



ADAPTABILITY, BURNOUT AND COPING MECHANISMS PRESENT IN THE MACHINE MANUFACTURING INDUSTRY

Camelia Angelica DÂMBEAN^{1*},
Rozalia Manuela GABOR¹

¹„George Emil Palade” University of Medicine, Pharmacy, Sciences and Technology of Târgu Mureș,
Gh.Marinescu, Tîrgu Mureș, 5400139, Mureș country, Romania,

Rezumat. *In urma schimbărilor la nivel mondial in perioada pandemica, angajatorii și angajații au fost nevoiți să respecte cerințele și regulile impuse, iar cei inadaptați au fost eliminați sau au suferit numeroase pagube. Studiul evidențiază importanța constructelor psihologice implicate în industrie, cum ar fi stresul, burnout-ul, adaptabilitatea și mecanismele profesionale de coping. Articolul include obiective, scop, ipoteze, baze conceptuale, metodologie, instrumente de măsurare a acestora și abordează o parte din literatura de specialitate despre conceptele amintite la locul de muncă și măsurarea acestora. Scopul fiind evidențierea relațiilor dintre stres - adaptabilitate și epuizarea profesională, stres - performanța scăzută la servicii.*

Cuvinte cheie: *stres, burnout, managementul stresului, mecanisme de coping*

Abstract. *Following the global changes during the pandemic period, employers and employees had to comply with the requirements and rules imposed, and those who did not adapt were eliminated or suffered numerous damages. The study highlights the importance of psychological constructs involved in the industry, such as stress, burnout, adaptability and professional coping mechanisms. The article includes objectives, purpose, hypotheses, conceptual bases, methodology, tools for measuring them and addresses part of the specialized literature about the concepts mentioned at the workplace and their measurement. The aim being to highlight the relationships between stress - adaptability and professional burnout, stress - low performance at work.*

Keywords: *stress, burnout, stress management, coping mechanisms*

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* Correspondence author: Camelia Angelica Dâmbean
e-mail: dambean.camelia-angelica.20@stud.umfst.ro

1 INTRODUCTION

Entrepreneurship and industry in the current situation is difficult to manage because there are many changes that both employees, and employers have to comply with in order to succeed in the market and manage to be productive, perform well.

This study attempts to highlight the sources of stress that lead to the onset of professional burnout which is increasingly common in the modern world.

Burnout is a complex condition in which mental, emotional and physical exhaustion occurs and sets in as a result of prolonged, excessive and chronic stress factors.

1.1. Burnout

Burnout is defined in the international classification of diseases ICD11 as a syndrome that causes mental exhaustion as a result of chronic stress at work that did not take into account time management, that is, did not complete their tasks.

Burnout is characterized by three dimensions, namely:

- Reduced professional effectiveness
- Feelings of negativism or absenteeism at work
- Feelings of mental tension, irritability and physiological exhaustion, lack of energy, chronic fatigue at work and more

There have been studies in Austria on an industrial batch that have shown that burnout cannot be attributed to a single cause but occurs as a result of a complex interaction of individual characteristics and problems in the work environment, and as such there is no single "treatment" for burnout and therefore several methods of intervention are needed.

In the study by Nisha Harry and Melinde Coetzee 2013, it was found that job redesign can be an effective preventive strategy and cynicism and emotional exhaustion were strong predictors of employees leaving their jobs.

Burnout is related to work, it is the state characterized by exhaustion accompanied by suffering; reduced professional efficiency; feelings of incompetence; decrease in motivation and productivity; and dysfunctional behaviors present at work (Bezuidenhout & Cilliers, 2010; Boudrias et al., 2012; Brand-Labuschagne, Mostert, Rothmann Jnr & Rothmann, 2012).

It was observed that people who were exposed for a long time to stress factors and the lack of adequate coping strategies succumbed physically, emotionally and mentally, establishing a state of exhaustion, known as burnout, highlighted by numerous researchers such as (De Lange et al., 2010; Jordan, Blumenshine, Bertolone & Heinrich, 2010; Lee & Choi, 2010).

Numerous researchers with are: Jordan; De Lange Lee and Choi found that people who experience long-term stress and engage in positive coping behavior are less prone to burnout (Lee and Choi, 2010; De Lange et al.

The researcher who first mentioned the term burnout in 1974 was the psychologist Herbert Freudenberger, who referred to this concept in his book entitled "Burnout, the high cost of achievement".

People who have the following physiological and psychological manifestations listed below fall into the category of Burnout Syndrome, and they can be the following:

- lack of psychomotor energy
- Emotional exhaustion



- Permanent chronic fatigue
- Lack of motivation and will
- Inability to make individual decisions and solve professional and personal problems
- Neglect of health

These manifestations of burnout can be encountered at all ages but are more common in adulthood.

1.1.1. Sources of burnout and work-related stress

One of the causes of burnout can be completing tasks in a short time with a limited budget (Leung et al. 2009) which is stressful for employees (Poon et. Al. 2013).

Numerous research show that stress at work is considered a major threat in maintaining performance (Ibem et al 2011).

The signs of burnout are very subtle to notice at first, and if early intervention is not taken to eliminate some stressors, they become chronic. The first signs before reaching the burnout stage are the neglect of personal needs.

