

EVALUATION AND COMPARISON OF THE MENTAL LEVEL STRESS IN THE UNEMPLOYED PERSONS AND THE EMPLOYEES IN THE URBAN AREA

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Abstract: The mental stress, permanently present among the population, is one of the most important factors that influence the physical and the mental health in a negative way. The celerity of the social and economic changes from the present Romanian society has caused a very high psychological pressure especially among a certain category, such as the unemployed persons and the employees. The objective of this survey is represented by the evaluation and the comparison of the level of the mental stress regarding the unemployed persons and the employees in the urban area. (Bucharest) Methodology: the social and demographic characteristics and the mental state have been evaluated in a psychiatric interview, and the level of stress has been measured by means of the Perceived Stress Scale - 14 items. A transverse research has been made on two categories: a category of unemployed persons (384 persons) and a category of employees (360 persons), selected using the method of randomized and simple sampling. Results: The severe stress is much more often met with people between 19-29 years old for the unemployed persons and 40-49 years old for the employees. The weight of women with severe stress is higher than of men with severe stress both for the employees and the unemployed persons, while the moderate stress is more often met with men. The severe stress is more common for men (51,7%) and for women without secondary education (50,5%). The persons with higher education have the lowest level of stress. The status of not married person and divorced/widowed (single person) presents a risk factor regarding the presence and the high level of stress, while the status of married person is a factor of protection. The unemployed persons present a higher risk of severe stress than the employees. Conclusions: The measuring of the stress level for the unemployed persons is important from the scientific and practical point of view for the setting up of some prevention and treatment methods of the mental disease caused by the unemployment.

Cuvinte cheie: stres perceput, șomeri, angajați

Rezumat: Stresul psihic, o prezență permanentă în populația generală, este unul dintre factorii cei mai importanți care influențează în mod negativ sănătatea fizică și psihică. Celeritatea schimbărilor socio-economice din societatea românească actuală a determinat o presiune psihologică ridicată în special la nivelul unor categorii populaționale cum sunt șomerii și angajații. Obiectivul acestui studiu este reprezentat de evaluarea și compararea nivelului de stres psihic la șomeri și la persoanele încadrate în muncă din mediul urban (Municipiul București). Material și metodă: caracteristicile socio-demografice și starea de sănătate psihică au fost evaluate printr-un interviu psihiatric, iar nivelul stresului a fost măsurat cu ajutorul Scalei Stresului Perceput 14 itemi. S-a efectuat o cercetare transversală pe două loturi: un lot de șomeri (384 persoane) și un lot de angajați (360 persoane) selectați prin metoda eșantionării simple aleatorii. Rezultate: stresul sever apare mai frecvent la grupele de vârstă 19-29 de ani în cazul șomerilor și 40-49 de ani în cazul angajaților; ponderea femeilor cu stres sever este mai mare decât a bărbaților cu stres sever, atât în rândul angajaților cât și al șomerilor, în timp ce la categoria stres moderat predomină numărul bărbaților; stresul sever apare mai frecvent la bărbații (51,7%) și femeile (50,5%) fără studii medii; persoanele cu studii superioare au nivelul de stres cel mai scăzut; statutul de necăsătorit și divorțat /văduv (persoană singură) reprezintă un factor de risc în ceea ce privește prezența și nivelul crescut de stres, în timp ce statutul de căsătorit este un factor de protecție; șomerii prezintă un risc mai mare de stres ridicat decât angajații. Concluzii: Măsurarea nivelului de stres la șomeri este importantă atât din punct de vedere științific cât și practic pentru elaborarea unor metode de prevenire și combatere a tulburărilor psihice generate de starea de șomaj.

INTRODUCTION

The mental stress, permanently present among the population, is one of the most important factors that influence the health and the quality of life.(1)

The occupational stress may have very negative effects both for the society and the human being, affecting the physical and the mental health on long term.(2,3)

The celerity of the social and economical changes in the present Romanian society has caused a high psychological

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pressure, especially for a certain population category. Such a category is represented by the unemployed persons.

