

# Stress at Work

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**Abstract:** *The main objective of this article is to identify the causes of occupational stress in the work environment, and to observe how safety engineering can behave in the face of this subject that is so relevant to the safety of employees of companies in Brazil, who increasingly suffer from problems of this nature. The main questions that guide this article and the subject on the agenda are: Is the psychological safety of workers the responsibility of the occupational safety engineering professional? What are the causes and solutions for stress in the workplace? What is the definition of stress, what is stress, and how does it act in the human body? How is stress associated with the business management system!? In a work environment, stresses are absorbed by people in a different way, each individual has their particularity, "emotional intelligence," and structure to withstand certain types of sources of tension, the "generators" of stress are many and inevitable in our daily lives, even outside of a work environment, understanding this leads us to know that there is a good stress that "motivates/forces" us to overcome ourselves, to get out of self-indulgence and react against this source of tension of this stress.*

**Keywords:** *Stress. Health. Burnout. Globalization. Information.*

## 1 INTRODUCTION

Brazil is now the second most stressed country in the world, second only to Japan with its incredible 70% of the working population with a level of burnout (physical and mental exhaustion), with Brazil's rate at 30%, and close behind: China with 24%, USA with 20% and Germany with 17%. (BARBOSA, 2011)

Occupational health professionals have observed that working conditions not only cause specific occupational diseases, but can also determine the general health status of the worker. One of the occupational health factors that has been the subject of research is stress. (Kalimo et al., 1988)

According to Lipp (1996, p. 20):

*Stress is defined as a reaction of the body, with physical and/or psychological components, caused by the psychophysiological changes that occur when the person is confronted with a situation that, in one way or another, irritates, frightens, excites, or confuses, or even makes them immensely happy [...] At the moment when the person is subjected to a source of stress, a long biochemical process sets in, the beginning of which manifests itself in a very similar way, with the appearance of tachycardia, excessive sweating, muscle tension, dry mouth and the feeling of being alert.*

In the same way, Buratto (2009) states that *stress* is the body's response (reaction of psychological, physical, hormonal and mental components) that occurs when external stimuli (stressors) impose on the individual (human or animal) the need to adapt and/or overcome certain demands of the environment (example: event or situation of importance, accident,

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kidnapping, dismissal, bankruptcy, challenges at work, etc...) thus causing physical and mental exhaustion.

That is, stress is necessary in the life of every living being, both for the human being and for the animal "that has the stress of leaving the house daily to feed or serve as food", so we understand that stress is a stimulus created by the human body and aims to promote survival. (BALLONE & MOURA, 2008)

There are two different types of stress, according to Jorge (2009) good stress is called stress, which is when the individual reacts well to changes and external pressures. Bad stress, on the other hand, would be distress, when the limits of the individual's bearability are exceeded, causing their body to become ill.

We observed that Brazil is stressed and addicted to urgency, the many tasks do not allow enough time to complete tasks in a timely manner and during normal working hours, requiring more time from the professional "overtime", apart from the hours when he is not in office hours but is thinking about the work "at home, etc...", so you end up not having time for other needs that any human being needs; physical exercise, proper nutrition, (due to lack of time they end up resorting to *fast foods*), social life, spiritual life, fun, etc... (BARBOSA, 2011)

Furthermore, globalization has made information very fast for everyone and the demands, "challenges" that should be more sporadic, become daily and with great frequency.

## 2 STRESSFUL WORK

The demands at work are not undesirable, if it were taken literally, the perfect state for the human being not to be stressed at work is not working. Every requirement introduces some kind of stress. (BOTH, n.d. p.web).

However, it is also known that the lack of stimuli and boredom also stress, we have as an example that the highest risk of heart attack is higher in the first two years after retirement. In other words, inactivity and the feeling of uselessness is also harmful. (BALLONE & MOURA, 2008)

When we talk about stress, we automatically associate it with a merely psychological problem, however it is verified that ergonomics also has direct access to physical and mental exhaustion, because considering: acoustic agents, thermal agents, exaggerated demand for hours worked, physical demands (example: lack of good sleep, heavy work, work without comfort), posture, that is, comfort in general, They are also extremely aggressive to health and directly influence the individual's stress. (BALLONE & MOURA, 2008)

However, when there is an unwanted activity or situation that imposes stress, and depending on its magnitude, it can directly influence the person's immune system, that is, mental health has a direct impact on the physical health of the human being.

