

Manuela Rozalia GABOR, PhD (corresponding author)

manuela.gabor@umfst.ro

'G.E. Palade' University of Medicine, Pharmacy, Science and Technology of Târgu Mureş, Romania

Camelia Angelica DÎMBEAN, PhD Candidate

cameliadamb@yahoo.com

'G.E. Palade' University of Medicine, Pharmacy, Science and Technology of Târgu Mureş, Romania

Mihaela KARDOS, PhD

mihaela.kardos@umfst.ro

'G.E. Palade' University of Medicine, Pharmacy, Science and Technology of Târgu Mureş, Romania

Cristian Silviu BĂNACU, PhD

cristian.banacu@man.ase.ro

Bucharest University of Economic Studies, Romania

Statistical Modelling for Synergic Well-Being and Company Performance Based on Psychological Constructs as Predictors of Employee Satisfaction

Abstract. *The purpose of this research is to demonstrate, using statistical modelling, that for company economic performance, besides economic resources, human capital and its well-being, psychological comfort and motivation measured through psychological constructs are also important. For the research, two companies from the industry, two batches of employees, homogeneous, comparable in terms of the subjects' socio-demographic characteristics and economic indicators evolution were analysed. The results indicate as good predictors, statistically significant, for the personal satisfaction of employees from the two industrial firms, with a direct and measurable effect on the economic performance of the company: time management and burnout for both companies and, for company F1, also salary satisfaction. The statistically significant differences between the two companies for the yield per employee for turnover and net profit are explained from the perspective of psychological constructs. Thus, the importance of psychological constructs in measuring and diagnosing employees to ensure an upward evolution of company economic indicators and yield per employee is demonstrated.*

Keywords: *HRM, sustainable company, strategy, organisational stress, burnout, job satisfaction, working conditions.*

JEL Classification: C02, C11, C45, C46, C63, J24, J28, J81.

1. Introduction

In any organisation, the manager's role is to make decisions, and the employees' role is to put them into practice and operationalise them. In terms of approaching psychological concepts involved in human resources management from organisational perspective there are several analysis directions: the analysis of

explanatory-interpretative models which include psychological constructs, the awareness of causes and effects they generate (for example, poor interpersonal communication causing stress, prolonged stress leading to burnout with direct effects on organisation performance), coping strategies, causal relationship and determination between psychological constructs.

The modern progressive approach for companies is to encourage the employee's well-being to increase their efficiency and effectiveness for the general sustainability of their organisations. Many authors from universities, research institutes, and global/national organisations underline in their research works or strategic programs the importance of well-being concept. Well-being is considered (Molek-Winiarska & Mikolajczyk, 2022) an overall subjective evaluation of an individual's life, including three main areas: psychological (ability to cope with stressors and stay in a positive mood), physical (good health, fitness, beauty, sleep), and social (positive relationships, support. Harshitha & Senthil (2021) state that employee well-being should be for the the whole enterprise, in such a way to involve everyone from the managing director to human resource, marketing, finance, equipment, and IT. Shiri & Bergbom (2023) show that 'the management of work ability and well-being in multinational companies requires employee health awareness and engagement, comprehensive personalised health risk and health condition assessments, and the management of health risks and conditions.' Warr & Nielsen (2018) make the research assumption that 'employers can value worker well-being as a possible source of good performance; employees recognise well-being as desirable in itself'. Kowalski & Loretto (2017) found evidence that 'within the workplace, well-being is important not only to individual employees in terms of maintaining their own good health, but also to managers and organisations, as there is evidence to suggest that poor well-being at work can have adverse effects on performance and overall productivity.' Zaffar (2021) underlines the importance of 'defining well-being involves measurement through cardinal measures including economic, environmental and social statistics'. Radu (2022) considers that 'positive workplace culture, informed by principles from positive psychology, sets the stage for a thriving and engaged workforce. By cultivating an environment that values employee well-being, growth, and collaboration, organisations can unlock the full potential of their teams and enhance overall performance'.

Our assumption is that well-being in an organisation should be based on synergic relationship between management well-being, employee well-being, and workplace well-being. Well-being management means that the company will choose the best strategies to sustain its activities, processes, and investments in such a way as to motivate financially, emotionally, physically, healthy, and environmentally its employees. Employee' well-being is related to the level of personal satisfaction given by the tasks and current activities of the companies, which are deeply motivational, in a mental, physical, and financial way. Workplace well-being is based on the creative, practical, and motivational working conditions that induce the sense of security and the personal mental and physical of the employees in work processes. The synergic well-being of the company could be a

pillar for its development in a sustainable way. At the World Economic Forum (WEF) Conference 'Why Companies must prioritise wellness in the workplace' held in 2021, an executive director, Puravankara, declared that 'companies that prioritise employee well-being and experience will gain a competitive advantage. Organisations must prioritise people and purpose over processes'. However, the well-being of employees is influenced by factors such as organisational stress, emotional stress, intelligence stress, and burnout. Therefore, companies should improve work conditions and environmental conditions to reduce stress and increase well-being among their employees.

The present research aims to measure the impact of the organisational stress, emotional stress, and burnout on employee satisfaction that, in fact, means their working conditions, well-being and company performance.

2. Literature review and research methodology background

The batteries of tests used in this research are: the Stress Scale according to Chiriac, the work satisfaction test – JDI (Job Description Index) proposed by Pitariu, the Communication Test according to Riakhovsky, the Burnout Test according to Vintu, Freiburg's Emotional Intelligence Test, Friedmann's Emotional Maturity Scale and Time Management diagnosis according to ESSSystems.

