real, aiming at the accomplishment of the task (Alves, 2018).

These concepts allow observing that the prescribed work can generate conflicts with the workers, resulting in contradictory actions. This can occur both due to divergences between the organizational purposes and the desires of the workers, as well as the imposition of demanding tasks without the availability of adequate resources for their accomplishment.

II. METHODOLOGY

This study is part of a research on the Context of Production of Goods and Services of a federal educational institution located in the Federal District, Brazil. The research in question plans to carry out a description and analysis of the Working Conditions in an Institution of the Brazilian Federal Public Administration, using the model proposed by the Work Context Assessment Scale (EACT).

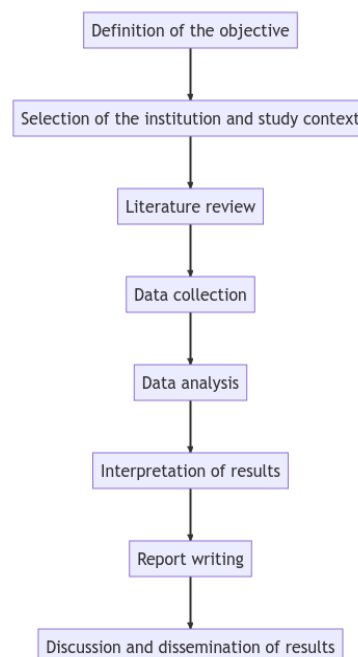


Figure 1. Organization of research in this study. **Source:** De Oliveira et al., (2018), adapted by the authors for the organization of this research.

As for the methodology, this research is classified as a data survey, also known as Survey research. The collected data were tabulated using the Google Forms® tool and subsequently transferred to Microsoft Excel® spreadsheets and to the Stata® software, version 16. Descriptive and inferential analyzes were performed. For the variables that sociodemographically characterize the employees of the researched institution, gross distributions and percentages were calculated. The scores of the items related to the Working Conditions construct were analyzed by calculating position and dispersion measures for each item. These analyzes were replicated for each

of the ten units of the researched institution, as well as for the institution as a whole. In the inferential analysis, the one-way Analysis of Variance (ANOVA) test was used to identify differences in means between the scores obtained on each of the campuses. ANOVA is a statistical test that compares the means of three or more groups used to verify the probability of a difference between two or more conditions, considering the possibility of some sampling error (Field, 2009).

Study submitted to the Ethics Committee for Research in Human and Social Sciences (CEP/CHS) of the University of Brasília (UnB), through CAAE process: 50944421.0.0000.5540, and obtained a substantiated favorable opinion. The analysis of the results was carried out considering the perceptions pointed out by the participants in each of the items, taking into account the standard deviation in relation to the midpoint (Ferreira & Mendes, 2008).

NUMBER	QUESTION
2.1	THE PHYSICAL ENVIRONMENT IS UNCOMFORTABLE
2.2	THERE IS NOISE IN THE WORKPLACE
2.3	THE EXISTING FURNITURE IN THE WORKPLACE IS INADEQUATE
2.4	WORKING INSTRUMENTS ARE INSUFFICIENT
2.5	THE WORKSTATION IS UNSUITABLE FOR PERFORMING THE TASKS
2.6	THE EQUIPMENT NECESSARY TO PERFORM THE TASKS ARE PRECARIOUS
2.7	THE PHYSICAL SPACE TO CARRY OUT THE WORK IS INADEQUATE
2.8	WORKING CONDITIONS OFFER RISKS TO PEOPLE'S PHYSICAL SAFETY
2.9	THE CONSUMPTION MATERIAL IS INSUFFICIENT
2.10	TASKS ARE NOT CLEARLY DEFINED

Frame 2. Working Conditions measurement items. **Source:** Ferreira and Mendes (2008).