To inhibit stress and not enhance it, no one better than the individual himself to take simple initiatives that can bring a great result in his quality of life at work, and physical and mental health. First, the stressed person should try to understand the source of this stress and study a way to minimize it, remembering that a good management system can help a lot in daily activities at work (planning). (TARABAY & ANTUNES, undated, p.web)

A good work environment can be more easily implemented by professionals in the sector than by the company itself, after all it is the people who make the company, so one should not wait for a solution to fall from the sky, to stress less professionals should take the initiative, seeking guidance and information from the occupational safety engineer as to the best methods for a quality of work life.

We can cite several examples of attitudes that minimize stress: (TARABAY & ANTUNES, undated, p.web)

- Identify the cause;
  - Try to get organized, plan your work, don't keep everything in your mind, write down the tasks of the day somewhere;
  - Do things one at a time and do it well so you don't have to redo it;
  - Eat well;
  - Practice some physical activity. Very important!!;
  - When you go home, forget about work, occupy your mind with other things;
  - Sleep well;
  - On the computer, put an image of some natural beauty, animal or something like that in the background;
  - If you can't solve something important "problem", a stop (coffee, or take a brief walk outside the company), the more relieved mind will allow your problem to be solved faster.
- Emphasizing that consulting a doctor is indispensable, when stress sets in in a harmful way, self-medication is in no way advisable. (BALLONE & MOURA, 2008)

### 3 PHYSICAL AND MENTAL HEALTH

When stress is excessive, and not balanced, it is observed that individuals begin to present health problems, the intensity of problems to be solved and the deadlines/immediacy introduces stress as a "culture" of the daily life of Brazilians and in other countries that have the same characteristics; immediacy "the desire to have everything that is new, and to conquer as quickly as possible, the speed of information", consumerism "a lot of work is done to meet the needs of HAVING" which is nothing more than social demands, and globalization "immense demand for information", etc.. (URURAHY, 2012)

Stress, when acute, alters the immune system of individuals who may not have sufficient maturity and/or structure to deal with these pressures. (URURAHY, 2012)

Stress has a close link with low immunity. We observed that accumulated stress generates major health problems, this is directly linked to the emotional of the person who when being "attacked" reacts drastically, exposing the person to opportunistic diseases, and a person who stays for ten minutes under acute stress can be vulnerable for up to six hours subject to opportunistic diseases that attack when the person has low immunity. In other words, a stressed person has their defenses decreased. (URURAHY, 2012)

*The fact that an emotional event such as stress affects the body is due to the intimate relationship between the immune system (defense), nervous system (control) and endocrine system (hormonal). Therefore, intense stress can affect any of these systems, leading to the diversity of symptoms of this condition. (LEONEL, 2013)*

The following table and Figure 1 show the main symptoms of an individual with stress, these symptoms are designated as stressors or stressors.

Physical Signs:	Psychological Signs:
Headaches	Apathy
Indigestion	Poor memory
Muscle pain	Nervous tics
Insomnia	Isolation and introspection
Tachycardia	Feelings of persecution
Allergies	Demotivation - Authoritarianism
Hair loss	Irritability
Change in appetite	Anxiety
Gastritis	Marked emotionality

Dermatoses	
Physical exhaustion	

Source : (MAGIONI, undated, p.web)

Figure 1 – Stress, Impact on the Body



Source: JORGE (2009)

Bad stress "distress" (acute, in large doses), can cause alarming consequences to human beings, when the pressure is exaggerated, the consequence can result in some clinical condition and even dependence on medicine, and in turn even leave from work. JORGE (2009)

As already seen, to prevent and control stress, one must try to reduce/eliminate the existing pressures at work (external pressures) and all aggressive agents involving them, and in turn make the work environment as adequate as possible to human needs.