Researcher Leung and his collaborators in 2009 found that stress is harmful to employees, having a significant impact, and if this stress is prolonged it can cause worker burnout causing numerous problems such as workplace accidents, absenteeism which can be costly for the company or organization. Nahrgang et al 2011 point out that burnout in some employees can negatively affect their professional and personal development.

Burnout also has certain stages that have been described by renowned researchers such as Herbert Freudenberger and Gail North, who said that this form of burnout manifests itself as follows:

- the person works harder
- neglects his own needs, especially sleep
- abrupt changes in the revision of values
- denial.

Every individual who has ever worked has felt the pressure of work-related stress at least once in their life, and when work-related stress becomes chronic, overwhelming, it becomes detrimental to a person's physical, mental, and emotional health. but it can also have nocive professional effects.

Sources of stress at work include:

- Low, inadequate remuneration
- Excessive duties and workloads
- Stereotypical, unattractive work
- Lack of social support
- Lack of personal control over professional decisions
- Unclear performance expectations.

If there is professional stress, it extends to a personal level or vice versa, and if it persists it can create disturbances in the body that affect the mental and somatic health of the individual, resulting in headaches, stomach-aches, ulcers, night pain. rhythm disturbances, difficulty

concentrating on tasks, increased irritability, high blood pressure, low immune system and finally anxiety and depression.

1.1.2. Types of burnouts

- Exhaustion of overloading of tasks
- Exhaustion of tasks
- Exhaustion for neglecting the task
- Exhaustion of the family
- Individual burnout
- Interpersonal burnout
- Organizational burnout.

Familiar, habitual exhaustion, which is common to most people and is characterized by a lack of energy, individuals who constantly feel tired, exhausted both physically and mentally.

Boredom manifested by boredom, if the individual is not engaged in activities, constantly complains that he is bored, but does not look for useful activities to stimulate the part of the brain - which is responsible for the emotional part - activities to take him out. this state, to engage in various activities.

Individual burnout is manifested by perfectionism, a negative self-image, and the feeling of being good at nothing.

Interpersonal burnout that can occur in poor interactions with others in the home and professional environment.

Organizational burnout that occurs in companies where there are strict, numerous, short-term requirements.

According to Maslach (1986), three dimensions of burnout are highlighted, namely: a) Emotional exhaustion consisting in a feeling of exhaustion; b) Depersonalization or dehumanization of interpersonal relationships manifested by deficient empathy, distant relationships, indifference and/or cynicism towards the individuals with whom that person interacts; c) Decrease in motivation and socio-professional involvement leading to decreased performance.

1.2. Adaptability

An individual's adaptability refers to his ability to adapt to a rapidly changing environment that can lead to positive outcomes (Wilkins et al., 2014). Employees with a high level of adaptability have more psychological means than employees with a low level of adaptability (Ployhart and Bliese, 2006). The tumult of modern life forces employees to constantly adapt both cognitively and behaviorally.

(Ployhart and Bliese, 2006). Adaptability is a type of individual resource that helps the person to adapt to any conditions regardless of the environment, but the collective can help the individual to adapt more easily to the professional environment (Hobfoll, 1989) Studies on job satisfaction have highlighted the connection between adaptability and work environment highlighted by researchers such as Bastian, Moksnes, Espnes, Luhmann; Bourassa, Cheung and Lucas.

From a resource perspective, accommodation is considered an element of life satisfaction (Wang et al., 2011; Mackey et al., 2013; Stoltz et al., 2013; Martin et al., 2015). A study by



Hirschi pointed to increased adaptability of employees over the course of their working careers as a predictor of increased satisfaction (Hirschi, 2009).

Adaptable individuals have the power to adapt and adapt to changing activity and a new environment, because if adaptable individuals also receive a high level of social support from the environment, they will have high levels of both internal personal resources, as well as external resources. Individuals must make efforts and become more adaptable to new situations that have arisen or adapt to a new environment or the same environment but in which a change has occurred, in our case the covid crisis, in order not to feel overwhelmed by situations, they become stressed or exhausted in some cases.

Adaptability from the inside, but also from the outside, from the collegial environment that are important for the happiness of each individual.

1.3. Coping

The term coping is used in various fields in the modern era to indicate numerous implemented behaviors.

by individuals to try to control or reduce conflict and stress. Coping is a process in which individuals use cognitive and behavioral resources to reduce or eliminate stress (Mersell and Schener 1993).

The term coping was introduced in 1966 by Lazar. Researchers such as Folkman and Lazarus 1988 Chipp and Scherer 1992 stated that coping mechanisms can be revealed through assessment tools and Serban Ionescu et al in 2002 argued that coping mechanisms are personality traits that can appear in stressful situations. Coping strategies are those coping and response mechanisms that a person can adopt in stressful or conflict situations. Each person reacts differently to the same situation and in a subjective way, and then the strategies they put into practice are not always positive, which is why there are adaptive or non-coping coping strategies. Lazarus made a classification of coping patterns as follows: fixed coping on solving problems arising from stressful situations (A. Baban 1998) which is based on certain strategies such as presenting problems, gathering information, finding alternative solutions for conflict resolution (Atkinson et al. 2000).

Emotion-focused coping strategies aim to manage hostile emotions using positive thinking techniques (FolkmanMiskovitz, 2004).

Emotion-focused coping aims to manage the affect that accompanies the perception of stress (Brannon & Freist, 2009).