According to the literature review, *organisational stress*, *emotional intelligence*, and *burnout* associated with employees in industry can be determined by a number of factors specific to the work environment (Hsieh et al., 2020). The occurrence and development of stress can be correlated with seniority at work, poor communication, as well as the employees' socio-demographic factors of such as age, gender, background, level of professional training. Naseem (2018) investigated the relationship between workplace stress, employee happiness, and life satisfaction, while examining the moderating role of emotional intelligence. Hoboubi et al. (2017) deepened the interaction between job stress, job satisfaction, and productivity levels in the petrochemical industry, while other studies highlighted the individual's adaptability to the professional environment considered as a good predictor of job satisfaction.

Goleman (2002) considered that emotions can be used as a source of productive energy, and positive and negative emotions affect organisations at all levels and in all spheres, including their external relationships (Schacter et al., 2010). In modern times, emotional intelligence is indispensable and improves management, having significant influences on both manager and employees, contributing to individuals' better performance, and is used as criteria for employee evaluation. Employees who have developed self-confidence and communicate effectively contribute to increasing organisation productivity. Goleman et al. (2002) stated that emotional intelligence helps an organisation a lot, contributing to the development of positive relationships between colleagues and to performance among work teams within the organisation. Mayer et al. (2000) established that there is a close relationship between emotional intelligence and effective

management. Emotional intelligence is argued to have significant implications for the activities' success and adaptation in many fields and workplaces (Zeidner et al., 2001).

Communication skills are facilitators of emotional intelligence by modelling context and conventions, adopting acceptable behaviours that facilitate a good development of the productive process. Effective communication between employees leads to an increase in work productivity and work group efficiency, to the development of a good reputation, and to the appreciation of individuals by other colleagues (Baron & Byrne 1987) having an important role in the decision-making process. The employee motivation (external, especially) can be fuelled by financial or material rewards appreciating the effort, because of the work and of interpersonal interaction at work (Baron & Byrne, 1987).

Work satisfaction is also the dependent variable most studied in work and organisational psychology, in occupational health, often related to chronic stress which, in turn, led to the development of the burnout concept (Maslach, 1982); sources of stress at work can be from inter-relations with coworkers, supervisors, subordinates, or clients. The association between emotional intelligence and job satisfaction has caught the attention of investigators, as emotional intelligence plays a vital role in employee job satisfaction (Ghoreishi et al., 2014), and they both represent two key components for organisational progress and overall individual prosperity. Changes made by the management team can represent real problems for some employees; Lazarus & Folkman (1991) highlighted differences in the way problems are managed at work, compared to family and interpersonal ones, while Lazarus & Folkman (1984) showed high levels of stress and stress management in solving tasks at work. Most of the times stress is the consequence of poor work organisation or the existence of stress sources such as schedule changes, changes in procedures and personnel, hierarchical reorganisations, direct criticism, conflicts between employees, favouritism, confusing situations, ambiguities in job description, additional tasks, lack of prioritising tasks.

Maslach et al. (1996) described burnout as a condition that can happen to any professional group, as a disadvantage occurring in workplaces requiring individual communication with people. Also, Maslach et al. (1982) considered physical exhaustion and chronic fatigue accompanied by a feeling of hopelessness and a sense of worthlessness, with negative attitudes toward other people. Burnout appears as a social problem centred on the person who, when exhausted, often causes damage to work productivity and quality. Various research studies have shown that stress at work is considered a major threat to maintaining performance, highlighting the fact that installed burnout can negatively affect a person's professional and personal evolution. Burnout is work-related, and the state of exhaustion is accompanied by suffering, reduced professional effectiveness, feelings of incompetence, decreased motivation and productivity, dysfunctional behaviours at work (Brand-Labuschagne et al., 2012).

All these psychological constructs are interconnected, contributing to a relevant organisation diagnosis, and helping the management team to step in

wherever necessary for improvement, eliminating perturbation sources to increase organisations' productivity and good evolution. 'The direct relationship between perceived performance and job satisfaction itself is reduced for higher levels of burnout' as considered by Radu et al. (2020) organisational diagnosis, and thus helping the management team to step in wherever necessary. All these factors are disruptive and can lead to a decrease in production, employee productivity, and to staff migration. If the management team has a set of tests that can highlight and diagnose these disturbances, then it can improve the entire activity leading to improved relationships between employees with direct effects on productivity increase. Creating a positive climate of communication, cooperation between employees and managers, facilitating the recruitment of qualified / unqualified employees, and evaluating staff according to performance are important criteria for company performance.

The psychological concepts described above are the subject of an applied research within two industrial companies in Mureş County with different activities and characteristics (regarding operating time on the market, economic indicators, etc.), companies that agreed to questionnaires application among employees for data collection. To maintain anonymity and respect data confidentiality, the two companies are named company F1 - machine manufacturing activity and company F2 - machinery manufacturing activity. A total number of 150 employees answered each type of the applied questionnaires, namely 85 employees from the F1 company (Batch 1) and 65 employees from the company F2. The purpose of this research is to demonstrate, using statistical modelling, that for company economic performance, besides economic resources, there are also important human capital and its well-being, psychological comfort, and motivation measured through psychological constructs, materialised in good predictors, statistically significant, for the personal satisfaction of employees with direct, measurable effect on company economic performance. There are studies showing that the ability to perceive, understand and regulate one's own emotions and those of others is necessary to achieve a better emotional state, i.e., high levels of emotional intelligence that result in greater well-being (Fernández -Berrocal et al., 2017).