The loss of a work place may represent an important psychic trauma that generates a high level of stress.(1)

PURPOSE

The objective of this survey is represented by the evaluation and the comparison of the mental level of stress for the unemployed persons and the employees in the urban area. (Bucharest)

The first part of the survey is meant to create a detailed analysis of the distribution of the unemployed persons and the employees, using different variables such as: age, marital status, level of studies and level of stress.

The second part of the survey follows the evaluation and the comparison of the mental level of stress both for the unemployed persons and the employees in the urban area. The following hypothesis is being tested in order to fulfil this objective:

1. The unemployed persons have a higher level of stress than the employees.
2. Women have a higher level of stress than men (for the unemployed persons and the employees).

METHODS

Variables

Independent: age, gender, studies, marital status

Dependent: stress

Participants: Men and women from the urban area, selected based on some inclusion and exclusion criteria, creating two categories: a category of unemployed persons and a category of employees.

The selection of the unemployed participants has been made from the Labour Municipal Agency, Bucharest and from other sources (consultations, acquaintances etc), based on volunteering and free will, after a psychiatric interview and the inclusion and exclusion criteria. The employees have been selected from different fields (medical, legal, services, public clerks) based on a psychiatric interview and on some inclusion and exclusion criteria. The participants have been selected at random.

The category of the unemployed persons

Inclusion criteria:

- Unemployed persons from the urban area at least one month after losing their work place.
- Men and women.
- Age: 20-65.
- Studies: without secondary education, with secondary education, with higher education.

Exclusion criteria: unemployed persons

- Diagnosed with prior severe mental disease or when the selection interview is taking place.
- Addicted of alcohol, drugs or other psychotropic substances.
- With severe somatic disease that can influence the mental state in a severe manner.
- Who does not provide correct and complete information.

The category of the employees has been selected by the same inclusion and exclusion criteria that have been used for the unemployed persons. The selection has been made in 3 stages one after the other, between September 2011 – August 2013, in order for the unemployed subjects to be able to participate at a different evaluation and at a bio-psycho-social subsequent therapeutic intervention, intervention that lasted 6

months for each series. In the end, the results obtained have been analysed.

527 unemployed persons have been interviewed and 384 persons, 216 women and 168 men have been selected after applying the inclusion and exclusion criteria.

360 persons, 188 women and 172 men have been selected as well out of 480 employees.

The research instruments are represented by the psychiatric interview and by the Perceived Stress Scale (PSS) Cohen&Williamson.

The psychiatric interview

The psychiatric interview implied questions regarding the demographic data, collateral antecedents, personal pathological antecedents and the current mental state.

After the selection interview, a transverse research of the perception of stress has been made by applying the Perceived Stress Scale – 14 items (PSS-14).(5,6)

Cohen&Williamson Questionnaire

The Perceived Stress Scale (PSS – Perceived Stress Scale – created by Cohen and Williamson, 1988) is a self-administrated questionnaire where people measure the level of stress in daily situations, as being intrusive and beyond the comfort state of each person.(6)

The marking is subjective, each person having her own mechanisms of coping with these situations. The purpose of this scale is to compare the level of the stress perceived by people regarding situations and events from their life.

„PSS measures the level in which life situations are evaluated as being stressful” (Cohen, S. Kamarck, T. & Mermelstein, R, 1983).(5) Cohen & Williamson questionnaire explores the living of stress, emphasizing not the event itself, but the reaction of the person in the stressful context.

The scale has 14 items that include direct questions regarding the level of stress about feelings, events, experiences and thoughts from the last month.

The target group. The questionnaire provides comparisons for the age categories of more than 20 years old.

Fidelity and validity. The intern validity for the Cohen & Williamson 1988 questionnaire is p.55, Alfa coefficient 82.(6)

The answers may vary from 0 to 4 for each question, answering in a very spontaneous way from a. Never; b. Almost never; c. Sometimes; d. Quite often; e. Very often. (Cohen, Kamarck, & Mermelstein, 1983).(5).