There are several affect-focused coping strategies namely:

- avoiding problems
- get rid of the problem
- except the problem or situation
- acceptance of the situation and awareness of responsibility
- exercising self-control (Robinson, 2005).

Behavioral coping strategies aim to change or reduce where it is not possible to eliminate the source of stress.

Therefore, coping strategies depend on several factors, namely:

-type of problem encountered

-the circumstances in which the stressful problem arose and, last but not least, the individual characteristics of each person.

Taking into account the variety of stressful and conflicting situations that the individual may encounter, coping strategies can be identified:

- Appraisal-focused when the person shifts their thinking away from the conflict or stressful event.

- Problem-focused coping strategies when the person wants to debate/collect the causes of stressful problems in order to understand and solve them from another angle so as not to create a stressful conflict situation.

1.4. Stress management

Managing stress in the workplace is a topic of interest to both employees and employers. Fobes in 2014 showed that over 42% of employees left their jobs due to stress.

If employers are interested in finding the sources of stress, reducing or eliminating them, they will benefit because employees will not have psychological, emotional and somatic health problems, they will be satisfied and will not miss work, and as a result the employer will see normal, good productivity with satisfied employees. Ways to relieve stress: exercise, yoga, meditation, days off, reducing work time, delegating tasks, learning conflict resolution techniques, emotional use. traffic lights.

1.5. Job satisfaction

Job satisfaction is manifested through a positive affect resulting from the evaluation of the work performed at work. Job satisfaction is a motivational factor that depends on the characteristics of the person, the workplace and the environment in which the individual works.

Work to provide satisfaction must meet certain physical conditions that do not endanger the physical and mental health of the person. Certain conditions must be met in order to carry out their work in good conditions, namely that there must be no danger, there must be good lighting, the optimal working temperature and noise within certain accepted parameters. The working time of the job duties, the salary corresponding to the training and according to the assigned tasks, the possibility of hierarchical promotion can provide satisfaction or dissatisfaction at the workplace.

Exaggerated demands of employees who have insufficient resources can be predictors of burnout (Bria, Băban, Andreica and Dumitrașcu, 2013). Ștefenel and Ștef found that if job satisfaction is high, then the predisposition to burnout decreases (Ștefenel & Ștef, 1999).

Job satisfaction is associated with burnout. The higher the job satisfaction, the less likely burnout will occur according to Renzi et al. (2005) and Vio-lante et al. (2009). Factors that influence burnout can be acute cases, high levels of anxiety, drug use.

2 HYPOTHESIS

H1: There is an important link between adaptability and stress.

H2: There is an important link between adaptability and burnout.

H3: There is an important link between stress management and burnout.

3 METHODOLOGY AND METHODS

The study was conducted on a group of 30 employees from a car construction company in Tg.Mures. marked with Batch 1 and another group of 30 subjects from another company in Tg.Mures marked with Batch 2. The subjects' participation in this study was done by simple randomization between 21.01.2022 and 30.06.2022 in the age group between 30-62 years of age of both sexes, coming from different social and educational backgrounds.

A) The Burnout questionnaire has 17 items with closed Yes and No questions, and for each positive item 1 point is given and then the points are totalled. Thus, between 1-4 points we have burnout at a low level, between 5-8 points we have burnout at an average level, between 9-12 points we have burnout at a high level, between 13-17 points we have burnout at an exaggerated level.

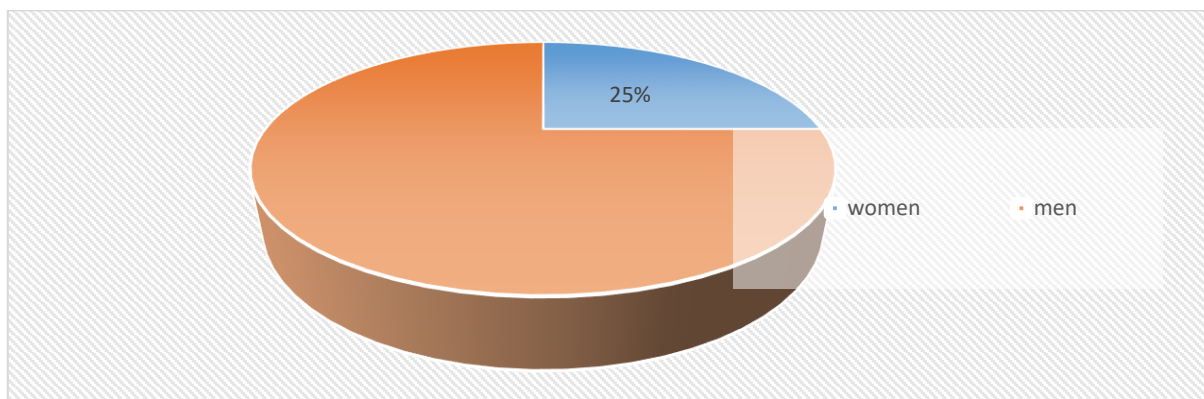
B) The job satisfaction questionnaire has 42 questions that subjects must answer on a scale from 1 to 6. 1 represents strong disagreement, 2 represents moderate disagreement, 3 represents moderate disagreement and 4 represents moderate disagreement, 5 represents moderate agreement and 6 represents strong agreement. The purpose of this questionnaire is to investigate the relationship between job satisfaction, leadership style and intention to leave the organization.

