# Gamification to expand awareness about stress and its impacts within companies Gamification eustress x distress

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**Abstract:** The work environment has changed and accompanied the advancement of technologies with greater speed than the adaptability of workers. Professionals now live under continuous stress, not only in the workplace but also in life in general. There is therefore a large area of modern life where they mix the stressors of work and everyday life. The person, apart from the usual occupational responsibilities, in addition to high competitiveness required by companies, in addition to constant learning needs, have to deal with normal life stressors in society, such as social security, family maintenance, cultural requirements etc. It is quite possible that all these new challenges overcome the adaptive limits leading to stress.

Keywords: gamification, stress, workers

#### INTRODUCTION

Games are a popular form of entertainment among audiences of all ages. The development of science gamification (Gamification, in English), originated a significant finding and historically proven: Human beings are attracted to games! As

today's scenario, 1 billion people are active players. In the US, for example, almost all households have at least one device that can run commercial games (computer, console, smarthphone), almost half of households have a video game console and the average player age is thirty years. In Brazil, the impact of this industry is not so big, but is growing every year: about 23% of Brazilians are regular or casual gamers, which corresponds to 45 million players.

The games are also powerful tools for enhancing learning in different areas of knowledge (whether in digital or analog format). Within this context, the Gamification arises, consisting in the use of elements of games (mechanical, strategies, aesthetics, thoughts), in order to motivate individuals to action (as it is fun and makes a parallel with its reality daily), assist in solving problems and promote learning for a lifetime.

With increasing frequency, this set of elements / Gamification techniques have been applied by companies and various segments entities as an alternative to traditional approaches (such as the expository method), especially when it comes to encouraging people to adopt certain desired behaviors, become familiar with new technologies and resources, streamline their processes of learning / training and making it more pleasant complex, tedious or repetitive tasks. Generally speaking, the application of Gamification points to circumstances involving the creation or adaptation of the participant's experience / user to a particular product, service or process; intended to arouse positive emotions, exploring personal skills or tow rewards intellectual, physical or virtual to the fulfillment of stimuli.

In this way the game is increasingly taking a significant and expressive space in organizational learning area: Training and Personnel Development (including Health and Safety). Acting cooperatively, classroom, participatory, playful and in various formats (table board and ground physical parts, and other materials and visual aids) the games are being used by professionals trained in training, as differentiated and innovative tools for better attachment of any knowledge.

The games in analog form, are currently the most applied in the workplace, as are added to the methodology of Neuroaprendizagem (experiment, practice, exchange of experiences among participants and encouragement of positive emotions for sustainable fixing any topic / content) and can be applied in a room of the company / organization or even in an auditorium. This format has replaced the lectures and traditional and exhibition training, so that the participant is main actor "and not" supporting actor. "Another benefit is the ability to further expand the knowledge through a new version of the game, applied at another time, but continuing in the subject matter.

In the present scenario, the WHO (World Health Organization) admits that stress is a global epidemic: 90% of the world population suffers from the syndrome; the consumption of antidepressants because of the stress increased by 400% in recent years and the time of global economic crisis has increased the cases and consequently projecting 23% cardiac risk individuals.

The requirements imposed on the population by the changes of modern life and, consequently, the need to adjust to such changes, eventually expose people to a frequent situation of conflict, anxiety, anguish and emotional instability. Stress arises as a direct consequence of the persistent adaptive efforts of the individual to his existential situation. Stress is not always a factor of emotional and physical stress, and yes it is a natural defense mechanism of the body. Internal and external stimuli through the nervous system are received and depending on the way in which these stimuli are faced may cause negative psychological and biological changes, which can lead to chronic stress (FAVASSA; Armiliato; KALININE, 2005).

Stress is not even a disease in itself: it is a form of adaptation and protection of the body against external or internal agents (BAUER, 2002). The diseases that affect humans are those characterized by slow and progressive accumulation of damage. Recently, a number of medical studies have confirmed the importance of stress in heart disease, skin, gastrointestinal, neurological and emotional disorder, and also related to a number of disorders related to the immune system, defending the body, ranging from the common cold to cancer (BAUER, 2002).

#### STRESS PHYSIOLOGY

According Favassa, Armiliato and Kalinin (2005), the word comes from the physical stress, with the effect that the degree of deformity suffers when a structure is subjected to stress. This deformity may be greater or lesser degree according to the hardness thereof, and the stress to which it is subjected.

