


**STRATEGIES TO COPE WITH REPETITIVE WORK IN THE TEXTILE INDUSTRY**

 <https://doi.org/10.56238/sevened2024.029-043>

**Alana Pires Dale<sup>1</sup> and Daisy Moreira Cunha<sup>2</sup>**

---

**ABSTRACT**

This is an ongoing doctoral research, which aims to identify the coping strategies used by workers in the textile industry in the face of repetitive work, we carried out a case study, based on the Ergonomics of the Activity and Ergological Approach to Work. With the participation of workers from a textile industry in the interior of Brazil. Observations, document collections, and semi-structured individual interviews were carried out. As strategies, we identified the reduction of the work pace, the use of knowledge related to machines and operations (constituted and invested), ingestion of medications, stretching before and during activities and the choice of the best way to transport materials. Even in the face of standardized procedures, it is clear how workers make *use of themselves*, through individual and collective constructions, in the search for the preservation and maintenance of health. In the search for the preservation of health, individual and collective actions and constructions stand out, even in the face of strict prescriptions.

**Keywords:** Repetitive movement. Coping strategies. Textile industry. Occupational risks.

---

<sup>1</sup> Doctor in Education  
Federal University of Minas Gerais

<sup>2</sup> Doctor in Philosophy  
Federal University of Minas Gerais



## INTRODUCTION

Similar to what happened in many countries, in Brazil the textile sector was one of the pioneers among the industries and still has great importance for the national market and economy. In our territory, in 2017 there were 29 thousand formal industries operating in this field of activity, being the 4th largest clothing production park and the 5th largest textile producer in the world. In that same year, the revenue of this production chain reached US\$ 45 billion, with annual production of 5.9 billion pieces. The sector directly employed 1.479 million workers, reaching 8 million, including indirect hiring, of which 75% are women. It was the 2nd largest employer in the manufacturing industry, behind only the food and beverage sector (ABIT, 2017). In the period from January to September 2019, the textile and clothing sector generated 14,504 formal jobs in the country, in addition to 137,269 in the transformation sector (ABIT, 2020).

Even with so much strength within the national market, the textile industries suffered a great impact in the face of international competition, which forced national companies to seek ways to remain among the largest producers in the world. Its efforts consisted mainly of investments in the modernization of production and machinery. Recent data provided by the Brazilian Textile Industry Association (ABIT) show that in 2018 the country invested a total of 1.92 billion reais, increasing in 2019 to 2.02 billion (ABIT, 2020). The main threat to the Brazilian market comes from Asian countries, especially China, India, Pakistan, South Korea, Taiwan, Indonesia, Malaysia, Thailand and Bangladesh, responsible for 73% of world production. It was from the entry of foreign products that many small and medium-sized industries closed their doors in Brazil, due to the difficulties encountered in competing with the low prices offered by competing companies. So, its bet was on the production of superior quality items, taking advantage of the fact that it is one of the few owners of the entire production chain and a major producer of its main raw material, cotton.

The choice of the field for this study came from the expressive prestige and value that the textile industry has in the region where one of the researchers lives. This sector is a great generator of jobs and income for the municipality. Currently, in the company that is the focus of our research, the number of direct workers is around 750 people. Operating 24 hours a day, seven days a week, consisting of three eight-hour shifts. Not unlike most industries in the country, it is also going through a process of modernization of machinery, which occurs at a slow pace, due to lack of capital for investments. The purchase of new equipment has been happening gradually, and this process, which clearly benefits the quality and speed of production, is also responsible for the dismissal of workers, who make a living from this work.



Marx (1975/1890) already brought the importance of machines in industrial production, especially in the textile industry, but placed as the main function of the worker that of serving the machine, thus following its rhythm, mostly constant and uniform. What the author does not discuss in this passage are the singularities of the subjects, revealed in the real of the work.

In a study carried out by Saraiva & Provinciali (2002), in a textile industry organized based on Taylorist principles, it was found that 74.6% of the workers do not have any type of autonomy in relation to the operations carried out within the company, however a contradictory discourse is perceived, which I believe is related to what the Ergological Approach to Work and the Ergonomics of the Activity recommend, the distance between prescribed work and real work, as at least half of the workers heard in the survey highlight the importance of initiative and personal judgment in the performance of work activities. In other words, the machine demands, but the worker manages even if infinitesimally to put a little of himself into the activity, adapting in subtle ways to his personality.

Santos & Marques (2006), in a study with *call center workers*, witnessed 46% of the subjects reporting the lack of autonomy to reorganize their work activities, considering that the Taylorist model is predominant in relation to the organization of work in that place.

Taylor ignored man as a unit, valuing only the mechanical aspect of the workers (Friedmann, 1956). It aimed at work in standard time, with simple execution movements, inducing the worker to automatism, which were mere executions of predetermined tasks (Oddone, Re & Briante, 2008).

The operative type of work constantly seen in the activities guided by this Taylorist model is characterized by explicit and embarrassing prescription (Schwartz, 2004). Through it, there is a rationalization of the work and the actions performed by the workers, treating them in the same way as the local machinery, resulting in a clash with the vital resistance of the subject who works, possessing strong singular interests, which stand out from the constant attempt at control. Taylor's knowledge in the field of engineering provided him with a superficial thinking in relation to human subjectivities, believing that he could prevent workers from thinking during their work and the consequences of their actions. It was aimed only at subjects performing tasks (Canguilhem, 2001).

But from the need to modernize spaces and equipment, in view of the growing entry of competition in the domestic market, we observe the gradual increase in the use of the Japanese model in industrial production processes, according to Trindade (2016), the implementation of Toyotism in Brazilian industries does not occur in the same way as it is done in its country of origin, Japan. The socio-historical development of each nation marks



the level at which such a process will take place. In Brazil, we still witness the use of different production models, in certain sectors of the textile industry, there is the coexistence of the Taylorist-Fordist pattern (control of time and mode of production), as well as the presence of the Toyotist pattern (organization of workers in cells, production on demand, flexibility in production, at work and with workers, kanban, diversity of products, intensification of work).

In contrast to what we say about Taylorism and the transmission of knowledge among workers, in the Japanese model, this process is no longer so simple, as working in cells makes it difficult to contact and exchange information between colleagues (Trindade, 2016). Thus harming the transmission of knowledge, arising from collective constructions and passed on among workers.

In Toyotism there is also the alteration of machinery and the industrial plant (with an environment previously full of workers, allocated side by side), for spaces occupied by modern machines and flexible production, which requires a reduced number of subjects to carry out the operations or simply supervise the machines (Heloani, 2003). A new profile of worker emerges, previously unobserved, they are polyvalent, qualified individuals, with freedom to express their creativity and autonomous (Jinkings, 2002).

Much is said about the growth of the Japanese model in industries, a true fact, but which does not cancel out the still prevalence of Taylorist principles in these sectors, they coexist. Trindade (2016) brings in his article this aspect, the advance of the Toyotist system in the textile industry, however, he reiterates the non-rupture with the previous processes (Taylorism/Fordism), this mixture, according to the author, is observed in production as a whole, in different sectors, it is possible to identify the adoption of different modes of work organization.