C) For the evaluation of cognitive coping strategies, we used the Cognitive Emotional Coping Questionnaire (CERQ) which has 36 items, and which identifies and evaluates coping strategies by identifying 9 scales, but we applied only 7 of the 9 scales, which means 28 of items. The scales of the Emotional Cognitive Coping Questionnaire are the following: self-blame, acceptance, rumination, reorientation on planning, perspective-taking, catastrophizing, blaming.

The adaptability questionnaire has 8 statements, for each statement the subject must specify to what extent it describes his behavior or intentions on a scale from 0 to 3; 0 never, 1 rarely, 2 sometimes, 3 almost always.

4 RESULTS

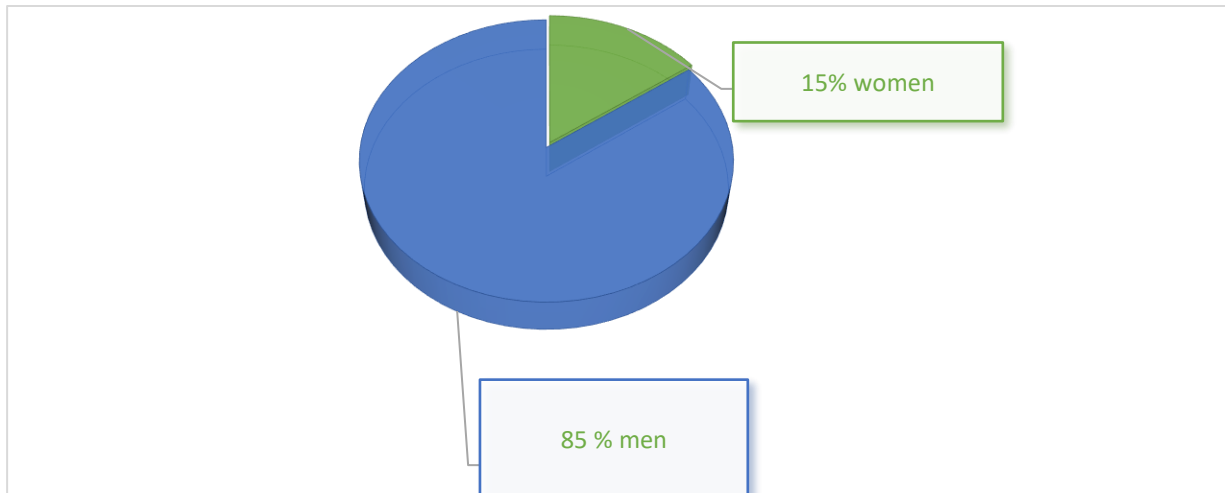
Figure 1 Distribution of subjects by sex in the first enterprise / Batch 1



Source: Authors' Elaboration

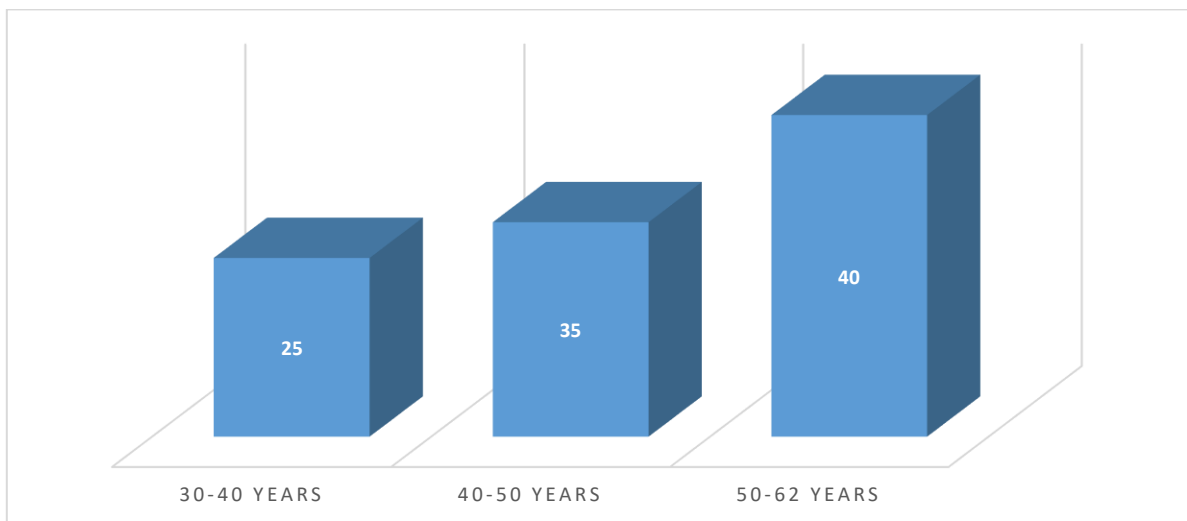
We distributed a number of subjects lot 1 enterprise 1 and lot 2 enterprise 2, and the respondents were thus classified as 15 % being women and 85 % men.