In 1936 the Canadian physiologist Hans Selye coined the term "stress" in the health field to designate the general and non-specific response of the body to a stressor or a stressful situation. Later the term came to be used both to designate this body's response to the situation that triggers the effects of this (FAVASSA; Armiliato; KALININE, 2005).

According Margis et al. (2003), the term stress means the status generated by the perception of stimuli that cause emotional excitement and, to disturb homeostasis, shoot a featured adaptation process, among other changes, the adrenaline secretion

increase producing several systemic manifestations with disorders physiological and psychological.

For Souza et al. (2002), stress is an ancient biochemical mechanism of survival of man, perfected over its own evolution biophysiological, involving the hypothalamus glands (pituitary, thyroid and adrenal), organs (heart, liver and stomach) muscles, among others.

#### **TYPES OF STRESS**

Human beings, by nature, seeks to maintain a balance of its internal forces with all the organs so that your body can work in harmony. However, when this balance becomes altered by some stressor, namely for any situation that arouse an emotion, good or bad, this will constitute a source of stress (RONSEIN et al., 2004). According Favassa and colleagues (2005), the stressor stimuli can trigger different responses and, depending on how the individual responds to this stimulus, it can turn into a positive or negative stress.

If the person has a positive response, stress is called eustress, where the effort of adaptation creates sense of personal fulfillment, well-being and satisfaction of needs, even if due to unexpected efforts, is an effort in ensuring survival. In eustress, dominates the emotion of joy, there is an increased ability to concentrate, mental agility, muscle emotions are harmonious and well coordinated, there is sense of vitalization of pleasure and confidence (ALMEIDA; Bastos, 2007).

If there is otherwise where the effort of adaptation does not bring personal fulfillment, well-being and not satisfaction causing a negative response, it generates a distress, dominated the destructive anxiety emotions, fear, sadness, anger, ability concentration is decreased and mental functioning becomes confused, muscle actions are uncoordinated and disharmonious, the predominant displeasure and insecurity and increases the likelihood of accidents. The term distress almost fell into disuse and was replaced by the very term stress, which now has the sense (current) negative physical and emotional exhaustion (FAVASSA; Armiliato; KALININE, 2005).

#### **TYPES OF STRESSORS - "TRIGGERS"**

According Ballone (2002), stress agents may be classified as sensory or physical, psychological and infectious.

Sensory or physical stressors involving direct contact with the body. Physical stimuli coming from the environment and include: light heat, cold, odor, smoke, drugs

in general, personal injury and physical efforts (RONSEIN et al., 2004). In this case would include climbing stairs, running a marathon, suffer temperature changes (excessive heat or cold), do gliding or bungee jumping (BAUER, 2002).

But the psychological stress occurs when the central nervous system is activated by purely cognitive mechanisms (involving the mind) without any contact with the body (BAUER, 2002). They include all events that can change the course of our lives, like the death of a close relative, separation, imprisonment, retirement, marriage, problems at work, school events or even changes in habits in general (RONSEIN et al., 2004). The importance of psychosomatic stress agents is now widely recognized, being as potent as microorganisms or unhealthy, in the development of diseases. It is estimated that these agents would reach 50% in more developed regions, regardless affecting the most varied social classes (FAVASSA; Armiliato; KALININE, 2005).

A third type of stressor can still be considered: infections. Viruses, bacteria, fungi or parasites which infect humans induce the release of cytokines (proteins with regulatory action) by macrophages, white blood cells (blood cells) specialized in destruction by phagocytosis of any invading the organism. Cytokines, in turn, activate an important mechanism endocrine (hormonal) control of the immune system (Bauer, 2002). The immune system, responsible for the defense reactions of the body against infection, is the most affected in situations of stress, especially when they are prolonged because lead caused a reduction of the lymphatic cells of the thymus, lymph nodes and even blood in circulation so that the body is subject to various infections (RONSEIN et al., 2004)

#### **OUR PROPOSAL: GAMIFICANDO STRESS**

Assuming that it is important to change behavior before the stressors, ie the individual's awareness of to identify and know the personal reasons for which it can develop strategies for coping, we created a tool (gamification), which includes the experience of 14 tips to maximize the eustress (positive stress). They are: 1. Give up unhealthy habits; 2. Work to live, but not live to work; 3. Exercise your patience; 4. Define specifically what bothers you; 5. Look at change as a challenge rather than a threat; 6. Be a good listener in the discussions; 7. Every day do something you really love to do; 8. Be healthy habits; 9. Get organized: plan and prioritize; 10. Divide your tasks and multiply their enthusiasm; 11. Adapt; 12. Take yourself less seriously; 13. Give importance to what really matters; 14. Give in occasionally.