Santos and Marques (2006), on the other hand, bring this coexistence of two models separated at the macro level with the adoption of Toyotism and micro of Taylorism. This is how they describe the activities of *call center workers*, in which they have characteristics of "a flexible production that satisfies a globally segmented and networked production organization" (2006, p. 81). But together with a standardized arrangement, with routine, equal activities, with no room for maneuver, imposed and not very complex.

Even in an emerging context of flexible work and technological modernization, in the company addressed in our study, Taylor's production model stands out as a managerial and administrative culture, whether in the organization of tasks, space, or the way workers are monitored. In a few items there is the intention of making the tasks more flexible, which are



minimal. The lack of resources for the total replacement of machinery is one of the reasons for the still domination of the Scientific Administration of Labor in this place.

This is then an important point in our study, the indisputable presence of real work in the work activities developed, even in the most rigid and controlled environments, with a small margin of autonomy in the choices of their actions, a point witnessed in the observations of the work and in the speech of the subjects, making clear the diversity of knowledge built from needs confronted in daily life, and competent especially in situations that make people sick.

But one thing is certain, regardless of the model adopted by the company, the characteristics of capitalism in general are determined in: owners of the means of production aiming at the multiplication of their income and, in capitalism, this process occurs through surplus value, also called surplus labor, which corresponds to the value produced by the worker minus the exchange value of labor power (wage) (MARX, 1971/1890). It is the surplus value that the capitalist appropriates, his source of profit. It represents, in a way, the rate of exploitation of the worker's labor (Netto & Braz, 2006), Marx (1971/1890) brings this situation as unpaid work, and explains,

The capitalist pays the value of the labour-power, or its price, which does or does not coincide with the value, and receives in return the right to dispose directly of the living labour-power. He enjoys the force of work in two periods. In a period, the labourer produces only a value which is equal to the value of his labour-power, and therefore an equivalent. The capitalist thus receives a product of a price equal to that which he paid for labour-power. [...] But in the period of surplus labour, the labour-power which the capitalist uses produces for him a value which costs him no return. It exploits the labor force free of charge. In this sense, surplus labor can be called unpaid labor (1970/1890, p. 612, 613).

Silva, Silva & Mendes (2017) reinforce this idea by bringing the constant search of companies to multiply the gains on the use of working labor, thus leaving fundamental aspects for working with health in the background. Including an adequate organization of work, in addition to material and structural aspects based on the local reality and the subjects there.

The lack of appreciation of the good working conditions and life of workers is a determining factor for the multiplication of agents harmful to health, which generate suffering and illness. In a study carried out by Santos, Paula & Pereira (2009), in a textile industry, several risks were identified, among them: physical (noise and heat), chemical (dust), psychological (stress), ergonomic (inadequate posture, repetition of movement) and mechanical (accidents with machinery).



In view of these realities experienced at work, composed of sickening situations, and devoid of individual adjustments, the subjects use strategies to face the existing adversities on a daily basis, which are their tools for permanence at work. Bring

These strategies they use are in a way a mechanism used by everyone within the work, in particular ways, motivated by the needs of each one and guided by knowledge and values.

Work routines with repetitive characteristics are in fact distinct in their details, and they require and allow, even if timidly, the worker's private intervention. The protection maneuvers are created and improved throughout a life history, inside and outside the work environment, it is from the awareness of the actions performed and their consequences on the body and the psyche that the subjects are able to make their choices/arbitrations, carrying out a necessary debate between their personal norms, the norms preceding it and the concrete situations they find before them, the main point covered by ergology, the reactions of workers in the face of the infidelities of the environment.

From these situations of debate, which require daily struggles to maintain health, personal and family sustenance, we want to understand how it occurs and what are the forms of protection against the risks present in repetitive work. How do workers build strategies?

With this process, we seek to immerse ourselves not only in what is verbalized by the workers, but also in the actions performed unconsciously, with ingrained attitudes, built and used throughout a working life.

Seeing the context of how the strategies are used, their characteristics and particularities, we can then think of them as an activity, as it encompasses the intimacy of each worker, their actions and arbitrations.

Thus, we aimed to identify the coping strategies used by workers in a textile industry when performing repetitive work.

This article is part of an ongoing doctoral research, bringing data measured up to the time of submission of the text.

## **THEORETICAL PATHS IN SEARCH OF THE USES OF THE SELF**

Strategies are actions or behaviors used when subjects must deal with a danger or enemy, situations that present problems or threats, as in the case of an unhealthy work environment, representing a part of the real work activity. According to Dias, Santos & Aranha (2015, p.221) "it is in the nature of human beings to reconstruct the environment in which they live in order to guarantee their singular existence". According to Canguilhem



(2001, 2009), for the subject to maintain his health, he needs to establish his own norms, in front of external norms.

Guérin, Laville, Daniellou, Duraffourg & Kerguelen (2001) point out that, when subjects perceive the body's signals that something is wrong, through pain, discomfort, limitations, they immediately seek new ways to perform activities, their operative modes, within the margin of available freedom. They also add that the work activity is "a strategy of adaptation to the real work situation, object of the prescription" (2001, p. 15). In other words, it is always this confrontation between organizational protocols and the individual reality of work, divergent from a mechanical scenario, but expressing singularities in the doing.

Strategies for adapting to situations represent real activity. This encompasses a set composed of body, thought, desire, representations and history, which are developed in the personal (here are the coping strategies) and social dimensions of the subjects (Guérin et al., 2001).

The Ergological Approach to Work deals with several issues with regard to this search for strategies, not using this term exactly, but making discussions that lead us to such a discussion. In the approach brought by Schwartz & Durrieu (2015), reconfiguration, that is, renormalization of imposed norms, is a universal act in human activity. And why do the subjects do this? The answer is the search for a healthy life. According to the authors, living in health is not accepting the impositions of the environment, without first questioning them, hierarchizing them, trying to adapt, create and renormalize them.

When a worker is deprived of making deviations, choices in his actions, necessary for the maintenance of his well-being at work, he gets sick. The deprivation of freedom of choices in doing is pathological (Canguilhem, 2009). But the ability to create your own rules and put them into practice is a process that requires time, experience, and knowledge exchanges. Canguilhem (2009) reiterates that health is "a balance achieved at the cost of incoactive ruptures" (2009, p.131), where the subject, when faced with threats, creates new constitutive elements to maintain it, that is, to be healthy is to be able to be normative in the face of the risks of the environment, in different situations, to have the possibility of tolerating infractions in relation to the usual norm and to create new norms. Life is made up of debates, explanations, escapes and dodges, and not, as some imagine it, monotonous and rectilinear. Daily interventions and creations are required, and at every moment, because one day-to-day work is never the same as another.

The creation of strategies is a consequence of learning and experiences acquired at work, and time is paramount in this process. The know-how, the competencies and



subjectivities of the subjects are fundamental when defining these mechanisms, providing the subject with the ability to dominate the production and infidelities of the environment. In most cases, what defines these individual choices are the criteria of values attributed by each one (Assunção & Lima, 2009, Guérin et al., 2001).