3. Data and methods

According to the research aim and objectives, nine tests referring to psychological constructs are used, data being collected based on self-administrated questionnaire in two industrial companies named company F1-machine manufacturing and company F2-machinery manufacturing. The target groups were the companies' operational employees, the two samples consisting of Batch 1 – 85 subjects and Batch 2–65 subjects. The psychological constructs applied in this research are: Emotional Intelligence (EQ), Stress, Burnout, Time Management, Personal Satisfaction, JDI Promotion, JDI Salary, JDI Coworkers, JDI Supervision. The descriptive statistics for each psychological construct from the research are presented in the next section of the paper. Company F1- machine manufacturing is

a Romanian company with production as the main activity, founded in 1994, and which in 1997 also founded a sister company having as the main activity distribution of products, gasoline, and services. Company F2—machinery manufacturing has Romanian capital, over 60 years of experience in the field of manufacturing machinery, machines, and spare parts for the textile, wood, and mining industries, and from it 65 employees participated in the research (Batch 2). To have a comparative image of the two companies, especially regarding the evolution of their main economic indicators, presented as follows in Table 1.

Table 1. Companies' Economic Indicators in the period 2017–2021

million lei current prices

Year	Turnover	Net Profit	Equity	Number of employees	Current assets	Debts	Fixed assets
<i>F1- machine manufacturing (Batch 1 – 85 research subjects)</i>							
2017	2,481,269.1	375,345.3	968,098.8	149	1,744,670.7	1,358,206.6	562,886.0
2018	890,558.3	44,029.7	324,213.8	140	546,159.8	362,846.9	138,099.3
2019	787,421.35	44,661.4	436,596.2	130	471.5	150.7	111,620.4
2020	1,275,456.1	91,491,749.0	727,295,437.3	105	868,742.6	278,443.1	130,579.8
2021	540,028.8	8,973,861.4	387,743,564.4	89	386,975.9	83,756.5	81,794.1
<i>F2 – machinery manufacturing (Batch 2 – 65 research subjects)</i>							
2017	925,455.2	12,362.2	458,759.7	156	459,595.3	1,521,124.2	1,520,288.5
2018	333,023.1	6,219.4	138,992.2	155	140,362.7	433,106.6	431,736.
2019	341,168.9	38,958.0	129,066.5	148	110,899.1	486,569.1	504,689.3
2020	257,936.0	60,121.9	127,834.2	117	178,456.1	762,692.5	712,070.7
2021	178,428.2	3,884.9	70,363.5	69	102,441.1	386,350.7	360,739.9

Note: Annual CPI transformation values are: 2017–1.34, 2018–4.63, 2019 – 3.83, 2020 – 2.63 and 2021 – 5.05.

Source: calculations made by the authors based on annual values of CPI – consumer price index according to INSSE and data from www.listefirme.ro data.

Table 2 presents the descriptive statistics for the subjects of the two groups, specifying the statistically significance level of the differences in structure between the two groups of subjects for each socio-demographic characteristic to highlight the homogeneity of the two batches and thus to ensure the comparability of the structure of batches.

Table 2. Description and structure of research samples

Characteristics	Batch 1 (N=85)	Batch 2 (N=65)	p-value*
Gender			
• Masculine	69 (81.2%)	50 (76.9 %)	0.524
• Feminine	16 (18.8 %)	15 (23.1 %)	
Age			
• 27-37 years	10 (11.8 %)	9 (13.8 %)	0.265
• 38-48 years	27 (31.8 %)	17 (26.2 %)	
• 49-59 years	28 (32.9 %)	30 (46.2 %)	
• 60-70 years	20 (23.5 %)	9 (13.8 %)	
Work experience			
• 1-10 years	6 (7.1 %)	3 (4.6 %)	0.316
• 11-20 years	26 (30.6 %)	11 (16.9 %)	
• 21-30 years	25 (29.4 %)	26 (40.0 %)	
• 31-40 years	16 (18.8 %)	15 (23.1 %)	
• 41-50 years	12 (14.1 %)	10 (15.4 %)	
Seniority in organisation			
• 1-10 years	15 (17.6 %)	14 (21.5 %)	0.577
• 11-20 years	53 (62.4 %)	35 (53.8 %)	
• 21-30 years	17 (20.0 %)	16 (24.6 %)	
Education			
• Gymnasium		1 (1.5 %)	0.989
• Vocational school	2 (2.4 %)	22 (33.8 %)	
• High school	26 (30.6 %)	22 (33.8 %)	
• After high-school education	31 (36.5 %)	7 (10.8 %)	
• University	9 (10.6 %)	13 (20.0 %)	
	17 (20.0 %)		
Place of living			
• Urban	25 (29.4 %)	21 (32.3 %)	0.703
• Rural	60 (70.6 %)	44 (67.7 %)	

(* Chi-square test)

Source: made by the authors.

For all subjects' socio-demographic characteristics and for a level of significance $p\text{-value} > 0.05$ it is noted that there are no statistically significant differences between the structures of the two groups of subjects. For data processing, the SPSS 23.0 software was used with the following SPSS encodings for the meaning and interpretation related to the categorial variables used for the psychological constructs included in the research: (1) *Emotional Intelligence (EQ)*: 1 = emotional immaturity (0-17 points), 2 = weak-medium emotional maturity (18-21 points), 3 = normal emotional maturity, empathy (22-25 points); (2) *Stress*: 1 = low stress (0-3 points), 2 = medium stress (4-7 points), 3 = high stress (8-17 points), 4 = exaggerated stress (> 17 points); (3) *JDI (Supervision, Coworkers, Salary, Promotion)*: 1 = dissatisfied (0-20 points), 2 = little satisfied (21-26 points), 3 = medium satisfied (27 – 30 points), 4 = very satisfied (31-40 points); (4) *Communication*: 1 = poor (0-3 points), 2 = medium (4-8 points), 3 = good (9-13

points), 4= excellent (> 14 points); (5) *Time Management*: 1=poor use (0-20 points), 2= mediocre use (21-40 points), 3 = acceptable use (41-60 points), 4 = good use (61-80 points), 5 = excellent use (81-100 points); (6) *Burnout*: 1 = no burnout (<17 points), 2 = low level burnout (17-24 points), 3 = medium level burnout (25-33 points), 4=high level burnout (34-85 points); (7) *Personal Satisfaction*: 1 = low level personal satisfaction (0-26 points), 2 = medium level personal satisfaction (27 -34 points), 3 = good personal satisfaction (35-38 points), 4 = excellent personal satisfaction (>38 points). The individual scores for each psychological construct in the research represent continuous variables.