These factors mentioned in Frame 2 allowed the participants to express judgments in relation to what Cozby (2003) calls the degree of agreement, which refers to the level of conformity of the perception of these respondents in relation to the statements presented in the scale of evaluation of the context of work used. Collecting the participants' perception through these ten items enabled a more accurate understanding of the work activity, providing better conditions for planning, organizing, directing and controlling the Working Conditions in the educational institution studied.

To estimate the sample size of this study, the formula $n = \frac{SZ^2N}{(SZ^2e^2 * N - 1)}$ was adopted, in which: S = 0.92 (sample variance obtained in the study by Antloga et al., 2014, considering the Working Conditions factor); Z² = value of the standard deviation squared related to the significance level of 95%; e² = sampling error of 5% squared; N = 1,294. Therefore, the estimated minimum sample size is 402 participants. The present study had 424 respondents, thus reaching a significance level of 95%.

DATA ANALYSIS

The study has the participation of 424 federal civil servants from a Federal Teaching Institution (IFE). Among the respondents, there is a predominance of females (56.8%), servants who do not hold management positions (67.2%) and the segment of EBTT Teachers (55.2%).

A Frame 3 presents the measures referring to the ten items that make up the Working Conditions at the IFE. In this Frame, calculated position and dispersion measures are also presented.

Frame 3. Work Conditions factors construct scores.

Items	Minimum/Maximum	Average	DP ¹	Median	IIQ [†]
2.1 The physical environment is uncomfortable	1/5	2,37	1,07	2	4
2.2 There is noise in the work environment	1/5	2,81	1,10	3	4
2.3 The existing furniture in the workplace is inadequate	1/5	2,36	1,08	2	4

2.4 The work tools are insufficient to carry out the tasks	1/5	2,68	1,10	3	4
2.5 The workstation is inadequate to carry out the tasks	1/5	2,39	1,10	2	4
2.6 The equipment needed to carry out the tasks is precarious	1/5	2,50	1,03	2	4
2.7 The physical space to carry out the work is inadequate	1/5	2,41	1,14	2	4
2.8 Working conditions pose risks to the physical safety of people	1/5	1,92	0,91	2	4
2.9 Consumable material is insufficient	1/5	2,54	1,10	3	4
2.10 Tasks are not clearly defined	1/5	2,79	1,03	3	4

‡ Standard deviation. † interquartile range‡.

The construct "Working Conditions Factors" showed lower mean scores in the items "Working conditions pose risks to people's physical safety" and "The existing furniture in the workplace is inadequate", while the highest means were identified in the items "There is noise in the work environment" and "Tasks are not clearly defined" (Frame 3).

Working conditions related to risks to people's physical safety were perceived as satisfactory, with an average of 1.92 and a standard deviation of 0.91 in item 2.8. This favorable perception is beneficial for the researched institution, helps to minimize or eliminate risks of work accidents and contributes positively to the classification of the CBPS in the IFE.

However, the averages and standard deviations of the other nine factors of Working Conditions in the IFE indicate a median perception, which, according to Ferreira and Mendes (2008), suggests a state of alert that requires immediate actions in the short and medium term. by the institution in order to eliminate or minimize damage to the CBPS.

The calculations presented in Frame 1 indicate that the physical environment is rarely perceived as uncomfortable, with a mean of 2.37 and a standard deviation of 1.07 in item 2.1. Sometimes there is noise in the work environment, with a mean of 2.81 and a standard deviation of 1.10 in item 2.2. Overall, existing furniture in the workplace is only rarely perceived as inadequate, with a mean of 2.36 and a standard deviation of 1.08 in item 2.3. Sometimes, there is a lack of work tools to carry out the tasks, with an average of 2.68 and a standard deviation of 1.10 in item 2.4.

Rarely are there inadequacies in the workstation and in the physical space to perform the tasks, with averages of 2.39 (standard deviation of 1.10) in item 2.5 and 2.41 (standard deviation of 1.14) in item 2.7 , respectively. There are deficiencies in the availability of equipment needed to carry out the tasks, with a mean of 2.50 and a standard deviation of 1.03 in item 2.6. The availability of consumables is average, with a mean of 2.54 and a standard deviation of 1.10 in item 2.9. And sometimes tasks are not clearly defined, with a mean of 2.79 and a standard deviation of 1.03 in item 2.10.