Schwartz & Durrive (2007) bring strategies as doing things in a *different way*, that is, workers are constantly using *themselves* in activities. These changes have to do with the distance between the prescribed work and the real one, which refers to the activity performed by *the body itself*, they are acts that most of the time occur unconsciously, without the need to think about each gesture to be performed. And I reinforce by stating that this distance is explained according to the values present in that environment, which guide and define each activity. Still on the *body itself*, the authors continue, it is the "arbiter in the most intimate of the activity, it is not a delimited, defined "subject", but an enigmatic entity that resists attempts to be objectified (2007, p. 198)".

The subject who acts, chooses, arbitrates in the face of work situations, performs uses of *himself in the activity*. It is composed of values, knowledge and skills. Attributes that give room for them to reinvent their ways of living, of being, of surviving with themselves, with the world and with others (Schwartz & Durrive, 2015). The individual then carries out debates between his own norms and the antecedent, organizational norms, dare now, he renormalizes.

Renormalizations, which are multiple managements of variability, of holes in norms, of weaving of human networks, are actions that are difficult to anticipate how they will be done, as they come from singular beings in work situations, allowing for micro-decision variables that concisely define the result of the activity (Schwartz, 2011; Schwartz & Mencacci, 2008). In addition to providing our highlight of this study, the creation of unique strategies to face the challenges of the environment (Schwartz, 2000).

According to Schwartz & Durrive (2015), renormalizing is a universal factor among workers, as strictly complying with external standards is *impossible*, a fact that has already been highlighted, in which each worker, based on needs, makes individual options for actions in the activity. And it is also *unliveable*, that is, harmful to health, because it tries to treat different beings in a similar way.

In the work environment, these renormalizations are used so that the worker is healthy to keep working, in order to meet his subsistence needs. "Health begins with the attempt to partially redesign the environment in which one lives, according to its own norms elaborated by its history" (Schwartz & Durrive, 2015, p. 334), and this work on norms is guided and hierarchized based on a set of values.





But for adequate renormalization to occur, the worker's global and organizational knowledge must fit into the specific knowledge for each situation (Schwartz, 2014). That is why it is important to highlight the importance of knowledge at work, as it is a contributing factor to coping.

Based on the general objective of this study, we can consider the *use of oneself by itself* as our main point, as this term designates the ability to reinvent a certain way of being at work individually and collectively. In other words, it is the alchemy of a *body-itself* that considers the pre-constructed (the prescribed) and gives it its singular form (Schwartz & Durrive, 2015), thus enabling the construction of coping strategies.

The *use of the self* means, then, to put into action memory, body, gestures, sensibility and intelligence, coming from the experience of the subject himself and his history, in the face of the infidelities of the environment (Schwartz & Echternacht, 2007; Schwartz & Durrive, 2007). In the activity, the subject is summoned in his singularity, equipped with capacities much more complex than those required by the task (prescribed work) (Durrive & Schwartz, 2008). Uses impose on subjects the continuous realization of permanent micro-choices (Schwartz, 2014), considering that no day is the same as another.

By making *use of themselves* over the impositions, the workers manage to renormalize, keeping them at work, healthy, confirming the idea of Schwartz and Canguilhem.

In the company, the focus of this study, these variations during the day are easily observed, even though their main characteristic is repetitive activities. Among these deviations are: lack of material, or of some operator, defect in the machinery, change in the quality of the material (cotton), defect in the product.

## METHODOLOGY

This is a case study, supported by the Ergological Approach to Work, which is the main support for understanding the relations of the use of labor within the textile industry in question. In addition, it helped to understand how norms and prescriptions try and often succeed in neglecting the uniqueness of workers, causing damage to their health (Schwartz & Echternacht, 2007). We also use the Ergonomics of the Activity, with the important contribution to the understanding of the relationship between the prescribed work and the real work, and above all in the constant negotiation and distance between them, when it reveals the true density of the activity, that is, showing that the activity is never the pure chain of rules and procedures designed by the organization for the worker.



Such bases support us in the understanding of human activity, focusing on "its actions, its functioning, its intentions, its values and competences, knowledge and meanings that it attributes to its work and the tasks that are assigned to it" (Cunha, 2009, p. 228). In order to understand the work activity, we must give voice to the subjects who experience the process that occurs in that environment, and not to a model of study of prescriptions and manuals for performing certain tasks (Moraes & Pinto, 2011).

The research was carried out in a textile industry in the interior of Brazil, and had as main participants of the study, workers who perform repetitive movements. But we highlight that foremen, inspectors, managers, laboratory technicians, occupational safety technicians, those responsible for the human resources department, operators from other sectors, at different times were essential for a better understanding of the company's activities and the construction of the research

The investigation was divided into two parts, an exploratory phase, which refers to the approximation of the research problem with the place, population studied and production process. It is a phase of deepening that aims to emerge with detail in the individual strategies of each worker.

In the exploration phase, the global recognition of the industry was initially made, with exploratory studies with observations to understand the production process, with regard to the arrival of cotton, until the departure of the fabric already printed, which enabled the elaboration of a complete flowchart of the industry. Cursive observations – without dialogue with the subjects – and participatory observations – with some dialogues, but without intervention in the progress of the activities – of the chosen segments. To complement the observations and ergonomic analysis, we also collected the Operating Procedures (O.P.) adopted by the industry, which are written documents that contain the operations that each function must perform during its activities. It is a standardized document, without adaptations to the individual characteristics of workers, that is, common to all workers.

After some visits to the company and conversations with foremen, three functions were chosen to participate in the research, all in the spinning sector: spinning mill lowerer, autoconer winder operator and 2nd pass dowel operator. For this selection, we used the main inclusion criterion of the project, which is the performance of repetitive movement (of different durations).

During the observation phase, all workers in these three sectors were monitored. They were invited to the interviews, but only nine agreed to participate.



Focusing on the immersion of the coping strategies used by the workers, we conducted semi-structured individual interviews, guided by generating themes and confrontation with the content captured in the observations (the reasons why they perform the activities in certain ways), at this moment when we sought to identify the reason for adopting each action, in each situation.

Topics such as working time, turnover, professional training, age, gender, feeling of discomfort at work, autonomy at work, illnesses, cooperation among workers, among others, were addressed.

But throughout the process, whether in observation or in interviews, it is evident the difficulty in capturing aspects as small as knowledge, values, *uses of oneself*. Issues that are often unknown to them, but which in reality are the true protection strategies. The construction of protective means against occupational risks are actions that we can perceive when we compare individuals, activities in relation to operational procedures, or after questioning during interviews. Protection is for them, a doing in another way, different from what is prescribed, but better for him.

## RESULTS

In this first moment, we present characteristics of the field of study and the population in focus, as well as general data from the deepening phase (still in the process of content analysis).

Even though we do not have the final results of the study, it is already possible to visualize characteristics of the activities performed, risks present in the tasks and some coping strategies.

In the observations, 15 workers from three functions were followed: spinning mill lowerers (three men and one woman), 2nd pass passer operators (three men and one woman) and winder operators (seven women).

We noticed that there are characteristics common to the different functions, such as the performance of repetitive movements, however each one requires movements particular to its function and distinct among each worker, thus representing the singular activities.

Below we bring general data regarding the three functions covered, focusing mainly on the characteristics of the tasks.