The items: 1, 2,3,8,11,12 and 14 have a negative connotation (a. – 0 points; b. – 1 point; c. – 2 points; d. – 3 points; e. – 4 points; f. – 1 point; g. – 0 points).

The total score is obtained by combining the scores from those 14 items. There is not a preset line, the big scores indicating a high level, and the small scores, indicating a low level.

The results can vary between 0 and 56 points (6).

The interpretation of PSS (Perceived Stress Scale)

0 - 14 = low stress level

15 - 35 = moderate stress level

36 - 56 = severe stress level

The Cohen Perceived Stress Scale is free for academic use.

The statistical analysis of the data has been achieved by means of the SPSS informatics system.

RESULTS AND DISCUSSIONS

The distribution of the unemployed persons and the employees according to the four independent variables: age, gender, marital status and studies.

The age of the persons is between 19 and 62 years old with an average of 41 years old.

The variation coefficient is around 30,04%, so the calculated average is representative for the entire examined population. The asymmetry coefficient is almost zero, the distribution of ages being almost symmetrical (table no. 1) The average of the unemployed persons is around 41 years old (41,02 years), and the average of the employees is smaller, around 40 years old (39,63 years).

Table no. 1. Distribution of the unemployed persons according to age

Age groups (in years)	Number of unemployed / %	Number of employees / %
19-29	70 /18,23	70 /19,44
30-39	94 /24,48	107 /29,72
40-49	108/28,12	127 /35,28
50-65	112/29,17	56 /15,56
Total	384	360

Regarding the unemployed persons, most of the people are between 50 and 65 years old (29,17% out of the total of the unemployed persons included in the analysed category), and with regards to the employees, most of the people are between 40 and 49 years old (35,28% out of the total of the employees) (table no. 1.).

The number of women is higher than of men both for the unemployed persons and the employees (figure no. 1.).

Figure no. 1. Distribution of the unemployed persons and the employees according to gender. Unemployed

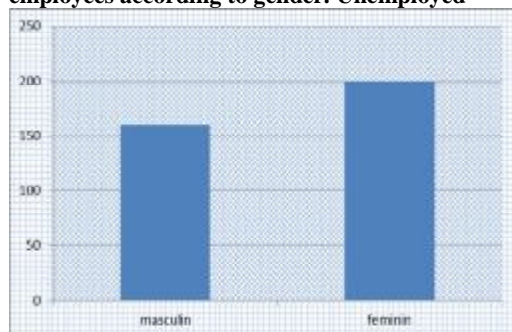
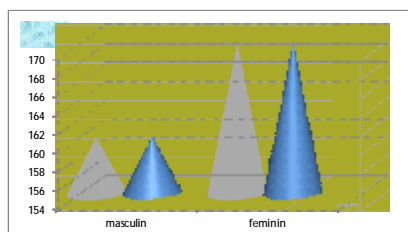


Figure no. 2. Distribution of the unemployed persons and the employees according to gender. Employed



A higher number of women has been studied (there are 404 women in the category, comparing to 340 men). 50,6% of men are employees and the rest are unemployed (49,4%). The weight of the unemployed women is higher out of the total number of women (53,5%) than the weight of the unemployed men (49,4%). The weight of the employed women (46,4%) is less than the employed men (50,6%).

Most of the participants in the category are between 40 and 49 years old (31,6%). Most of the unemployed persons (29,2 %) are between 50 – 65 years old. The highest number of employees are between 40 – 49 years old (35,3%).

Figure no. 3 presents the classification of the unemployed persons after two simultaneous variables: age and gender. There are included more women in the category, 54,3% out of the total. Women have a higher weight both for the unemployed category and the employees' category, being more numerous than the employed category.