The normality of the variables distribution in the research was tested using the *One sample Kolmogorov–Smirnov test* to decide the type of statistical inference applied for the analysis. Thus, to test whether there are statistically significant differences between the two companies and between the individual scores of the psychological constructs, *Student's t-test /Mann–Whitney U test* was applied to compare the means for independent samples and the *Chi-Square Bivariate Test* was applied to test whether there are statistically significant differences between the meanings/interpretations of the psychological tests (constructs) in the two companies/batches of subjects. To determine the best predictor for *Personal Satisfaction* of employees in each company (dependent variable), *multilinear regression models* were applied. As *independent variables* the following were considered: *Emotional Intelligence, Stress, Time Management, Communication, Burnout, JDI Supervision, JDI Salary, JDI Coworkers, and JDI Promotion*. The general regression equation is:

$$Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \dots + \beta_{n-1}x_{n-1} + \epsilon_1 \quad (1)$$

where, β_i 's ($i=1,2,\dots, n$) are the regression coefficients, which represent the value at which the criterion variable changes when the predictor variable changes. The beta value is used in measuring how effectively the predictor variable influences the criterion variable, it is measured in terms of standard deviation (Achen, 1982; Aguinis, 2004; Allison, 1999). A p-value < 0.1 was considered for the statistical significance of the regression coefficients. For data processing, SPSS 23.0 software was used.

4. Results

Table 1 highlights the decreasing trend in the number of employees for both companies, namely for 5 years both companies almost halved their number of employees. However, this aspect can have many causes, especially considering the context of the COVID-19 pandemic which started in Romania in March 2020. Among these causes could be also assumed those related to the management of employees' emotional intelligence, communication problems employee – employee and / or employee – manager, burnout, stress, lack of coaching, lack of experience in time management, motivation, and personal satisfaction. A brief comparative analysis is presented below to see if there are differences in the evolution of the

main economic indicators for the period 2017-2021 between the two companies. According to *Student's t-test* results for comparing the mean values (Annex A), it is observed that only for *equity* and *current assets (for equal variance assumed)* there are statistically significant differences between the mean values of the economic indicators. To detail the comparative analysis regarding the two companies' performance and economic indicators, yield per employee for each company was calculated and statistically analysed, comparatively, for the following: turnover, net profit, and debts; the descriptive statistics results are presented in Table 3.

Table 3. Yield per employee and descriptive statistics for companies

Year	F1- machine manufacturing			F2- machinery manufacturing		
	Turnover	Net profit	Debts	Turnover	Net profit	Debts
2017	16,652,812.8	2,519,096.5	9,115,480.8	5,932,405.8	79,245.1	9,750,796.5
2018	6,361,131.3	314,498.1	2,591,764.1	2,148,536.1	40,125.5	2,794,236.2
2019	6,057,087.0	343,549.9	1,159,248.2	2,305,195.5	263,229.8	3,287,629.5
2020	12,147,201.9	871,350.0	2,651,839.9	2,204,581.9	513,862.7	6,518,740.0
2021	6,067,739.9	100,829.9	941,085.1	2,585,916.2	56,303.6	5,599,286.6
Descriptive statistics						
Mean	9,457,194.6	829,864.9	3,291,883.6	3,035,327.1	190,553.4	5,590,137.8
Median	9,457,194.58	829,864.8800	3,291,883.62	3,035,327.10	190,553.34	5,590,137.76
Std. Deviation	6361131.30	343549.9000	2591764.10	2305195.50	79245.1000	5599286.60
Minimum	4786642.96	986004.77445	3349943.84	1628240.09	201774.541	2796966.07
Maximum	6057087.00	100829.90	941085.10	2148536.10	40125.50	2794236.20

Source: made by the authors.

It is noted from Table 3 that the average yields of the three economic indicators for the five years considered in the research are clearly superior for company F1 – machine manufacturing to company F2 – machinery manufacturing. Using statistical tools and methods, a detailed analysis is conducted as follows to determine whether these visible differences are also statistically significant. Starting from these results and to test whether, in terms of economic indicators, there are significant statistical differences between the two companies, statistical methods were applied to test whether there are differences between the mean values of the indicators (*Student t-test*) and between the variations of these indicators (*ANOVA*). The descriptive statistics results presented in Table 3 put into evidence the differences in value between the yield per employee between the two companies. To test whether these differences are statistically significant, *Student's*

t-test was applied with the hypothesis of equality for the average yield per employee of the two companies; the results are presented in Table 4.

Table 4. Student's t test results for yield per employee

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Turnov	EVA	9.004	.017	2.840	8	.022	6421867.4	2261111.0	1207735.9	11635998.9
	EVNA			2.840	4.913	.037	6421867.4	2261111.0	578569.0	12265165.9
Net profit	EVA	3.726	.090	1.420	8	.193	639311.5	450092.9	-398604.6	1677227.7
	EVNA			1.420	4.334	.223	639311.5	450092.9	-573224.2	1851847.3
Debt	EVA	.060	.813	-1.178	8	.273	-2298254.1	1951673.2	-6798820.7	2202312.5
	EVNA			-1.178	7.753	.274	-2298254.1	1951673.2	-6823897.0	2227388.7

(Note: EVA = Equal variances assumed, EVNA = Equal variances not assumed)

Source: made by the authors.