Reducing vulnerability by achieving greater emotional maturity, and balance, and obtaining a deeper skill in managing time, also having the support of family/friends/colleagues, and thus having social cooperation also helps in the aspect of emotional structure, thus combating the aggressive agents of stress. (PIRES, 1999).

It is observed that the consequences of stress on the employee's health directly affect the economy/company, which, by not providing adequate working conditions, ends up having back the damage it caused to the workers: (AREIAS & COMANDULE, s/d p.web)

- Poor performance, accidents, drug use at work.
- Antisocial behavior: theft, intentional damage.
- Flight from work: absenteeism, turnover.
- Degradation of other life roles: spousal or child aggression.
- Self-injurious behavior: alcohol and drug abuse.

According to Areias & Comandule (undated, p.web) in the European Union almost 41 million workers per year in all areas of work are affected by some type of work-related stress, which is equivalent to 600 million working days lost due to work-related diseases

JORGE (2009) states that annually there are US\$ 26 billion in liabilities in medical expenses and disability coverage. And US\$ 95 billion in production losses. There are more than 50% of unproductive days due to stress, which means that 1 million people are unable to go to work every day. The amount that is spent on health with employees is about 50% more

for those who were under the influence of an acute stress agent, and 40% of the company's dismissals are due to stress.

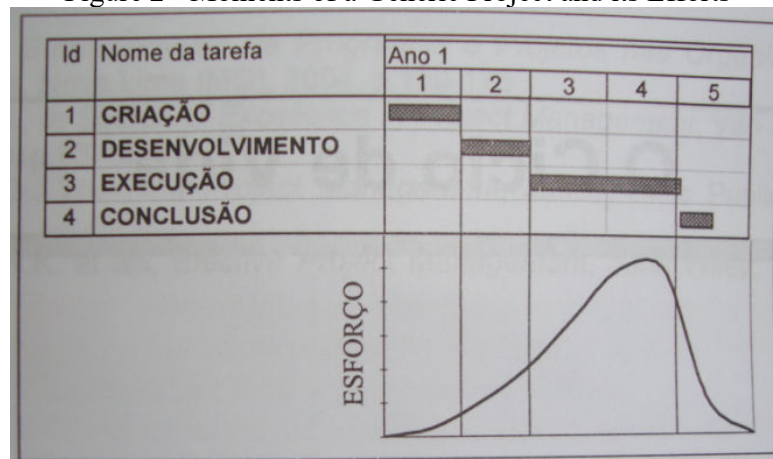
#### 4 STRESS IN THE MANAGEMENT PROCESS

Management brings with it involuntary stress, obtained by concerns about results, financial resources, "people" management, and leadership methods that are present in the management of a process/project. Therefore, it is understood that there is no management without stress.

Occupational safety engineering aims to achieve/idealize the comfort and psychological and physical health of all employees, consequently it is of paramount importance to appropriate this subject so that this dilemma that has affected many workers in Brazil and around the world, can be alleviated more and more.

It is natural for a project to require an effort of intellect and physique (figure 2) in order to be completed. We observed in Figure 1 that, mainly, at the end of the execution of the work, that is, "the delivery of the service" obtains the greatest effort from the entire team. This is where care must be taken with the consequences of stress, because at this point the cooperation of everyone on the team is essential, working in total synchronism, obtaining the same goal, and therefore the completion of the work (project). PRADO (2004)

Figure 2 - Moments of a Generic Project and its Efforts



Source: PRADO (2004)

#### 5 TYPES OF PEOPLE AND THEIR BEHAVIORS

It is known that there are two types of behaviors when it comes to stress reaction: (BOTH, s/d p.web).

- Type A Personality: This is a personality type that intensifies the effects of work stressors. Type A people walk, eat, and talk quickly; They are aggressive and competitive and feel constantly pressed for time. Type A people have a great, possibly insatiable, need to succeed (BOTH, s/d p.web).
- Type B personality: People with this personality type are less concerned about time; they play for pleasure, not to win, and they are able to relax without guilt (BOTH, n.d. p.web).