Figure 2 Gender distribution of subjects in the second enterprise /lot2



Source: Authors' Elaboration

Figure 3 Distribution of all subjects according to age in both enterprises lot 1 and lot 2,

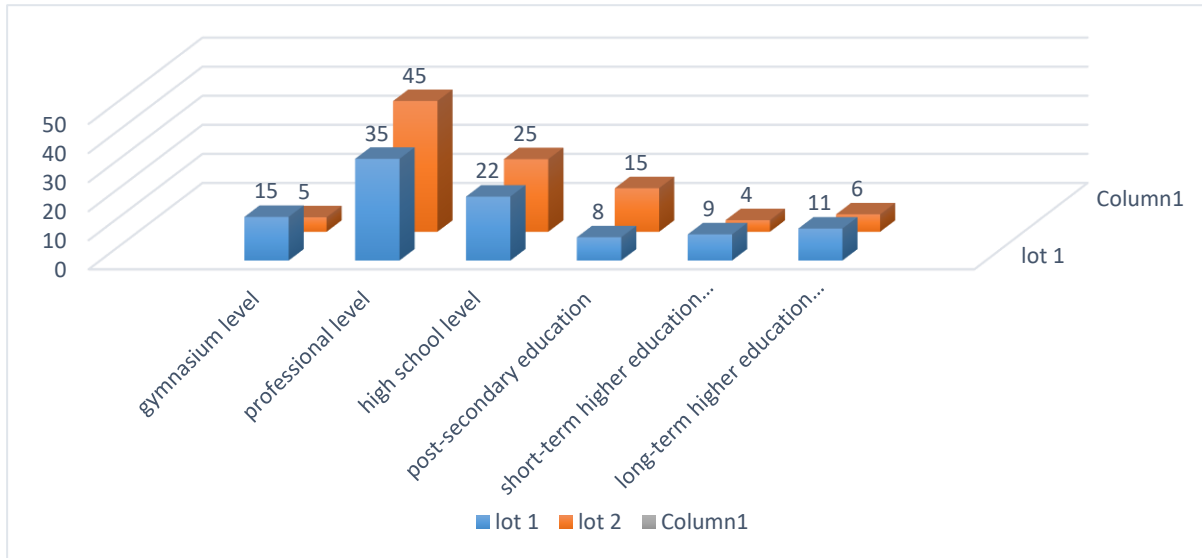


Source: Authors' Elaboration

From the graph above we can see that the highest percentage is in the age group 50-62 years representing 40%.

The third variable is the educational level of the employees which has 5 levels: secondary school level, vocational level, high school level, short term studies level, long term studies level.

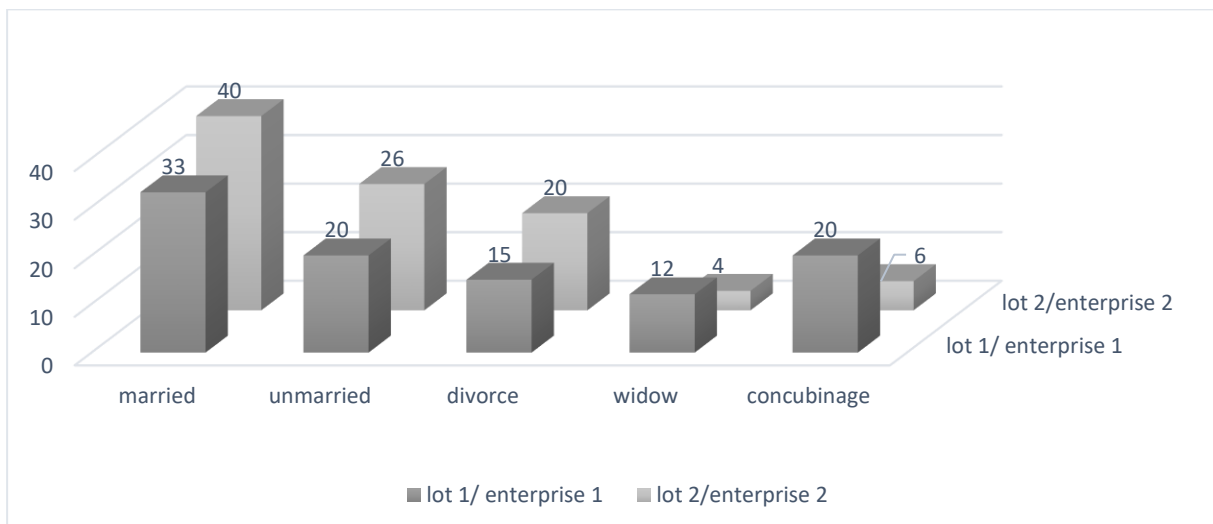
Figure 4 Distribution of employees according to educational level in both enterprises



Source: Authors' Elaboration

In the graph above we can see the level of education of the employees, 11% have university education, 8% have post-secondary education, short term higher 9%, high school level 22%, professional level 35% and gymnasium level 15%.