Figure no. 3. Distribution of the unemployed persons and the employees according to gender and age. Male

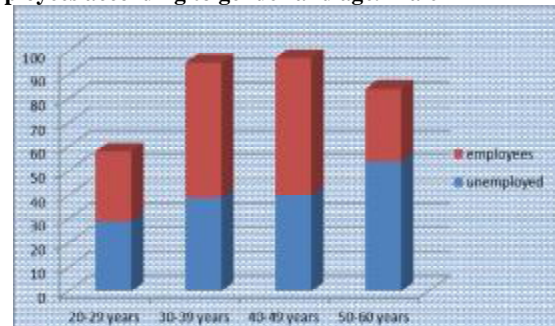
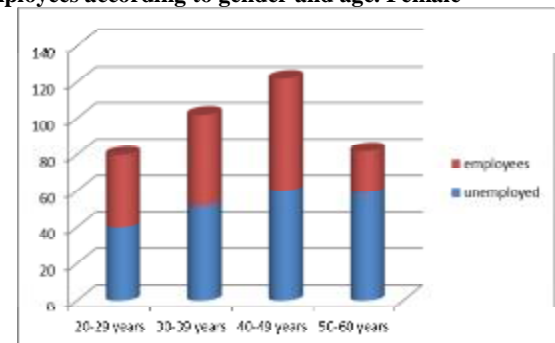
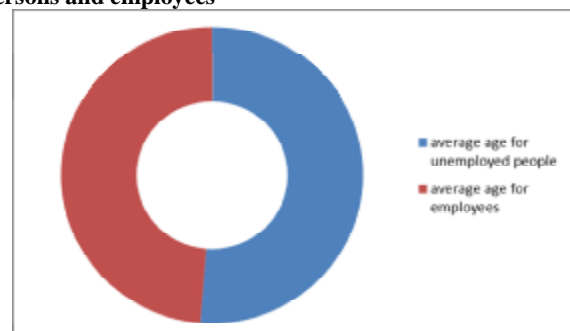


Figure no. 4. Distribution of the unemployed persons and the employees according to gender and age. Female



In order to establish whether the unemployed persons' category has something different about the age comparing to the category of the employees, we have approached a certain comparison based on test t for independent categories. After applying this test, we did not notice significant differences from the statistic point of view between unemployed persons and employees regarding the average age (the value of the empiric significance level – value p (p value) is higher than 0,05). You can notice in the next figure that the two categories are similar in terms of average age (figure no. 5.).

Figure no. 5. Average age differences between unemployed persons and employees



Under the aspect of the marital status of the persons, the categories researched were heterogeneous, including 4 categories of people: married, unmarried, in a relationship or divorced/widowed. More than half of the unemployed persons (60,9% out of the total of the unemployed persons) are married, 15,4% unmarried, 12,2% divorced and just 11,5% are in a relationship. Most of the employees (51,1%) are married, 18,6% unmarried, 17,8% are in a relationship and the lowest weight is for the divorced people or widowed (just 12,5% out of the employees) (table no. 2.).

Table no. 2. The distribution of the unemployed persons and the employees according the marital status

		Marital status				
	(% of status)	married	unmarried	in a relation	divorced/ widowed	Total
Status	unemployed	60.90%	15.40%	11.50%	12.20%	100%
	employed	51.10%	18.60%	17.80%	12.50%	100%
Total		56.20%	16.90%	14.50%	12.40%	100%

The distribution according to the marital status is also analysed separately for the two genders. Over half of the unemployed male persons (57,7%) and over half of the female (63,4%) are married. The weight of the employed married women (51,1%) is close to that of the employed married men (51,2%). 11,3% of the unemployed men are in a relationship. 12,2 % of the employed men (the lowest weight in the total of the employed men) are divorced/widowed. The fewest unemployed women (7,4%) are divorced/widowed, and the fewest employed women (12,8%) are divorced/widowed. The comparison under the aspect of the marital status between the category of the unemployed women and the employed women stress the fact that the weight of the unemployed women is significantly higher than the employed women only for the married persons (figure no. 6.).