Figure 3 shows the difference between the reaction of people with personality A and personality B.

Figure 3 – Standard Behavioral Table

Tabela 7

Análise do padrão de comportamento com sensações/atitudes relacionadas com o estresse

Sensações/atitudes	Padrão de comportamento*		Ordem
	Tipo A	Tipo B	
Irritabilidade fácil	3,46 ↑	2,72 ↓	1
Ímpetos de raiva (no trabalho, em casa, no trânsito)	3,48 ↑	2,76 ↓	2
Nervosismo	3,50 ↑	2,85 ↓	3
Ansiedade	4,09 ↑	3,49 ↓	4
Angústia	3,33 ↑	2,75 ↓	5
Fadiga	3,79 ↑	3,24 ↓	6
Dor de cabeça por tensão ou dor nos músculos do pescoço e ombros	3,87 ↑	3,33 ↓	7
Sensação de desânimo pela manhã, ao levantar	3,06 ↑	2,57 ↓	8
Insatisfação com as relações afetivas	2,92 ↑	2,45 ↓	9
Período de depressão	2,50 ↑	2,06 ↓	10
Indisposição gástrica ou dor de estômago	2,94 ↑	2,52 ↓	11
Dores de cabeça constantes	2,45 ↑	2,05 ↓	12
Dificuldade de dormir ou sono muito entrecortado	3,47 ↑	3,08 ↓	13
Medo do futuro	2,87 ↑	2,49 ↓	14
Tendência a suar em excesso ou sensação de sentir seu coração batendo mais forte	2,31 ↑	1,97 ↓	15
Estresse com violência urbana	3,43 ↑	3,10 ↓	16
Tremores musculares (ex.: olhos, boca, mãos)	2,25 ↑	1,94 ↓	17
Medo de desemprego	3,00 ↑	2,69 ↓	17
Alimenta-se com frequência maior ou em maior quantidade maior do que a usual	3,38 ↑	3,12 ↓	19
Sensação de fôlego curto ou de falta de ar	2,51 ↑	2,28 ↓	20
Diminuição do interesse sexual	3,01 ↑	2,79 ↓	21
Domência pelo corpo	1,94 ↑	1,74 ↓	22
Redução do apetite	2,18 ↑	2,03 ↓	23
Tomar pílulas para dormir	1,36 ↑	1,22 ↓	24

\* Ordem decrescente da diferença entre as médias do Tipo A e Tipo B.

Source: MOTA & TANURE & NETO (2008)

As seen, it can be said that type A people are more "ambitious", willing to conquer and chase results, so analyzing the table it is observed that naturally this personality style ends up being more susceptible to stress, even because these people seek challenges and achievements and indirectly the stressors (difficulties). (BOTH, n.d. p.web).

## 5 CONCLUSION

It is observed that nowadays, and mainly due to social influences, stress is easily found in various generating sources, especially at work, and it is the responsibility of the safety engineer for the physical and *mental* integrity of the company's employees. It is known that the safety engineer does not have the best training for the psychological treatment of the stressed person, however the engineer, together with the occupational physician, has the competence to evaluate the functions and jobs, diagnosing the stressful sources and proposing

the necessary changes to reduce and/or neutralize the effects of stressors. thus helping in a higher quality working life for workers.

As the "science" of stress is very cognitive, and varies from person to person, the safety engineer can also assist in the work environment by raising awareness and seeking to inform the employees of his company about the good practices for a pleasant work life and away from stress, because no one better than the person himself to adopt practices for his physical and psychological health.

Therefore, the best proposals to improve the work environment are:

- Administrative: Raise awareness, hand out flyers, put up posters in the company, make employees understand what stress is and how to avoid and combat it. Gymnastics/stretching at work in some external environment, in the "open air".

- Collective protections: Minimize noise, vibrations and other stressors, implement ergonomic measures at workstations.

- Individual protections: Implement a bank of hours that allows the employee to take time off when he is excessively overloaded (distress), make workers aware to be consistent with this tool and delegate this "planning" of time off to themselves, however this must be done in a way that does not harm the company, deadlines, etc..

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