- Ring spinning: they are responsible for harnessing, unloading and loading the spinning machines. Its characteristics are the performance of repetitive movement; standing all the time; carrying weight; ergonomically inadequate posture, risk of accidents, agility requirement, high temperature of the



environment; intense noise. The most compromised body parts in this sector are legs; column; Shoulders; Fingers; neck; Elbows; Fists.

- 2nd pass passer: Its main function is to duplicate, standardize and parallel the cotton fibers. Their activities are characterized as repetitive in many moments; with permanence in the standing position; high ambient temperature; intense noise; excess cotton powder in the air and in machines; constant attention; handling of large materials; risk of accidents; excessive tasks, machines ergonomically inadequate for workers. The most compromised body parts in this sector are legs; Shoulders; Arms; Elbows; column; Fingers.
- Autoconer winder: Its main assignment is to transform the bobbins of the spinning machines into coils (packaging change). We observed as typical of this function, the performance of repetitive movements; standing at all times; displacement of heavy objects; risks of accidents; ergonomically inadequate posture; need for constant attention and agility; charging for product quality; multiple tasks. Due to this character, the parts of the body of workers that are most affected in this sector are, legs; column; Shoulders; Elbows; neck; Fingers; Fists.

Among the functions observed, that of spinning harness is the one with the lowest number of tasks, forcing workers to remain for a long time concentrated on the same activity, which basically consists of the movement of removing bobs and putting shins on the spindles. But I reiterate that the repetition of movements is present in the 3 functions observed, since this is the mandatory characteristic for the choice of groups.

Repeated actions can be presented with different cycle durations, that is, short, medium and long. In addition to movements that are also distinct on certain occasions, what we must take into account mainly is the totality of repeated movements made throughout the workday, resulting in a sum of loads on the subject who worked there (Brasil, 2018).

The movements, in addition to being repetitive, must also be agile, as it is the responsibility of the workers to maintain control and full operation of the machines on which they work. The non-cessation of the machines is fundamental, whether due to lack of material, lack of lowering or cotton. In the midst of the tasks to which workers are submitted, constant attention to the operation, movement of machines and what happens around them is paramount, both for the activity to occur harmoniously and for accidents to be avoided.

The causes of accidents or occupational illnesses can be related to some factors present in this environment, among them we can mention as health risks, carrying heavy boxes without proper care, handling large materials, standing up throughout the working



day (in the three sectors there are times when there are no activities to be carried out, even so, they must remain in a standing position, which can reach three hours in a row).

Regarding the postures adopted at the time of work, many variations were observed, according to employees of the company's Human Resources (HR) they seek to allocate workers with an anthropometric profile consistent with the machine in which they will work, such as in the winder, which is a short machine, they only have women working, they report that they are better suited because they have a smaller stature than men. However, it was possible to perceive in the three functions, the adoption of inappropriate postures and excessive effort to reach materials and handle the machines.

In addition, there are other characteristics such as high temperature, intense noise and excess cotton dust as factors that can be harmful to the health of workers in the long term, causing respiratory tract diseases, hearing problems, among others.

When asked about quantitative production targets, they said there were none, but mentioned the demand for the quality of the products (bobbins, bobbins), resulting in fear about possible failures and defects in the final material.

We have observed above that there are several risks present in this environment. But even with so many factors that would be key to serious illnesses and absences from work, we realize that many there have been working in the activities for years, and this question that worries us, what coping strategies do these workers use to, even performing activities with so many risks, be able to stay working?

The strategies are unique among the workers, but built from a collective, which in the face of obstacles, always seek the "best way", and are then, subsequently, appropriated and renormalized by the individuals, based on their constituted and invested knowledge, their values, internal norms and experiences.

The group of subjects who participated in the deepening phase is very diverse, in terms of age, time in the job and education.

Chart 2 – Profile of the workers interviewed

Name	Age	Time in the role (years)	Industry	Schooling
Raquel	25	4	Colander	Complete high school
John	42	10	Arriador	Complete Fundamental
Thulium	44	7	Colander	Fourth grade of elementary school
Sofia	49	8	Winder	Fourth grade of elementary school
Peter	50	8	Arriador	Fifth grade of elementary school
Fernanda	53	30	Winder	Complete high school
David	53	19	Arriador	Fourth grade of elementary school
Erica	56	4	Winder	Seventh grade of elementary school
Mary	60	10	Winder	Complete high school

Source: Author's archive (2019)



Taking into account all the risks presented above, which were identified in the observations and dialogues with the participating workers, we then sought to identify the individual and collective strategies used by the subjects in order to maintain health and work.

We present this data with separation by functions, thus facilitating the explanation of the data and descriptions.

## SPINNING HARNESS

Among the functions assigned to the lowering agents is the transport of material from the spinning mill to the winding sector. What we must analyze in this task is the way each operator transports the boxes between the carts and why they choose such actions.

According to Schwartz & Durriue (2007), the study of "doings" at work is the best way to assess the personal values of workers. For, as Friedmann (1956) states, behind all work there are workers, and behind these subjects there are social and moral relations that integrate them.

In this activity, David and Pedro choose to carry two or three boxes at once, claiming that even though it is heavier, they prefer the greater agility of the process. João, on the other hand, unlike the others, chooses to handle only one box at a time, reporting that this is the least harmful way to health, in addition to the fact that there is no need to perform such an activity at a higher speed.

These choices are renormalizations made from the *uses of the self* always aim to find the best way, the best way to carry out the activity, each in their own way, with a constant search for well-being at work, these interventions can come in the form of: implementing their creative capacities, creating defense mechanisms against the risks of work and placing themselves as unique beings in the midst of a collective (Silva, Silva & Mendes, 2017).

This activity, even though it is not included in the P.O., is the function of all spinning mills, as it is one of the processes that make up the task as a whole. Because they are not included in the manuals, workers have freedom of choice in relation to the way of doing things, each one chooses the way they believe is most appropriate, as reported above.

Sometimes, you wanted to do it one way, but you see, "oh, guys, what nonsense", sometimes you do it just as quickly, you save time for the same thing, to pick it up, the same way you pass it, put it quickly there, the same thing as you take two, three boxes, there's no need, you have to look at your body (João).



The intelligence of workers arises from routine constructions, and even illness can be a driver for learning, resulting in knowledge that will help in future activities.

This was the case with Pedro, after an elbow injury, caused by the repetitive movement of removing heels. After becoming ill, the worker created his own way of performing this action, thus avoiding the aggravation of the damage already installed, in addition to other pathologies related to this activity.

This ability to change, create, renormalize, do differently, make *use of oneself* has a direct connection with the experiences lived at work and time in the function, allowing the subjects to expand their knowledge and their abilities to deal with adversity (Oliveira & Brito, 2011).

It is this placement of knowledge in the action of working, personalizing activities, rewriting history in the form of renormalizations (Schwartz, 2003), that characterizes these changes in the way of "doing", filling the void of norms existing in labor relations (Schwartz & Durrive, 2007), thus placing their own norms, always seeking their own benefit.