The above results demonstrate that there are statistically significant differences between the mean values of yield per employee for a statistical significance level p -value = 0.017 for turnover per employee, but, for a statistical significance level of 0.090 and for net profit per employee are practically confirmed a part of the results for the economic indicators in Tables 2 and 3. These results formed the basis of the main research hypothesis and the research aim, considering that employee performance is directly determined by numerous personal and professional aspects, among them the psychological constructs applied in the present research.

Table 5 presents the results of the descriptive statistics for the scores of each psychological construct (mean \pm standard deviation (minimum - maximum)), comparatively for the two companies, the distribution of answers according to the significance of interpreting individual scores for each company and, on the last column, the level of statistical significance for testing the differences between the two batches, according to the chi-square bivariate test (for the significance of psychological constructs) and the Mann–Whitney U test (for the individual scores

of the psychological constructs).

Table 5. Descriptive statistics for psychological construct scores, distribution of responses and level of statistical significance

The psychological construct	Batch 1 (N=85)	Batch 2 (N=65)	p-value*
Emotional intelligence (points)			
• emotional immaturity (0-17)	22	16	0.099*
• low-medium emotional maturity (18-21)	43	42	
• normal emotional maturity, empathy (22-25)	20	7	
Mean ± St. Dev. (min. – max.)	18.61 ± 2.06 (15.76-24.68)	19.15 ± 1.92 (15.76-24.68)	0.029**
Stress			
• reduced stress (0-3 points)	3	5	0.000*
• medium stress (4-7 points)	18	17	
• high stress (8-17 points)	32	38	
• exaggerated stress (> 17 points)	32	5	
Mean ± St. Dev. (min. – max.)	10.29 ± 7.11 (0-23)	10.43 ± 4.48 (3-19)	0.387**
JDI Salary			
• dissatisfied (0-20 points)	37	42	0.016*
• little satisfied (21-26 points)	25	16	
• medium satisfied (27 – 30 points)	23	7	
• very satisfied (31-40 points)	0	0	
Mean ± St. Dev. (min. – max.)	19.93 ± 8.94 (6-30)	16.74 ± 7.68 (6-30)	0.031**
JDI Promotion			
• dissatisfied (0-20 points)	66	49	0.612*
• little satisfied (21-26 points)	18	16	
• medium satisfied (27 – 30 points)	0	0	
• very satisfied (31-40 points)	1	0	
Mean ± St. Dev. (min. – max.)	14.6 ± 8.39 (0-35)	16.22 ± 5.90 (2-24)	0.427**
JDI Supervision			
• dissatisfied (0-20 points)	1	0	0.161*
• little satisfied (21-26 points)	53	32	
• medium satisfied (27 – 30 points)	31	33	
• very satisfied (31-40 points)	0	0	
Mean ± St. Dev. (min. – max.)	24.98 ± 3.36 (18-27)	25.60 ± 1.96 (21-27)	0.074**
JDI Coworkers			
• dissatisfied (0-20 points)	10	9	0.379*
• little satisfied (21-26 points)	48	42	
• medium satisfied (27 – 30 points)	27	14	
• very satisfied (31-40 points)	0	0	

The psychological construct	Batch 1 (N=85)	Batch 2 (N=65)	p-value*
Mean ± St. Dev. (min. – max.)	23.22 ± 3.82 (6-27)	21.82 ± 5.86 (6-30)	0.529**
Communication			
• poor (0-3 points)	0	4	0.000*
• average (4-8 points)	10	19	
• good (9-13 points)	33	28	
• excellent (> 14 points)	43	14	
Mean ± St. Dev. (min. – max.)	15.59 ± 6.77 (4-31)	10.97 ± 5.98 (1-24)	0.000**
Time Management			
• poor use (0-20 points)	39	22	0.026*
• mediocre use (21-40 points)	1	2	
• acceptable use (41-60 points)	28	13	
• good use (61-80 points)	11	16	
• Excellent use (81-100 points)	6	12	
Mean ± St. Dev. (min. – max.)	39.24 ± 25.44 (10-94)	50.22 ± 29.35 (11-94)	0.012**
Burnout			
• Lack (<17 points)	22	26	0.092*
• low level (17-24 points)	26	23	
• medium level (25-33 points)	9	3	
• high level (34-85 points)	28	13	
Mean ± St. Dev. (min. – max.)	26.78 ± 12.88 (8-56)	22.26 ± 12.05 (8-56)	0.021**
Personal satisfaction			
• weak level (0-26 points)	79	55	0.102*
• medium level (27 -34 points)	6	10	
• Good level (35-38 points)	0	0	
• Excellent level (>38 points)	0	0	
Mean ± St. Dev. (min. – max.)	19.21 ± 5.40 (7-33)	20.69 ± 6.31 (7-33)	0.134**

(* Chi-square test, ** Mann – Whiteny U test)

Source: made by the authors.

To identify the best predictor for *personal employee satisfaction* (dependent variable) for each company, *multilinear regression models* were applied. As *independent variables*, the scores obtained for the following psychological constructs were considered: *Emotional Intelligence, Stress, Time Management, Communication, Burnout, JDI Supervision, JDI Salary, JDI Coworkers, and JDI Promotion*; both regression models are statistically significant according to ANOVA (p-value = 0.000), however, for both companies the determination coefficient R^2 has values of 0.344 for company F1 and 0.339 for company F2, indicating that only to a small extent (about 34.4% for both companies) the independent variables explain the variation in the dependent variable but

statistically significant. Table 6 presents the results of the regression models for the two companies in the research. Figure 1 (a-c) graphically represents the distributions of the dependent variable scores, *personal satisfaction*, according to the best predictors, comparatively, for the two companies, as follows: (a) for Time Management, (b) for Burnout and (c) for JDI Salary.