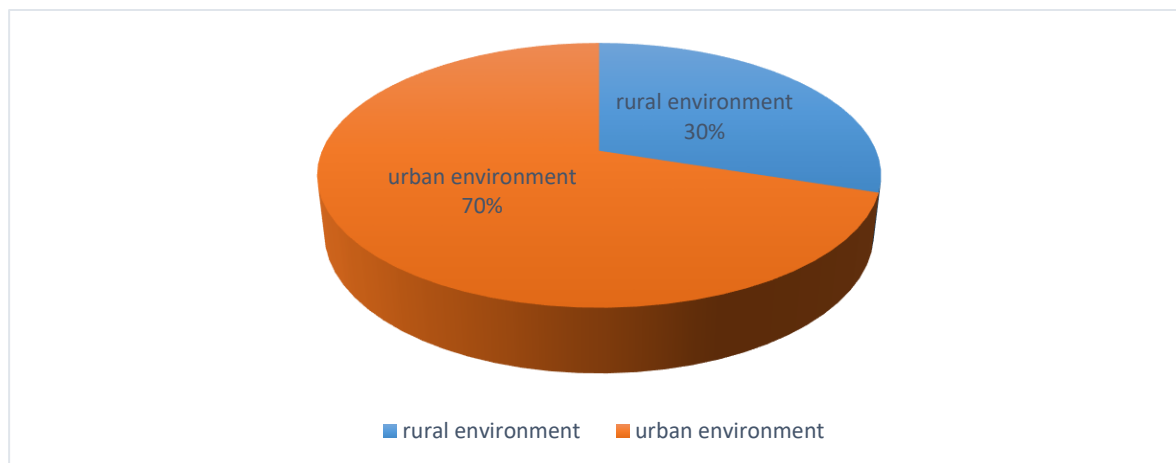
Figure 5 Distribution of subjects by marital status



Source: Authors' Elaboration

In the above graphic the highest percentage is represented by the married individuals in the first lot , and the second lot the highest percentage is the individuals married 40%.

Figure 6 Distribution of subjects according to background



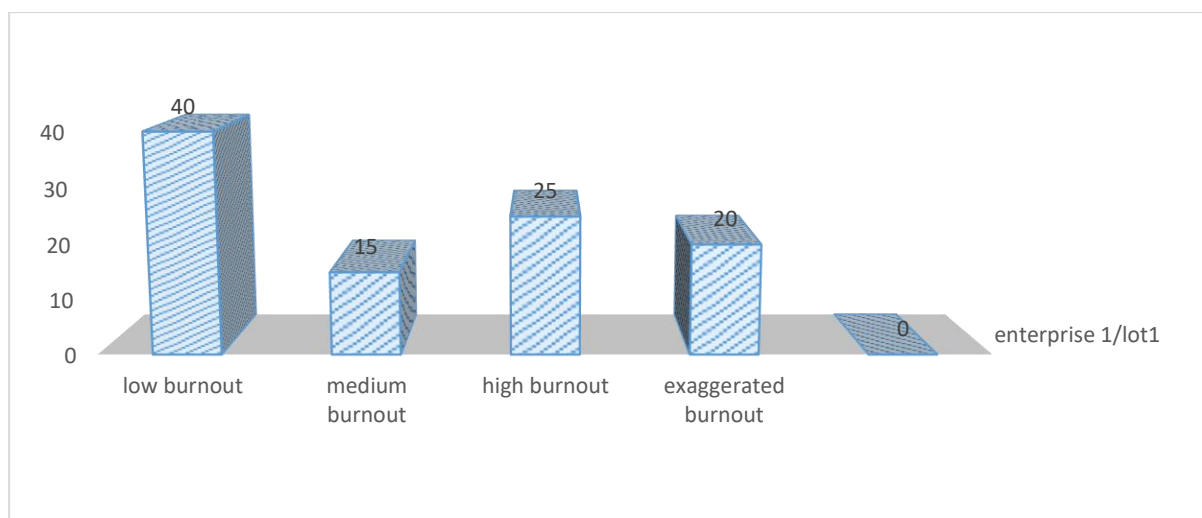
Source: Authors' Elaboration

Of the employees interviewed, 70% are from urban areas and 30% are from rural areas.

The parameters included in the research were gender, age, place of origin, seniority and burnout test, coping test, as well as the job standardization observation sheet with the important elements of our study.

To measure the level of mental and physical exhaustion of employees we used a self-report burnout level questionnaire consisting of 17 items that highlight four levels of low, medium, high and exaggerated burnout.

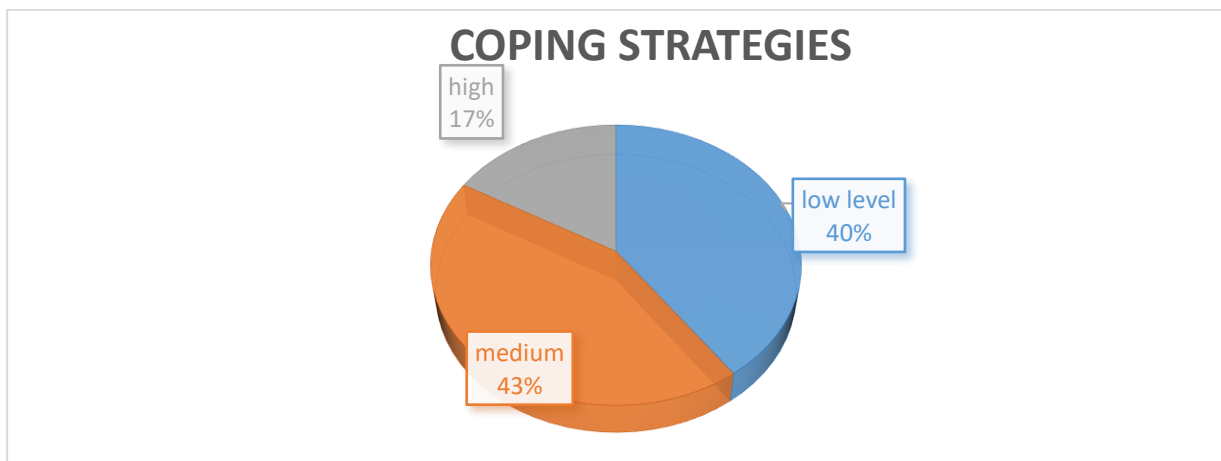
Figure 7 Distribution of subjects according to the values obtained in the burnout test enterprise 1



Source: Authors' Elaboration

From the diagram above we can see that the highest percentage is of people who show a phenomenon of medium - exaggerated burnout which represents 60% more than half of the population taken in the study shows a physical but especially mental exhaustion, which is worrying.