Pedro, still starting from his history in the spinning mill and knowing the times and rhythms of production in the spinning mill, proposed to the other tillers (from the other shifts) the separation of two or three machines per pair, to carry out the cleaning of the spindles, thus reducing the number of tasks and consequently the intensity of work for all. But the lack of commitment of some resulted in the failure of the strategy, resulting in the obligation of all workers to carry out the total cleaning of the machines. This is an example that demonstrates a loophole in the rules in relation to the tasks to be performed in the sector, giving workers the opportunity to define certain actions, but without the union and collaboration of all, it is not effective.

The organization that opens up to the knowledge of workers, giving them even minimally the opportunity to change ways of working, significantly reduces the suffering caused by rigidity in the conduct of activities. In addition to maintaining health, workers can also contribute to production, as they are great connoisseurs of the real work (material used, operation of machines, common failures). Activity Ergonomics defends the autonomy of subjects within the work, whether in relation to the organization, environment and/or components for carrying out activities. Making it clear that this should be a reciprocal relationship, in which the two parties should come to an agreement, thus resulting in mutual gain (Wachowicz, 2013).

This passage also reiterates the importance of work and collective constructions, thus benefiting the entire working group. But as identified in this study, without everyone's collaboration, changes do not occur effectively.



These collectives of workers can also create their own norms, based on the problems faced in the activity (Schwartz & Durrive, 2015), as in this case, the cleaning of the spindles, a high-intensity and fast-paced activity.

Davi, who has been in the textile business for 19 years, mentions that at certain times during the unloading or cleaning of the machine, he feels muscle pain in the neck and legs, so, to alleviate such discomfort, he chooses to reduce the pace of work or do brief stretches, right there, in the middle of the machines, actions that have never been encouraged or taught by the company's organization, but rather a choice of the worker based on his need.

[...] It goes slower, it cleans cleaner. Then the person in charge arrives and shows him that it's too dirty. "There's no way to get it out quickly, look at the dirt" (Davi).

This is the way found by the operator to face some of the consequences of performing repetitive motion, a way that provides him with a reduction in discomfort, permanence in the activity, without harming production.

It is known that remaining in the same position for a long time, whether standing or sitting, performing activities that require a lot of strength, intensity or repetitiveness of movements are major causes of damage to the health of workers. And that most of the observable ergonomic risks can be mitigated or avoided through a change in posture after a certain time, adequacy of furniture and equipment (Trindade et al., 2012, Trindade, Schuh, Krein, Ferraz & Amestoy, 2012).

The sickening character of work situations makes the activity propose, convene and impose choices and arbitrations, thus producing solutions to the problems posed by the environment (Schwartz, 2004), these resources used are directly related to the workers' knowledge.

The know-how, the competencies and subjectivities of the subjects are fundamental when it comes to defining maneuvers, providing the domination of production and its negative deviations. On most occasions, what defines individual choices are the criteria of values attributed by each one (Assunção & Lima, 2009, Guérin et al., 2001). Schwartz & Echernacht (2009) state that the environment is transformed according to each subject and their values, which constitute the reference systems for the needs of life throughout history. They are then experiences built throughout life, inside and outside work.





## SECOND-PASS DOWEL OPERATOR

Using the knowledge about the machines, their operation and the dynamics of activities in the sector are important strategies adopted by the operators of the dowel.

According to Túlio and Raquel, this knowledge, which is acquired mainly in daily situations at the factory, contributes significantly to a good conduct of activities, thus facing their infidelities, providing independence in actions, within the margin allowed by the organization.

According to Daniellou, Simanrd & Boissières (2013), knowledge is fundamental in work activities, in coping with the variabilities and infidelities of work, requiring actions that are different from those existing in pre-existing manuals and procedures. Thus providing autonomy and security in the face of work situations.

The time and experiences in the function contribute directly to the construction of knowledge, which provides a broader repertoire for the performance of professional activities (Tardif & Raymond, 2000).

An important point in the question of workers' knowledge is, in the work environment, it must be transformed into actions, renormalizations, debates, thus building their real activity. This knowledge must always be renewed, transformed, improved, aiming at the benefit of the subjects at work (Schwartz, 2003). But I emphasize that it is not the main responsibility of the worker to circumvent the risks of work, but of the organization to prevent them from existing. This reality, which requires the adoption of means of protection, is experienced by everyone on a daily basis, with routine constructions and adjustments.

Still on knowledge, it was observed constant use of the so-called "can fold" or as they say, the act of "unequalizing the machines", a strategy that consists of passing cotton ribbons from one can to another, so that they do not run out at the same time, an act that results in a decrease in the pace of work, while each can must be replaced at different times.

It's calmer, then you can work more calmly, because if you just splice, splice, even for you drag cans, give a job, because six passers, 3.5 finishing the cans, because it's eight cans, eight cans, right? For each sieve, imagine the can for three equal strainers there, we work like this to give him an unequal to make it easier for the worker (Túlio).

For this task, each operator defines the moment to perform the can folding. The way of doing it is described in the P.O. of the function, but what really happens are different actions between each operator and not consistent with the prescriptions. Thus, a certain degree of mobility is perceived in relation to the ways of doing things in the sector. Túlio justifies the reason for these actions.



[...] But sometimes we do this to make it easier for us, because at meal time there are only two people, then so it doesn't run out, then sometimes there is a machine that runs out of cans, then if you did that, then you go one, fix it, then when you come back it's calm, right? But it does more because of that, but actually they forbade it to do that [...] (Túlio).

It's calmer, then you can work more calmly, because if you just splice, splice, even for you drag cans, give a job, because six passers, 3.5 finishing the cans, because it's eight cans, eight cans, right? For each sieve, imagine the can for three equal strainers there, we work like this to give him an unequal to make it easier for the worker (Túlio).

Schwartz (2015) states that external norms serve as guides for carrying out activities, but do not have the capacity to produce real work. According to Guérin et al (2001), the task, even if it is mostly limiting, is also essential, because from the moment it determines the activity, it also authorizes it (Guérin et al., 2001).

Regarding the construction of strategies, Raquel draws attention to some points. When asked about the use of these means of protection, the operator reports that working in the sector is indeed sickening, but that, with the passage of time and the acquisition of experiences, you acquire skills and learn to work with health.

Unequal, for example, you arrive, take the eight cans, everything is the same, then everything ends up being the same. The first thing you have to do when you take a shift is to unequal the cans, you have to work with your head (Raquel).

In the conception of Oddone et al. (2008), it is experience that provides workers with the ability to create health defense mechanisms, and they call such competence "smartness", that is, they are procedures created in order to improve working conditions. Guérin et al (2001) also defends experience as an ally of health at work, as it helps subjects when protecting themselves from occupational risks.

The worker, as well as other operators in the industry, tells about the difficulties she faced at the beginning of her career in the factory. One of the problems that hit him was pain resulting from the physical effort necessary to carry out the activities. Faced with this problem, they often opted for the ingestion of medications that would alleviate such discomforts, using them during and/or after work. He says this is the way he found to stay at work.

In the beginning, I felt a lot of pain in my legs, in my knee, from going up and down stairs a lot, I even felt pain in my shoulder too, I think the issue of cages being high, but, as you say, as time goes by we get used to it (Raquel).  
Until we get used to it, we take medicine, medicine for pain (Raquel).