Table 6. The regression coefficients

Model	Independent Variable	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	
		B	Std. Error	Beta			
Batch1 – Machine build.	1	(Constant)	15.111	5.079		2.975	.004
		Stress score	-.009	.075	-.012	-.127	.899
		JDI Salary score	2.207	.644	.339	3.426	.001
		TComunic score	.049	.078	.062	.632	.529
		TTimeManag score	.105	.021	.495	4.978	.000
		TBurnout score	-.147	.042	-.350	-3.460	.001
		EQ score	-.044	.257	-.017	-.170	.865
Lot 2 – Machinery Build.	2	(Constant)	31.745	8.309		3.821	.000
		Stress score	-.143	.153	-.101	-.935	.354
		JDI Salary score	-1.734	1.183	-.189	-1.465	.148
		TComunic score	-.124	.134	-.117	-.925	.359
		TTimeManag score	.072	.025	.335	2.857	.006
		Tburnout score	-.158	.059	-.301	-2.669	.010
		EQ score	-.301	.361	-.091	-.833	.408

Dependent Variable: Y = Personal Satisfaction

Source: made by the authors.

Based on the results from Table 6 and according to the general regression equation (Equation 1) for our models, the equations are (Equation 2 for L1 & F1 and Equation 2 for L2 & F2):

$$Personal\ satisfaction_{L1} = 15.111 - 0.009\ Stress + 2.207\ JDI\ salary + 0.049\ Communication + 0.105\ Time\ management - 0.147\ Burnout - 0.044\ EQ \quad (2)$$

$$Personal\ satisfaction_{L2} = 31.475 - 0.143\ Stress - 1.734\ JDI\ salary - 0.124\ Communication + 0.072\ Time\ management - 0.158\ Burnout - 0.301\ EQ \quad (3)$$

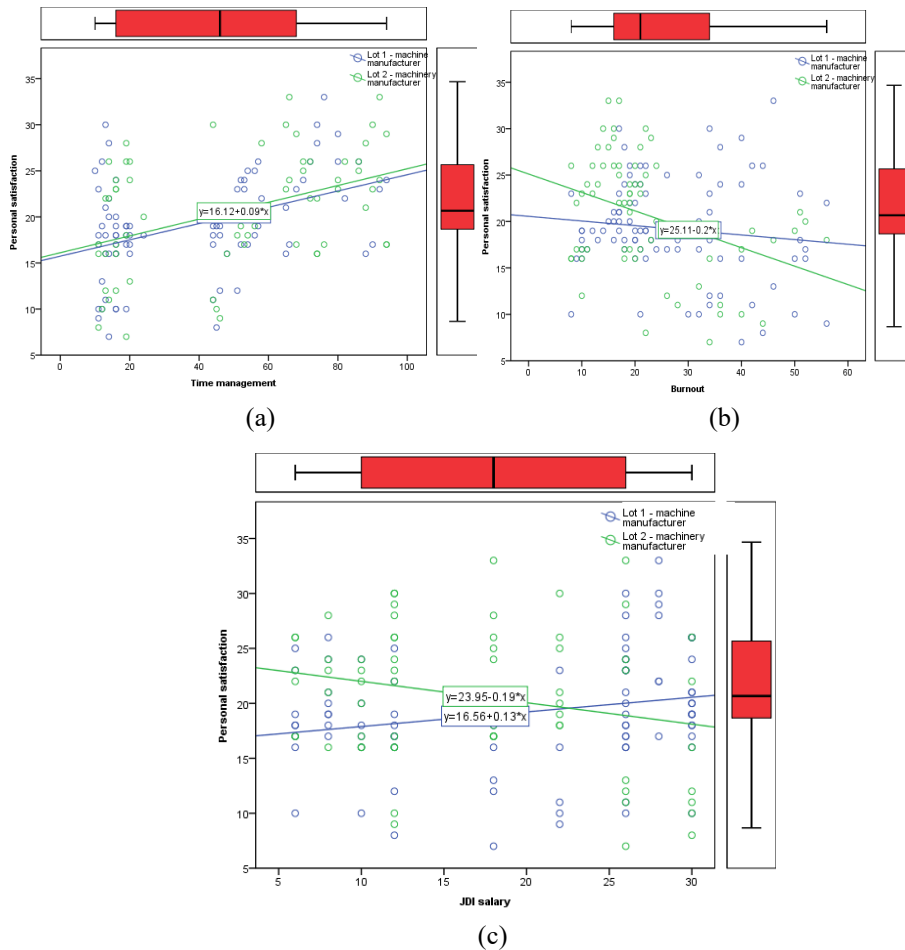


Figure 1. Regression variable plots for predictors – comparatively
 Source: made by the authors.

It is therefore noted that:

- for *company F1 – machine manufacturing*, the best predictors for the personal satisfaction of the 85 employees in the research are (in order of importance, according to the Beta coefficients values): *Time Management*, *Burnout*, and *JDI Salary*. Practically, (1) when increasing Time Management scores by one-unit, Personal Satisfaction increases by 0.105; (2) when increasing Burnout scores by one unit, Personal Satisfaction decreases by 0.147, and (3) increasing JDI Salary score by one unit, the employee Personal Satisfaction score increases by 2,207.
- for *company F2 – machinery manufacturing*, the best predictors for the personal satisfaction of the 65 employees in the research are (in order of importance, according to Beta coefficients values): *Time Management* and *Burnout*. Basically, (1) when increasing Time Management score by one unit, Personal Satisfaction increases by 0.072; (2) when increasing Burnout scores by one unit, Personal Satisfaction decreases by 0.158.