Figure no. 6. Differences regarding the employees and the unemployed persons regarding the marital status and the gender. Unemployed

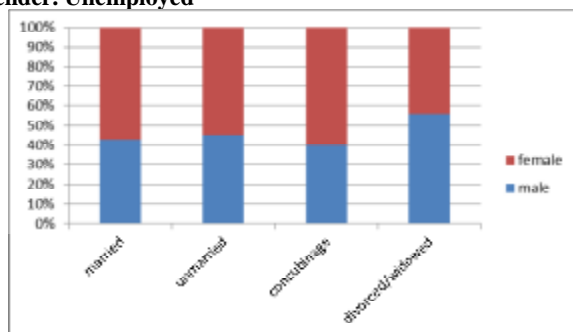


Figure no. 7. Differences regarding the employees and the unemployed persons regarding the marital status and the gender. Unemployed

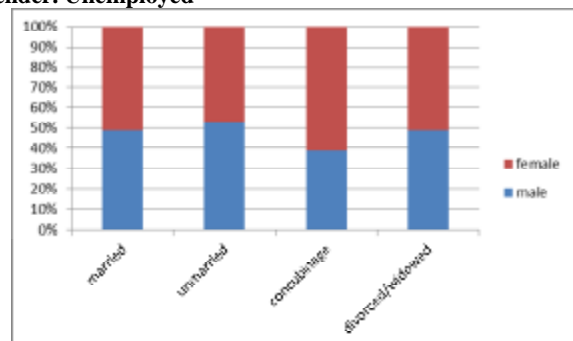
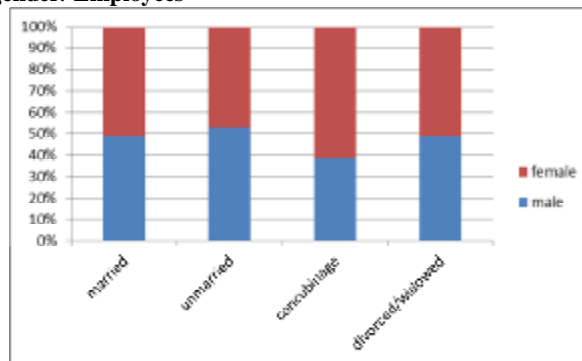


Figure no. 7. Differences regarding the employees and the unemployed persons regarding the marital status and the gender. Employees



Three big categories of studies have been taken into consideration for the unemployed persons: without secondary education, with secondary education and higher education.

Most of the people included in this category do not even have secondary education (38,4% people), 36,8 % have secondary education and 24,7% have higher education. Almost half of the unemployed persons do not have secondary education (49%), while the percentage is smaller (27,2%) for the employees. Regarding the unemployed, there are just a few with higher education. As far as the employees are concerned, most of the people have secondary education (39,2%) and the fewest do not even have secondary education (27,2%). So, we may conclude that the lack of the secondary studies is an important risk factor that makes people more vulnerable when they become unemployed. There are 56,9% women and 43,1% men in the category of the unemployed persons without secondary education. There are women 51% out of the total of the employees without secondary education. There are also more women comparing to men when we mention about the unemployed and the employees with secondary education and higher education (figure no. 8).

Figure no. 8. The distribution of the unemployed persons and the employees according to studies. Unemployed

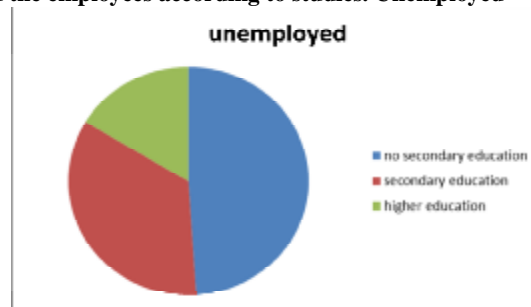
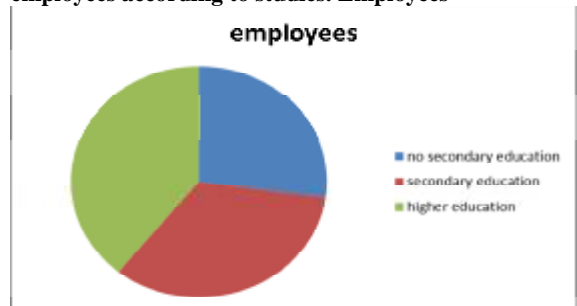


Figure no. 9. Distribution of the unemployed persons and the employees according to studies. Employees



The level of stress reported to the four independent variables: age, gender, studies, marital status

Stress – age

The distribution of the average age is presented according to the levels of stress. The average age of the unemployed persons with low stress is higher than the employees with low stress. The unemployed persons with moderate stress have a higher average age than the specific one for the entire category of unemployed persons. There is a significant difference regarding the average age of the unemployed persons with severe stress and the employees with severe stress. However, the differences between the averages age are significant between the unemployed persons with moderate stress and the employees with moderate stress (table no. 3).