# SCIENTIFIC METHODOLOGICAL BASIS: TRANSTHEORETICAL MODEL (BEHAVIOUR CHANGE)

As a scientific methodological basis as parameter gamification content (tips), we use the Transtheoretical Model (PROCHASKA and DiClemente, 1876) for the analysis and encouraging behavior change. This model places the understanding of change as a state of readiness, stages in which the individual passes: 1. Pre Contemplation (individual denies or does not have the awareness of the specific stressor behavior; 2. Contemplation (stage where the individual becomes aware of the personal stressors, but is unwilling to even try to change) 3. Preparation (stage where there is the intention to change behavior, uses up a plan to deal with the stressor) 4. Action (at this stage the individual experience the benefits of experienced hint);. 5. Maintenance (at this stage, the individual changes the behavior of the stressor and the same behavior becomes a sustainable value to your life) Thus, the Transtheoretical Model advocates the premise that behavior change is a process in which people have different levels of motivation, so you can plan interventions customized to the needs of individuals.

#### **GOAL GAMIFICATION**

Raise awareness about the eutresse and distress, encouraging participants to change behavior through to tips and stressors.

#### **THEME**

Thoughts and Reflections (Tips)

#### **GAMIFICATION APPLICATION FORMAT**

The GAMIFICANDO stress can be applied in various formats with the following durations: 30 minutes / 2 hours / 4 hours / 8 hours. Regardless of the form / duration of gamification, the same parts will be give as: 1. Alignment of the worked subject, ie, the stress; 2. Experience of gamification (game itself); 3. gamification Processing.

#### **Number of Participants**

02 to unlimited.

#### COVERAGE AMONG THE PARTICIPANTS

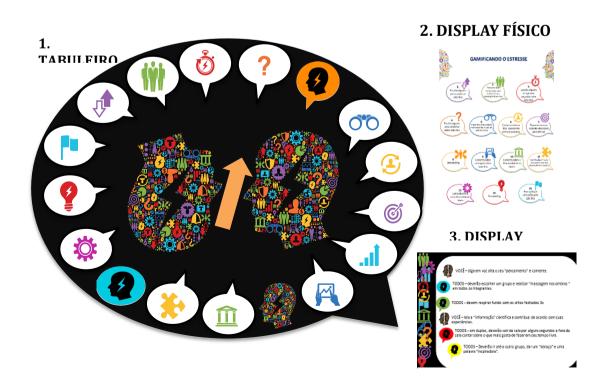
The GAMIFICANDO STRESS operates in three levels of interaction: 1. Intrapersonal (ability to relate to their own emotions and feelings other words, refers to self-knowledge and self-motivation of the individual and how it applies these in your life.); 2. Interpersonal (is the relationship between two or more people); 3. Grupal (interaction between all participants in the group).

#### FEATURE OF GAMIFICATION

The GAMIFICANDO STRESS is a cooperative game (game whose activities inserted in it require a team effort in order to achieve mutually acceptable goals where everyone wins (Amaral, 2004). The co-operative play, seeks to harness the conditions, capabilities, qualities or abilities of each individual, apply them in a group and try to reach a common goal. The purpose is collaboration of each individual in the group, what each has to offer at the time of the activity, so that everyone can act more efficiency in the tasks.

#### MATERIALS GAMIFICATION

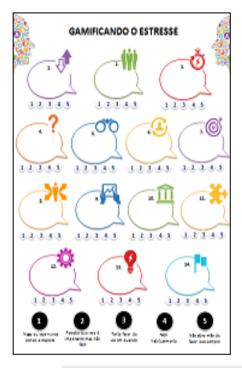
01 board / 14 eustress tips / 02 illustrative pieces symbolizing thoughts / reflections / information pieces parts (stress) / central Spinner / 04 pieces of class actions / 01 physical actions display (related to tips) / 01 virtual display (related to shares collective) / Sheet collective actions / Sheet self-evaluation and goals / Flow gamification / 01 banner gamification.



## 4. Ficha Autoavaliação

## 5. Folha de Ações Coletivas

#### 6. Fluxo









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