5. Conclusions

The purpose of creating a synergic well-being working environment through prevention interventions carried out at organisational level is to improve relations between employee and institution, through anticipatory socialisation, improving communication, decision making, managing conflicts, organisational development, career management. The industrial environment is a demanding one, complex, with many changes forcing employees and managers to adopt several tasks in a short time. Time pressure on employees affects their effectiveness, increases anxiety, and decreases concentration and performance at work. Starting from the research results, we can conclude that psychological constructs such as *Emotional Intelligence, Stress, Burnout, Time Management, Communication, Employee Motivation (salary, supervision, coworkers, promotion)* can be considered good predictors of employees' personal satisfaction with direct and visible effects on company performance.

The comparative quantitative analysis of the two companies in the industrial sector of machine manufacturing, respectively, machinery manufacturing, homogeneous in structure from the perspective of the employees' batches participating in the research in terms of socio-demographic characteristics (*gender, age, work experience, seniority in organisation, education, place of living*) (p -value > 0.05) but also of the main economic indicators evolution in the last five years (*turnover, net profit, equity, number of employees, current assets, debts and fixed assets*) highlight that the statistically significant differences in yield per employee between the two companies (*turnover/employee, net profit/employee and debts/employee*) are, to a large extent, due to the psychological constructs listed above. Practically, an employee's personal satisfaction or dissatisfaction is a determinant of the company's performance. Furthermore, for both companies, according to the regression models, among the best predictors of personal satisfaction are *Time Management and Burnout*, and for company F1, another good predictor was *JDI Salary*. Our research results confirm that exaggerated demands of employees who have insufficient resources can be predictors of burnout (Băban, 1998) and job satisfaction is associated with burnout (Renzi et al., 2005; Violante et al., 2009), the higher the job satisfaction, the less likely burnout will occur (Renzi et al., 2005; Violante et al., 2009).

Both companies recorded decreases of the main economic indicators between 2017 and 2021, respectively for the following: number of employees (company F1 by 40% and company F2 by 56%), turnover, equity, current assets, debts, fixed assets recorded decreasing trends, net profit was the only economic indicator with opposite evolution, respectively with a downward trend for company F1 and an upward trend for company F2, but statistically insignificant for the means of these indicators for the research period.

From the perspective of *yield per employee*, however, according to *Student t-test results*, the two companies are statistically significant different for *turnover per employee* means and variances and for *net profit per employee* variances.

From the perspective of *psychological constructs*, according to *Mann – Whitney U test* results, *the mean* scores of the following psychological constructs are statistically significant different between the two companies: *Emotional Intelligence, JDI Salary, Communication, Burnout, Time Management*. Also, *chi-square test results* indicate statistically significant differences between the meanings (interpretations) of psychological construct scores for the following variables in the research: *Stress, JDI Salary, Communication, Time Management*. Regarding the *Stress* variable, two-thirds of the employees in company F1 were identified as having high stress and exaggerated stress, for *JDI Salary variable* employees in company F2 are polarised in dissatisfied and less satisfied areas. Also, employees in company F2 have, compared to those in company F1, poor or medium communication in a much higher proportion. In terms of *Time Management*, employees from company F1 are almost 50% around use. There are no statistically significant differences between the two companies for the following psychological constructs: *Emotional Intelligence, JDI Promotion, JDI Supervision, JDI Coworkers, Burnout, Personal Satisfaction*.

In conclusion, statistically significant differences between the two companies for yield per employee for turnover and net profit are thus explained from the perspective of psychological constructs. The research results demonstrate the importance of measuring and diagnosing employees from the perspective of psychological constructs, of an efficient and in-depth human resources management by periodically applying batteries of tests to measure psychological constructs, to ensure an upward evolution of economic indicators, and equally important, of yield per employee. If a company manages to understand the close relationship between emotional intelligence and occupational stress, it can be involved efficiently and effectively in the smooth running of the organisation, introducing programs to reduce stress and stimulate motivation at work.

References

- [1] Achen, C.H. (1982), *Interpreting and using regression*. Newbury Park, CA: Sage Publications.
- [2] Aguinis, H. (2004), *Regression analysis for categorical moderators*. New York: Guilford Press.
- [3] Allison, P.D. (1999), *Multiple regression*. Thousand Oaks, CA: Pine Forge Press.
- [4] Baron, R.A., Byrne, D. (1987), *Social psychology: Understanding human interaction*. Boston: Allyn & Bacon.
- [5] Brand-Labuschagne, L., Mostert, K., Rothmann Jr., S., Rothmann, J.C. (2012), *Burnout and work engagement of South African blue-collar workers: The development of a new scale*. *Southern African Business Review*, 16(1).
- [6] Fernández-Berrocal, P., Gutiérrez-Cobo, M.J., Rodríguez-Corrales, J., Cabello, R. (2017), *Teachers' affective well-being and teaching experience: the protective role of perceived emotional intelligence*. *Frontiers in Psychology*, 8.