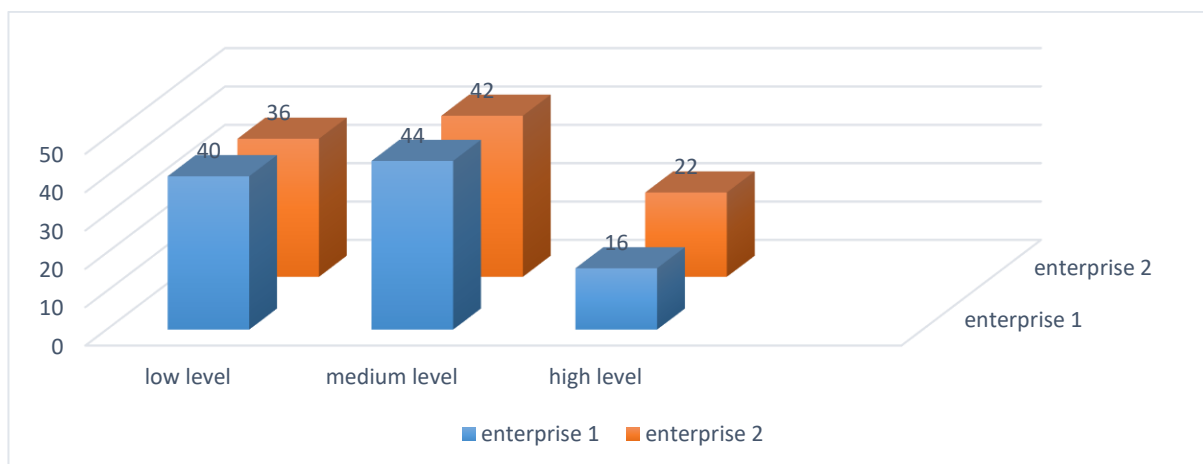
Figure 8 Distribution of subjects according to coping strategies enterprise 1



Source: Authors' Elaboration

As can be seen 83 % of our subjects show coping strategies at the low and medium level in the first enterprise.

Figure 9 Comparative histogram of subjects regarding the coping strategies at the two enterprises

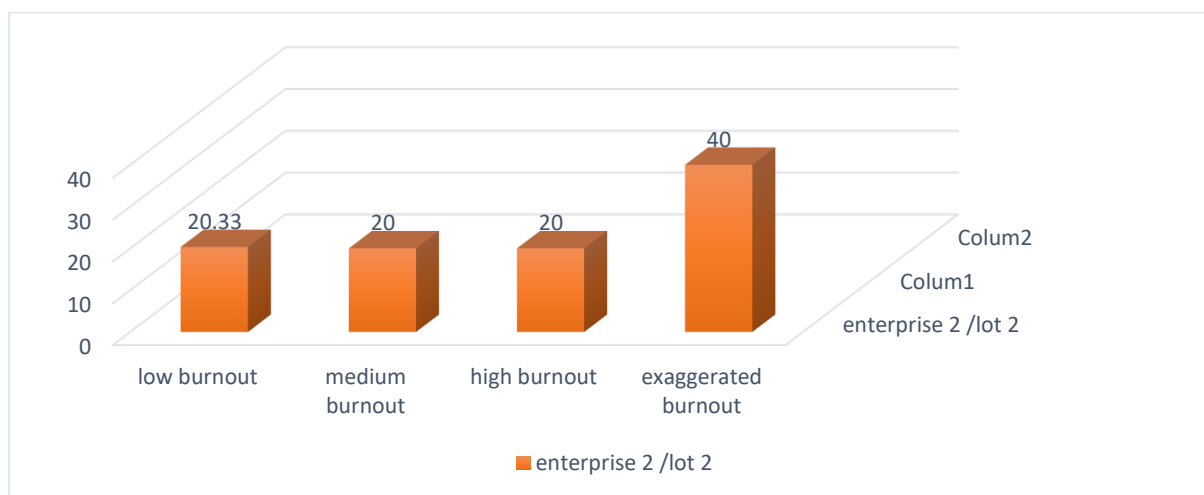


Source: Authors' Elaboration

In the image above we have a comparative histogram of the subjects taken in the study from the two companies where we can see that in the second company the percentage of the