Figure 2, presents the dispersion of the scores of the factors that make up the Working Conditions dimension in each of the units of the FI.

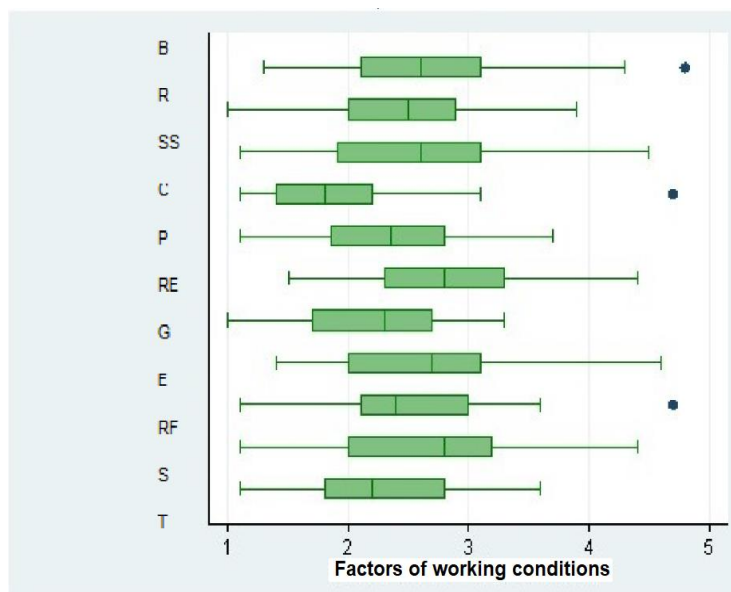


Figure 2. Graphic box plot representative of Work Conditions factor construct scores by campus.

In the Working Conditions dimension of the FI's CBPS, only perceptions of risks to people's physical safety and clarity in task definitions do not differ statistically between the FI's campuses. However, while all units have satisfactory perceptions regarding the safety of working conditions, they all have a critical perception regarding clarity in task definitions.

In item 2.1, campuses C, P and G have a satisfactory perception of the physical environment, while the other units tend to have uncomfortable perceptions of the physical environment. In item 2.2, only Campus G has a satisfactory perception of the existence of noise in the work environment. The other units tend to have a critical perception of noise in the work environment.

Regarding item 2.3, only units R, P and G have a satisfactory perception of the existing furniture in the workplace. In item 2.4, again only Campus G has a satisfactory perception of the available work tools.

In item 2.5, on the adequacy of work stations, five units have a satisfactory perception: R, P, G, S and T. Both item 2.6, on the conditions of the equipment needed to carry out the tasks, and item 2.9, on consumables, are perceived satisfactorily only by the R, G and T units. In item 2.7, only the R, P, G and T units have a satisfactory perception of the physical space to carry out the work.

III. FINAL CONSIDERATIONS

The research clipping, carried out through a survey, identified the perceptions of effective public servants, allowing a specific analysis of Working Conditions in an Educational Institution of the Federal Public Administration.

Among the most positive aspects of the Work Conditions analyzed, the absence of risks to people's physical safety stands out. On the other hand, the existence of noise in the work environment and the lack of clear definitions in the tasks comprise the most negative aspects found in the researched Educational Institution.

There are medium perceptions of discomfort and inadequacy in the physical environment, with noise being identified in the work environment. In addition, there is a regular perception of insufficient or precarious work tools to carry out tasks, as well as a feeling of lack of consumables, tasks that are not clearly defined and the inadequacy of existing furniture in the workplace. In view of this, Ferreira and Mendes (2008) highlight the need for managers to be alert in the institution, demanding actions in the short and medium term to eliminate or, at least, minimize the damage to Working Conditions.

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