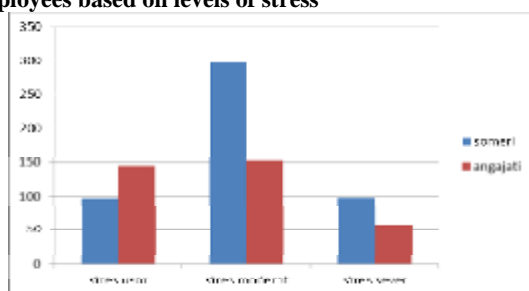
Table no. 3. The average age of the unemployed persons and the employees based on stress categories and age categories with the highest number of unemployed persons/employees based on the level of stress

Stress categories	The average age for the unemployed persons	Age category with the highest number of unemployed persons	The average age for the employees	Age category with the highest number of employees
Low stress	38.12088	30-39 years old	37.94615	30-39 years old
Moderate stress	43.21891	50-65 years old	40.86826	40-49 years old
Severe stress	39.83696	19-29 years old	39.8254	40-49 years old
Total	40.39225		39.5466	

Both the unemployed persons and the employees have the highest weight for the category of moderate stress.

The employees are less affected by the severe stress comparing the unemployed persons (figure no. 10).

Figure no. 10. The distribution of the unemployed persons/employees based on levels of stress



Regarding the unemployed persons, the severe stress has been more frequent for the age category 19-29 years old (28,3%) and regarding the employees, the severe stress has been significant for the age category 40-49 years old (33,3%). The moderate stress had the highest weight for the age category 50-65 years for the unemployed persons (34,8%) and for the age category 40-49 years for the employees (38,3%). The low stress is often met with the unemployed persons for the age category 30-39 years, and regarding the employees it is equal (32,3%) for the categories 30-39 years and 40-49 years.

Stress – gender

The unemployed persons are more likely to develop severe stress (58,3% out of the total of men). The same tendency is being noticed for women as well. 60% of the women with

severe stress are unemployed. The employees (women and men) have a higher weight only for the category with low stress. The weight of the women with severe stress is higher than of men with severe stress, both for the employees and the unemployed, while regarding the category of moderate stress, the number of men is significant, as you can notice in the figure no. 11.

Figure no. 11. Distribution of the unemployed persons and the employees based on the levels of stress and gender

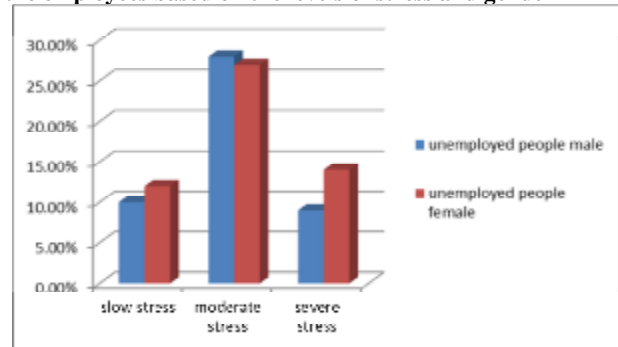
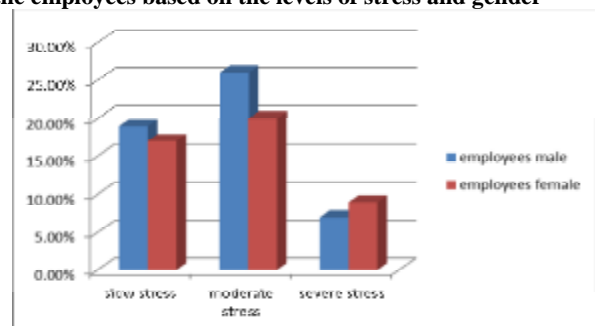


Figure no. 12. Distribution of the unemployed persons and the employees based on the levels of stress and gender



Stress - studies

Most of the men with low stress (42,6%) have secondary education and most of the women with this level of stress (40,8%) have higher education.