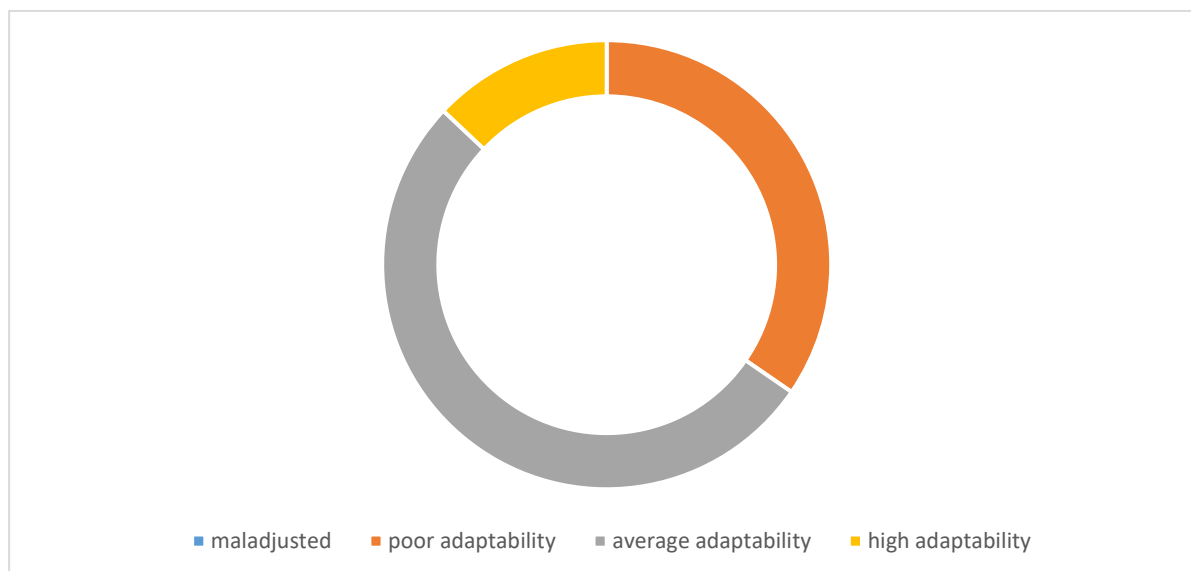
subjects showing a low average level of coping strategies is 84% compared to the same average level of employees in the second company which represents 78% a slight difference between the two companies at the average-slow level of about 6 percent.

Figure 10 Distribution of subjects according to the values obtained in the burnout test enterprise



Source: Authors' Elaboration

Figure 11 Distribution of subjects according to the values obtained in the adaptability test



Source: Authors' Elaboration



5 DATA ANALYSIS AND INTERPRETATION

The research design is experimental, empirical, quantitative and qualitative. The participants were randomly selected, and the data collection method was self-evaluation. The participants are women and men from urban and rural areas of Targu Mures. The questionnaires used aim to assess each respondent's perception of coping strategies, burnout level and job satisfaction.

We used SPSS software to calculate in this study the median, standard deviation and correlations of the two established follow-up parameters to prove the established hypotheses.

The data analysis shows that for employees in the two companies we investigated, the main sources of stress are: the salary they consider low, the difficulties of delivering some parts on time, a lot of work/work for one employee, loud noise, daily pandemic stress, the war at the borders of the country. An underlying assumption of this model is that for organisational burnout to decrease, to be controlled is that there are substantial differences between it and time management.

Another assumption is that there are significant differences between stress and employee burnout, high level stressors can be mitigated with coping strategies.

Correlation studies have been done.

As can be seen, there is a significant close correlation at a significance level of $p < 0.05$ between:

1. age and burnout -0.365
2. burnout and job satisfaction- 0,200
3. burnout and coping - 0,198
4. adaptability and burnout – 0,001

6 CONCLUSIONS

According to the research done by other researchers such as Renzi and Violante in other countries such as Italy who have done research on the level of burnout among health professionals, they too have observed that there is a strong link between job satisfaction and employee burnout [Renzi et al (2005) and Violante et al. (2009)].

Researcher Freudenberger (1989) defines the concept of burnout as the inability of employees within a company to work due to intense work and experience emotional demoralization creating a depletion in an individual's physical and spiritual energy. Researcher Sürgevil Dalkılıç (2014) defined burnout as a psychological collapse of the employee that over time becomes chronic and becomes a disease, then enters a process from which it hardly escapes. Durak & Seferoğlu(2017) described the symptoms of burnout as a state of exhaustion, helplessness, hopelessness, negative feelings and thoughts in general. Coping strategies are the cognitive, affective and psycho-behavioral solutions we emanate with the aim of diminishing, mastering, reducing or tolerating internal or external demands that may exceed individual resources (Lazarus et al.)

According to studies made by Petru Pacuraru, founder of HPDI (Human Performance Development International), more than 8% of Romanian employees suffer from Burnout

Syndrome and the productivity of an employee suffering from Burnout Syndrome decreases by 80%.

Researchers such as Maslach, Gusy, Simionato, Stehman, Bakker and Wang Gil-Monte, Nagy have highlighted the link between employee burnout leading to health problems, with the extension of mistakes, with the employee's poor work performance (Bakker and Demerouti, 2017; Bakker and Wang, 2020) with the emergence and onset of depression [(Maslach, 2017; Gusy et al., 2019), (Maslach, 2017; Simionato et al., 2019), (Stehman et al., 2019), (Bakker and Wang, 2020), (Bakker and Demerouti, 2017; Bakker and Wang, 2020, (Gil-Monte, 2012; Nagy et al., 2018; Hatch et al., 2019)]. From our data it can be seen that the burnout in the first institution is lower than that in the second institution, which is also proved by the means and standard deviations.

7 PROPOSALS

In order to reduce or decrease organizational burnout, employers should consider offering or making available to employee's trainers who teach employees modern coping techniques or strategies, relaxation techniques, exercises for positive emotions, physical exercises.

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