Neves & Nunes (2010) also identified in their study the search for ways to "silence" pain at work, in order to preserve employment, their source of income. Self-medication was the main strategy used by the workers studied. This is often the last alternative found by subjects who do not have the autonomy to change the ways of doing the work.

During the interview, Raquel highlighted that she learned a lot from her co-workers, observing them and questioning them. The reproduction of what he saw provided him with gains in relation to easier performance of tasks, reduction of energy expenditure, increase in performance.

In this regard, Clot (2010) points out that the collective is in the individual as an instrument for action, created from the external exchanges that occur between the groups. The knowledge existing in a work environment, resulting from the creations of the collective acting there, no longer belongs to each of its creators, but rather as a tool available to those who need it, incorporating it and putting it into practice based on the needs faced.

But one point deserves to be highlighted, the appropriate knowledge of the collective is, by the reworked worker (Clot, 2010), as Schwartz calls it, renormalized, there is a debate.

And this is a constant situation in this environment, the exchange of knowledge among the subjects, especially the novices learning from the more experienced operators, appropriating the knowledge, internalizing it and applying it in their own way.

## WINDER OPERATOR

As already mentioned in the other functions, winding machine operators also highlight the importance of knowing the machine and its rhythms, in order to facilitate and result in more harmonious and less physically and mentally exhausting activities.

The increase in tasks in the winding industry, as a result of the dismissal of operators who worked there, was a point of great relevance in the statements of the operators interviewed (Fernanda, Sofia, Érica and Maria). In this sector, the tasks were divided, two operators worked on each machine consecutively, one at the front of the machine (where the workers studied work) and at the back (where there were other operators, the packers), but a few years ago, there was a reduction in the company's staff, resulting in a 50% drop in workers in this function. The consequence of this outcome was the increase in tasks, rhythms and intensities, because the work that was previously performed by two operators is now the duty of only one.

Because the day that there is no shortage of material, you don't have time to drink water, go to the bathroom, then if you have the packer, you are fine to say just filling up, if you can make an appointment, you schedule. Because you stay there on the



side where I stand, you can mark, even with my height, you can mark with that chalk [...] Now it's even tighter because we put the plastic, we didn't put it, and form all those pallets, everything just right [...] then you leave it on, because we've been there for a while, so we don't stop the cart, we go there to pack it, with it running, when you look back like this, you run because it's already empty, the box is full of spurs, so you have to run (Sofia).

This passage from Sofia's speech demonstrates how the departure of the packers influenced the increase in the workload. Reporting even lack of time to drink water and go to the bathroom. That is, a change made by the company's organization, in order to reduce expenses, but which considerably intensified the work routine of the operators, bringing discomfort and complaints to everyone in relation to such a change.

Faced with this problem, the workers saw the need to reorganize. This transformation has to do with the strategies to protect against the risks that have been added there, in view of the structural and organizational changes in the required procedures.

According to Marx (1975/1890), working with machines requires a learning process from the subject, so the author indicates an early initiation of this relationship (man/machine), so he will be able to more successfully "adapt" his body, his movements, to the continuous uniform movement of machines.

With the changes in the sector, the workers had to relearn how to work, adapting to the new routine, rhythms and tasks.

According to the workers, the knowledge they have in relation to the times to carry out each operation on the machines (filling magazine, packing and marking bobbins, removing bobbins, placing cylinders) are essential to create synchronicity of movements and avoid unnecessary energy expenditures. And these actions are learned by each worker when they start working in the company and rebuilt individually, but not discarding exchanges of information and knowledge transfers, especially between experienced and novice operators.

Birth & Messiah (2018) confirm what we have been saying above. They highlight that knowing when to perform each activity and knowing the characteristics and particularities of each material worked, provides the operator with time savings, reduced work pace and less chance of execution errors.

According to Dejours (2004), work is composed of "gestures, *know-how*, an engagement of the body, the mobilization of intelligence, the ability to reflect, interpret and react to situations; it is the power to feel, to think and to invent" (2004, p. 28).

The subjects, in the face of the reality of work, make *use of themselves*, as this is the ability to reinvent a certain way of being, of living, of surviving (Schwartz & Durrieu, 2015). It



is this *use* that represents the strategies used by operators in the face of the difficulties encountered, from the reduction of the number of employees and the consequent work overload.

These work situations with an illening character make the activity propose, summon and impose choices and arbitrations in *the drama of the use of oneself*, thus producing solutions to the problems posed by the environment (Schwartz, 2004).

Reducing the pace of work in moments of discomfort is a strategy used by Sofia, the worker mentions feeling pain in the neck region for some time, caused by the repetitive movements of stocking the magazines. When they become more intense, it reduces the speed of movement. This was a way found by the operator to stay in business, otherwise, her only option would be to move away from work at the factory.

I myself chose, I saw the way it is, it's better for me to do it this way, than for me to really stop working (Sofia).

This attitude of Sofia goes against the ideas of Canguilhem (2009), for the maintenance of health, which are these strategies created at work, and which should be routinely debated, in order to deal with the infidelities of the environment. These actions, called renormalizations by the Ergological Approach to Work, are rereadings of the tasks, performed by the workers based on their individualities, using the gaps in the prescriptions (Baião, 2012). The reinterpretations characterize the subjects as singular and alive (Durrive & Schwartz, 2008), who will naturally opt for acts that are less harmful to health.

Workers always look for the best way to perform tasks, adapting them to their particularities. To do this, they use their own operative mode, that is, a way to perform the activity satisfactorily and at low human cost (Daniellou, Simard & Boissières, 2013).

Schwartz & Durrive (2015) point out that the *uses of the self* justify these deviations used by workers in the face of risks, often going against the prescriptions established by the organization of work. Thus, each subject, led by the manuals, added to the knowledge (individual and collective) and lived experiences, seeks the best for himself every day.

Like workers in other sectors, winding machine workers also seek in medicines a means to mitigate or even disguise the consequences of intense work, however this is only a palliative measure, as it does not focus on solving the real problem, which can lead to unexpected results, the aggravation of diseases and injuries. Even so, this is a measure adopted by Fernanda, Maria and Sofia.



In the study by Zavarizzi & Alencar (2018) with workers affected by RSI/WMSD, they identified that these subjects constantly use anti-inflammatory drugs and muscle relaxants, aiming to reduce pain caused by work.

Self-medication, in addition to the non-notification to the company in relation to illnesses and discomforts, are frequent actions among workers, justifying a fact commonly observed in the world of work, the fear of losing their job (Alencar & Nobre, 2017). This fact leads to underreporting of health problems caused by the work carried out at the site, in addition to the worsening of the workers' illnesses. In other words, medication is only a palliative means of solving the problem, and not a definitive way.

## FINAL CONSIDERATIONS

When we proposed to carry out a study in an industry, with tasks dictated by operational procedures, machines determining work rhythms and inspections, we expected to find "trained" workers, who would perform standardized and plastered actions, very characteristic of the Taylorist model of production.

And this was a point that drew a lot of attention in this study, the great relevance, and still strong presence of the then model based on a scientific management of work, going against the idea that it would have been replaced by a flexible work pattern. In the industry studied, it is also possible to observe a Taylorized organization and human labor as fundamental in the operation of machines and material handling, in view of the inability, mainly financial, to modernize the entire mechanical apparatus of the site.