The moderate stress is significant for men without secondary education and with secondary education in equal parts (39,1%) as well as for the women with secondary education. (43,9%)

The severe stress is more frequent for men (51,7%) and for women (50,5%) without secondary education.

You can notice that the persons with higher education have the lowest level of stress.

Stress – marital status

Most of the unemployed persons with low stress (63,7%) and moderate (73,6%) are married.

The severe stress affects more the unemployed persons who are not married. (33,7%) and the divorced/widowed (33,7%).

Regarding the employees as well, most of the persons with low stress (59%) and moderate (53,9%) are married. The severe stress affects the most the employees who are divorced/widowed (44,4% from the employees).

We can draw the conclusion that the unmarried and divorced/widowed (single person) represent a risk factor regarding the presence and the intensity of the stress while the married status is a factor of protection.

The results of our survey have been in accordance with other surveys partially, surveys that utilised PSS-14 on the different categories of population.(6,7)

In the second part of the survey, we have tested different hypothesis regarding the evaluation and the comparison of the mental stress level for the unemployed persons and employees in the urban area.

Hypothesis 1: The unemployed persons have a higher level of stress than the employees

H0: the unemployed persons do not have a higher level of stress than the employees.

H1: the unemployed persons have a higher level of stress than the employees.

Based on a multinomial regression, you can notice that the chances to develop a higher level of stress are bigger both for the employees and the unemployed persons. This way, the chances to have a moderate stress comparing to the low stress for the unemployed persons increase with 71,9%. The chances for a severe stress are higher for the unemployed persons comparing to the employees, with 108,6%.

After applying the Wilcoxon test, the null hypothesis is being rejected, hypothesis that states the non-existent differences between the unemployed and employees regarding the stress categories (the empiric level of significance is lower than 0,05, even 0). Therefore, the unemployed persons present a higher stress risk than the employees (table no. 4).

Table no. 4. The Wilcoxon test for comparing the differences between the employees and the unemployed persons regarding the stress categories

	status – stress category
Z	-11.623
Asymp. Sig. (2-tailed)	.000

Hypothesis 2: Women have a higher level of stress than men (both for the population of the unemployed persons and the population of employees).

The chances to develop severe stress are 25% lower for men comparing to women and the chances with moderate stress increase with 12,5 % for men. This way, it is more likely for the women to have severe stress and for the men with moderate stress, which is a lower level of stress comparing to women.

Table no. 5. The Wilcoxon test for comparing the differences between men and women regarding the stress categories

	gender - stress category
Z	-10.922
Asymp. Sig. (2-tailed)	.000

The results of the Wilcoxon test prove that there are significant differences between men and women regarding the stress category they belong to (table no. 5).

CONCLUSIONS

1. According to the age, the severe stress is more frequent for the age categories between 19-29 years old regarding the unemployed persons and 40-49 years old regarding the employees.
2. According to the gender, the weight of the women with severe stress is higher than of men with severe stress both for the employees and the unemployed, while there are more men at the moderate stress category.
3. The severe stress is more frequent for men (51,7%) and for the women without secondary education. You can notice

that the persons with higher education have a lower level of stress.

4. The status of not married and divorced/widowed (single person) represents a risk factor regarding the presence and the high level of stress, while the status of married person is a factor of protection.
5. The proposed assumptions are being examined:
 - o the unemployed persons present a bigger risk of high stress comparing to the employees.
 - o women have a higher level of stress than men (both for the unemployed persons and the employees).

The measuring of the stress level for the unemployed persons is important both for the scientific and practical point of view in order to establish some methods of prevention and treatment for the mental disease generated by the unemployment.

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