- [7] Folkman, S., Lazarus, R.S. (1991), *Coping and emotion // A. Monat & R.S. Lazarus. Stress and Coping.* - New York, 1991, 207-227.
- [8] Goleman, D., Boyatzis, R., McKee, A. (2002). *The new leaders: Transforming the art of leadership into the science of results.* London: Time Warner Paperbacks.
- [9] Ghoreishi, F.S., Zahirrodine, A.R., Assarian, F., Gholam, S.A., Moosavi, Mehrizi, M.Z.Z. (2014), *Evaluation of emotional intelligence and job satisfaction in employees of Kashan Hospitals.* Nurs. Midwifery Stud. 3: e11977.
- [10] Harshitha. L., Senthil, B.A. (2021), *Impact of employee well-being on organizational performance in workplace* Wesleyan Journal of Research, 14(30).
- [11] Hoboubi, A.N., Choobineh, I., Ghanavati, F.K., Keshavarzi, S., Hosseini, A.A. (2017), *The Impact of Job Stress and Job Satisfaction on Workforce Productivity in an Iranian Petrochemical Industry, Safety and Health at Work*, 8(1), ISSN 2093-7911.
- [12] Hsieh, Y-C.J., Chen, Y-L. (2020), *Hotel Housekeepers' Job Stress. Recreation, Parks, and Tourism in Public Health. Project*, 4(1), 15-32.
- [13] Lazarus, R.S., Folkman, S. (1984), *Stress, Appraisal and Coping.* Springer Publishing Company.
- [14] Lazarus, R.S., Folkman, S. (1991), *The concept of coping // A. Monat and R.S. Lazarus. Stress and Coping.* - New York, 89-200.
- [15] Lewis, M., Haviland-Jones, J.M., Barret, L.F. (2008), *Handbook of emotions.* New York: The Guilford Pres.
- [16] Mayer, J.D., Salovey, P., Caruso, D. (2000), *Models of emotional intelligence. In R.J. Sternberg (ed.): Handbook of intelligence*, Cambridge, UK: Cambridge University Press.
- [17] Molek-Winiarska, D., Mikolajczyk, K. (2023), *Case studies of well-being practices in companies during the pandemic.* 10.29119/1641-3466.2022.159.24
- [18] Naseem, K. (2018), *Job Stress, Happiness and Life Satisfaction: The Moderating Role of Emotional Intelligence Empirical Study in Telecommunication.* J. Soc. Sci. Hum. Stud. National College of Business Administration and Economics, 4(1), 7-14.
- [19] Pitariu, H. (1994), *Occupational stress in engineers, Psychology magazine*, 1.
- [20] Puravankara, A. (2021), *Why companies must prioritize wellness in the workplace.* *World Economic Forum*, 10 October 2021.
- [21] Radu, C. (2022), *Fostering a Positive Workplace Culture: Impacts on Performance and Agility.* Part of the book *Human Resource Management - An Update* Catalina Radu | IntechOpen.
- [22] Radu, C., Deaconu, A., Mişu, S.I., Triculescu, M. (2020), *The Impact of Work Investment on Performance.* *Amfiteatru Economic*, 22(14), 1103-1120. DOI: 10.24818/EA/2020/S14/1103.
- [23] Schacter, D., Gilbert, D., Wegner, D. (2010). *Psychology.* Worth Publishers, Duffield, UK.
- [24] Shiri, R, Bergbom, B. (2023), *Work Ability and Well-Being Management and Its Barriers and Facilitators in Multinational Organizations: A Scoping Review.* *Healthcare* 2023, 11, 978. <https://doi.org/10.3390/healthcare11070978>.

- [25] Warr, P., Nielsen, K. (2018), *Wellbeing and Work Performance*. In E. Diener, S. Oishi, & L. Tay (Eds.), *Handbook of well-being*. Salt Lake City, UT: DEF Publishers.
- [26] Kowalski, T.H.P., Loretto, W. (2017), *Well-being and HRM in the changing workplace*, *The International Journal of Human Resource Management*, 28(16), 2229-2255, DOI: 10.1080/09585192.2017.134520.
- [27] Zaffar, I. (2021), *Well-being, a conceptual framework*, *International Journal of Enhanced Research in Management & Computer Applications*, 10(2).
- [28] Zeidner, M., Matthews, G., Roberts, R.D. (2001), *Slow down, you move too fast: emotional intelligence remains an «elusive» intelligence*. *Emotion*, 1, 265-275.

ANNEX A

Student t-test results for comparison of averages of economic indicators

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Turnover	EVA	2.322	.166	2.143	8	.064	787744444.2	367547330.8	-59821220.5	1635310109.0
	EVNA			2.143	5.176	.083	787744444.24	367547330.8	-147484675.3	1722973563.8
Net profit	EVA	4.134	.076	1.307	8	.228	88591121.6	67793950.7	-67742009.0	244924252.3
	EVNA			1.307	4.213	.258	88591121.6	67793950.7	-95942697.9	273124941.3
Equity	EVA	3.135	.115	2.744	8	.025	383786352.8	139864418.9	61258424.3	706314281.2
	EVNA			2.744	6.368	.032	383786352.82	139864418.9	46290996.1	721281709.4
Number of employees	EVA	.787	.401	-.320	8	.757	-6.4	20.0	-52.5	39.7
	EVNA			-.320	7.005	.758	-6.4	20.0	-53.6	40.8
Circulating assets	EVA	3.824	.086	2.348	8	.047	605269879.8	257761170.1	10871555.4	1199668204.1
	EVNA			2.348	4.570	.071	605269879.8	257761170.1	-76507795.7	1287047555.3
Debts	EVA	.018	.898	-.862	8	.414	-271177545.5	314424097.3	-996240814.1	453885723.1
	EVNA			-.862	7.924	.414	-271177545.5	314424097.3	-997455152.9	455100061.9
Fixed assets	EVA	1.635	.237	-2.176	8	.061	-500908973.1	230222689.2	-1031803446.5	29985500.3
	EVNA			-2.176	5.398	.078	-500908973.1	230222689.2	-1079840281.4	78022335.2

(Note: EVA = Equal variances assumed, EVNA = Equal variances not assumed)

Source: made by the authors.