Supported mainly by the Ergonomics of the Activity and the Ergological Approach to Work, we realized that, even surrounded by different forms of control, the activities are never the same between different subjects. In a close and continuous approach, we identify a variety of gestures, actions, choices and particular ways of acting in each work situation. Thus bringing a wealth of detail, to something that seen from afar seemed monotonous and the same.

But these changes are not options by chance, but strategies to cope with the risks, in this case, arising from the performance of repetitive work, gestures that can last for a short, medium or long period of time, but that are performed for many hours daily, are a driving factor for different pathologies. That is, they are defensive mechanisms of a conscious or unconscious nature, individual and/or collective, but motivated by the maintenance of health.



It is then through *the use of self* and renormalization that workers are able to use these defense mechanisms, which are based on knowledge and experiences built inside and outside work.

Starting from what has been concluded so far, we seek to understand this entire process of maintaining life as a work activity, as it escapes from always positive results in relation to the transformations of situations, and possible singular actions arise in the place, in the organization and by the subjects present there. These constructions are renewed every day, thus drawing a definitive conclusion about the strategies, which are variable, and adapt to the reality of each organization.



## REFERENCES

1. Associação Brasileira da Indústria Têxtil e de Confecção (ABIT). (2020). \*Monitor: Superintendência de Políticas Industriais e Econômicas\*. <https://www.abit.org.br/uploads/arquivos/monitor%20julho%20.pdf>
2. Alencar, M. C. B., & Nobre, T. L. (2017, julho/dezembro). Adoecimento e o sofrimento de trabalhadores acometidos por LER/DORT. \*Revista de Psicologia\*, 8(2), 8–18. <http://www.periodicos.ufc.br/psicologiaufc/article/view/5861>
3. Assunção, A. A., & Lima, F. P. A. (2009). Aproximações da ergonomia ao estudo das exigências afetivas das tarefas. In D. M. R. Glina & L. E. Rocha (Eds.), \*Saúde mental e trabalho: da teoria e prática\* (pp. 1–20). São Paulo: ROCA.
4. Baião, F. R. (2012). \*Dramática do uso de si na atividade do trabalho\* (Dissertação de Mestrado). Centro Universitário UNA, Belo Horizonte. [http://www.redemebox.com.br/index.php?option=com\\_content&view=article&id=27052:a-dramatica-do-uso-de-si-na-atividade-do-trabalho&catid=325:305&Itemid=21](http://www.redemebox.com.br/index.php?option=com_content&view=article&id=27052:a-dramatica-do-uso-de-si-na-atividade-do-trabalho&catid=325:305&Itemid=21)
5. Brasil. (2018). Ministério da Saúde. Lesões por esforços repetitivos (LER) distúrbios osteomusculares relacionados ao trabalho (DORT). Secretaria de Políticas de Saúde Departamento de Ações Programáticas e Estratégicas Área Técnica de Saúde do Trabalhador.
6. Canguilhem, G. (2001, julho/novembro). Meio e normas do homem no trabalho. \*Proposições\*, 12(2-3), 109–121. <https://periodicos.sbu.unicamp.br/ojs/index.php/proposic/article/view/8643999>
7. Canguilhem, G. (2009). \*O normal e o patológico\*. Rio de Janeiro: Forense Universitária.
8. Clot, Y. (2010). \*Trabalho e poder de agir\*. Belo Horizonte: Fabrefactum.
9. Cunha, D. M. (2009, setembro/dezembro). Lições de pedra: das minas de saberes e valores. \*Educação Unisinos\*, 3(3), 228–235. <http://revistas.unisinos.br/index.php/educacao/article/view/4950>
10. Daniellou, F., Simard, M., & Boissières, I. (2013). Fatores humanos e organizacionais da segurança industrial: um estudo da arte. FONCSI. <https://ergonomiadaatividade.com/2017/06/30/caderno-fatores-humanos-e-organizacionais-da-seguranca-industrial/>
11. Dias, D. S., Santos, E. H., & Aranha, A. V. S. (2015). Contribuições da ergologia para a análise da atividade de trabalho docente. \*Revista Eletrônica de Educação\*, 9(1), 211–227. <http://www.reveduc.ufscar.br/index.php/reveduc/article/view/1202/389>
12. Durrive, L., & Schwartz, Y. (2008). Revisões temáticas: glossário da ergologia. \*Laboreal\*, 4(1), 23–28. [http://laboreal.up.pt/files/articles/2008\\_07/pt/23-28pt.pdf](http://laboreal.up.pt/files/articles/2008_07/pt/23-28pt.pdf)
13. Friedmann, G. (1956). \*Problemas humanos del maquinismo industrial\*. Buenos Aires: Editorial Sudamericana.





14. Guérin, F., Laville, A., Daniellou, F., Duraffourg, J., & Kerguelen, A. (2001). *\*Compreender o trabalho para transformá-lo: a prática da ergonomia\** (1ª ed.). São Paulo: Blucher: Fundação Vanzolini.
15. Heloani, R. (2003). *\*Gestão e organização no capitalismo globalizado: história da manipulação psicológica no mundo do trabalho\**. São Paulo: Atlas.
16. Jinkings, I. (2002). *\*Reestruturação produtiva e emprego na indústria têxtil catarinense\** (Dissertação de Mestrado). Universidade Federal de Santa Catarina, Florianópolis. <https://repositorio.ufsc.br/xmlui/handle/123456789/82868>
17. Marx, K. (1975/1890). *\*O capital: crítica da economia política\** (3ª ed.). Rio de Janeiro: Editora Civilização Brasileira.
18. Marx, K. (1971/1890). *\*O capital: crítica da economia política\** (2ª ed.). Rio de Janeiro: Editora Civilização Brasileira.
19. Moraes, T. D., & Pinto, F. M. (2011). O corpo nas atividades em trânsito: condutores profissionais e mobilização do corpo-si. *\*Cadernos de Psicologia Social do Trabalho\**, 14(2), 279–294. <http://pepsic.bvsalud.org/pdf/cpst/v14n2/v14n2a09.pdf>
20. Nascimento, A., & Messias, I. A. (2018). Rodízio de postos em abate de bovinos: para além das dimensões físicas do trabalho. *\*Cadernos de Saúde Pública\**, 34(10), 1–11. [https://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0102-311X2018001005008](https://www.scielo.br/scielo.php?script=sci_arttext&pid=S0102-311X2018001005008)
21. Netto, J. P., & Braz, M. (2006). *\*Economia política: uma introdução crítica\**. São Paulo: Cortez.
22. Neves, R. F., & Nunes, M. O. (2010). Da legitimação à (res)significação: o itinerário terapêutico de trabalhadores com LER/DORT. *\*Ciência & Saúde Coletiva\**, 15(1), 211–220. <https://www.scielo.br/pdf/csc/v15n1/a26v15n1.pdf>
23. Oddone, I., Re, A., & Briante, G. (2008). *\*Esperienza operaia, coscienza di classe e psicologia del lavoro\**. Torino: OTTO Editore.
24. Oliveira, S. S., & Brito, J. C. (2011). A dimensão gestonária do trabalho e o debate de normas e valores no teleatendimento. *\*Trabalho, Educação e Saúde\**, 9(1), 265–284. [https://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S1981-77462011000400013](https://www.scielo.br/scielo.php?script=sci_arttext&pid=S1981-77462011000400013)
25. Santos, M. J., & Marques, A. P. (2006). O caso dos call centers: organização do trabalho e atitudes face ao trabalho e emprego. *\*Sociologia, Problemas e Práticas\**, 52, 67–86. <https://repositorio.iscte-iul.pt/handle/10071/597>
26. Santos, A. F. E., Paula, J. A., & Pereira, O. A. V. (2009, julho/agosto). Percepção de trabalhadores de uma indústria têxtil sobre os riscos de seu ambiente de trabalho. *\*Revista Enfermagem Integrada\**, 2(1), 188–199. [https://www.unilestemg.br/enfermagemintegrada/artigo/v2/Orcione\\_pereira\\_Aline\\_espirito\\_santo\\_e\\_Janine\\_de\\_paula.pdf](https://www.unilestemg.br/enfermagemintegrada/artigo/v2/Orcione_pereira_Aline_espirito_santo_e_Janine_de_paula.pdf)
27. Saraiva, L. A. S., & Provinciali, V. L. N. (2002, janeiro/março). Desdobramentos do taylorismo no setor têxtil – um caso, várias reflexões. *\*Caderno de Pesquisa em Administração\**, 9(1), 19–33.



[https://www.academia.edu/4127535/Desdobramentos\\_do\\_taylorismo\\_no\\_setor\\_t%C3%A0xtil\\_um\\_caso\\_v%C3%A1rias\\_reflex%C3%B5es](https://www.academia.edu/4127535/Desdobramentos_do_taylorismo_no_setor_t%C3%A0xtil_um_caso_v%C3%A1rias_reflex%C3%B5es)

28. Schwartz, Y. (2000, julho). Trabalho e uso de si. *\*Pró-Posições\**, 1(5), 34–50. <https://periodicos.sbu.unicamp.br/ojs/index.php/proposic/article/view/8644041/11485>
29. Schwartz, Y. (2003, janeiro/junho). Trabalho e Saber. *\*Trabalho & Educação\**, 12(1), 21–34. <https://seer.ufmg.br/index.php/trabedu/article/view/7361/5716>
30. Schwartz, Y. (2004). Ergonomia, filosofia e exterritorialidade. In F. Daniellou (Org.), *\*A ergonomia em busca de seus princípios: debates epistemológicos\**. São Paulo: Edgar Blücher.
31. Schwartz, Y. (2011). Conceituando o trabalho, o visível e o invisível. *\*Trabalho Educação e Saúde\**, 9(1), 19–45. <http://www.scielo.br/pdf/tes/v9s1/02.pdf>
32. Schwartz, Y. (2014, julho/setembro). Motivações do conceito de corpo si: corpo si, atividade, experiência. *\*Letras de Hoje\**, 49(3), 259–274. <http://revistaseletronicas.pucrs.br/ojs/index.php/fale/article/view/19102>
33. Schwartz, Y. (2015, setembro/dezembro). Conhecer e estudar o trabalho. *\*Trabalho & Educação\**, 24(3), 83–89. <https://periodicos.ufmg.br/index.php/trabedu/article/view/9452>
34. Schwartz, Y., & Durrive, L. (Orgs.) (2007). *\*Trabalho e Ergologia: conversas sobre a atividade humana\**. Niterói: EdUFF.
35. Schwartz, Y., & Durrive, L. (2015). *\*Trabalho e Ergologia II: diálogos sobre a atividade humana\**. Belo Horizonte: Ed. Fabregactum.
36. Schwartz, Y., & Echternacht, E. H. (2007, julho/dezembro). O trabalho e a abordagem ergológica: “usos dramáticos de si” no contexto de uma central de tele-atendimento ao cliente. *\*Teoria & Prática\**, 10(2), 9–24. <http://www.seer.ufrgs.br/InfEducTeoriaPratica/article/view/6029>
37. Schwartz, Y., & Echternacht, E. (2009). Le corp-soi dans les milieux de travail: comment se spécifie sa compétence à vivre? *\*Cairn. Info\**, 6, 31–37. <https://www.cairn.info/revue-corps-dilecta-2009-1-page-31.html>
38. Schwartz, Y., & Mencacci, N. (2008, janeiro/junho). Trajectoire ergologique et genèse du concept d’usage de soi. *\*Informática na Educação: teoria & prática\**, 11(1), 9–13. [http://www.scielo.br/scielo.php?script=sci\\_nlinks&ref=000156&pid=S1414-9893201000040000300021&lng=pt](http://www.scielo.br/scielo.php?script=sci_nlinks&ref=000156&pid=S1414-9893201000040000300021&lng=pt)
39. Silva, L. A., Silva, L. F., & Mendes, D. P. (2017, setembro/dezembro). Os usos de si e o debate de normas dos trabalhadores de uma indústria metal-mecânica. *\*Trabalho & Educação\**, 26(3), 167–178. <https://periodicos.ufmg.br/index.php/trabedu/article/view/9590>
40. Tardif, M., & Raymond, D. (2000). Saberes, tempo e aprendizagem do trabalho no magistério. *\*Educação & Sociedade\**, 21(73), 209–244. <https://www.scielo.br/pdf/es/v21n73/4214.pdf>



41. Trindade, L. L., Schuh, M. C. C., Krein, C., Ferraz, L., & Amestoy, S. C. (2012). Trabalhadores da indústria têxtil: o labor e suas dores osteomusculares. \*J Nurs Health\*, 2(2), 377–387. <https://periodicos.ufpel.edu.br/ojs2/index.php/enfermagem/article/view/3466>
42. Trindade, L. L., Schuh, M. C. C., Krein, C., Ferraz, L., & Amestoy, S. C. (2012, janeiro/abril). Dor osteomusculares em trabalhadores da indústria têxtil e sua relação com o turno de trabalho. \*Revista de Enfermagem UFSM\*, 2(1), 108–115. <https://periodicos.ufsm.br/reufsm/article/view/3886>
43. Trindade, H. (2016). Precarização do trabalho na indústria têxtil: sobre vidas esfarrapadas... \*Em Pauta\*, 12(38), 169–187. <http://www.e-publicacoes.uerj.br/index.php/revistaempauta/article/view/27842>
44. Wachowicz, M. C. (2013). \*Ergonomia\*. Curitiba: E-tec.
45. Zavarizzi, C. P., & Alencar, M. C. B. (2018, janeiro/março). Afastamento do trabalho e os percursos terapêuticos de trabalhadores acometidos por LER/Dort. \*Saúde em Debate\*, 42(116), 113–124. [https://www.researchgate.net/publication/325409664\\_Afastamento\\_do\\_trabalho\\_e\\_os\\_percursos\\_terapeuticos\\_de\\_trabalhadores\\_acometidos\\_por\\_LERDort](https://www.researchgate.net/publication/325409664_Afastamento_do_trabalho_e_os_percursos_terapeuticos_de_trabalhadores_acometidos_por_LERDort)