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**THE RELATION BETWEEN FUNDAMENTAL EMOTIONS AND  
OCCUPATIONAL STRESS IN EDUCATIONAL SETTINGS**

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**Abstract**

This research analyses the relationship between fundamental emotions and occupational stress in educational settings, the nature and dynamic of this relation, as well as individual (physical health and psychological wellbeing) and organizational (efficiency and effectiveness) consequences in educational settings. From a Narrative Interpretive Perspective (Lazarus, 2006) and the Integrative Approach to Occupational Stress (Cartwright and Cooper, 2003), the relation between fundamental emotions and occupational stress in teachers is analyzed both in terms of general dimensions of affectivity (positive and negative) as well as fundamental emotions related to sources of occupational stress in educational settings, both from an individual and an organizational perspective. Teachers consider as sources of stress (with consequences on their activity): control; professional relationships; workplace certainty; work-personal life balance; work overload; particular aspects of working place; payments and benefits. Negative affective states manifestation is associated with occupational stress in teachers. An increase in stressors' impact does not necessarily lead to a wane in the manifestation of positive emotions.

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**Keywords:** Fundamental emotions, occupational stress in school environment, physical health, psychological wellbeing.

## 1. Introduction

Emotions play an important role in daily life, in interpersonal relationships and in our connection to the environment around.

They have various causes and determine a variety of response reactions, at physiological, psychological and behavioural levels.



The intensity of subjective experiences and personal coping styles can generate stress. Stress is an intrinsic dimension of everyday life, with interpersonal, organizational and social meanings.

The research literature has approached stress from a variety of perspectives:

- a. as an adaptive physical and/or psychological response of the person to the action of many aspects of disruptive events (H. Selye);
- b. as a stimulus generating a physical reaction;
- c. the transactional/interactional approach in which the focus is on the relationship between the environment and the person, and stress is a moderating variable

The main representative of the latter approach is Lazarus, who studied stress for over 30 years. He defined the concepts of cognitive evaluation (primary and secondary), coping mechanisms, and the role of emotions in such coping strategies. In his framework, attention is given to occupational stress, also called „organizational” or „professional” stress.

The present research focuses on the relationship between emotion and occupational stress in teachers, the nature and dynamics of this relationship in educational settings and its consequences on individual wellbeing (physical health and psychological wellbeing) and organizational productivity (efficiently and increase the effectiveness of educational activity).

This study departed from the following *objectives*:

1. to identify and measure fundamental emotions in an educational setting
2. to identify and measure two dimensions of affectivity: Positive affectivity (AP) and negative affectivity (AN), and to determine the inter-individual differences for each, considering gender
3. to determine the inter-individual differences for each fundamental emotions, considering gender and age .
4. to determine the emotional profile of teachers based on inter-individual differences between positive affectivity and negative affectivity and for each fundamental emotions, from gender and age.

A number of 270 professionals from pre-school institutions in Timis, Hunedoara and Caras-Severin counties participated in this study. Of these, 175 were women (64, 81 %) and 95 were men (35 , 18% ); the age mean is 44,6 years (SD=7,76). We grouped the respondents in two age groups: 148 aged 25 to 40 (95 women and 43 men) and 122 aged 41 to 62 (80 women and 42 men).

## **2. Research Instruments**

2.1. To determine the positive and negative affectivity and to identify the fundamental emotions we used the extended version of the PANAS QUESTIONNAIRE (Positive and Negative Affect Schedule – Expanded Version) by David Watson and Lee Anna Clark (1994), which measures positive affectivity (AP) negative affectivity (AN) and 11 fundamental emotions: fear, sadness, guilt, anger, shyness, fatigue, surprise, joy, pride, conscientiousness and serenity.

2.2. Depression – Anxiety – Stress Scale (The Depression Anxiety Stress Scales - DASS) by Lovibond and Lovibond (1995) which measures depression, anxiety and stress. We used the short version of DASS 21, consisting of 21 questions.

2.3. ASSET (A Shotrend Stress Evaluation Tool) a short evaluation inventory of stress by Carwright and Cooper , translated and elaborated for Romanian population by Pitaru, Tureanu and

Peleasa in 2008, was used for the measurement of stress levels in organizations, the stress intensity felt by the employees and to identify the source of stress for different organizational groups.

ASSET identifies and measures 8 categories of stress sources: professional relationships, work-life balance, work overload, job security, control, communication, particular aspects of workplace but also the consequences of stress in terms of physical health and psychological wellbeing.

### 3. The research hypotheses:

1. *The negative fundamental emotions manifest more frequently than positive fundamental emotions in educational settings*

2. *There are differences between male and female teachers in the manifestation of fundamental positive and negative emotions*

3. *There are differences between teachers aged 25-40 years old and those aged 41-62 in the manifestation of positive fundamental emotions and that of negative fundamental emotions.*

To identify and measure fundamental emotions in school organizations, the Inventory Panas-X for positive and negative emotions was used.

Analyses of the results highlight the fact that obtained the heights score to negative affectivity AN, (m = 31,64, sd = 7,15), followed by positive affectivity AP (m = 27,59, sd = 4,917), guilt (m = 20,54 sd = 5,36), pride (m = 19,02, sd = 5,14), joy (m = 18,90, sd = 5,36), rage (m = 15, 85, sd = 3,39), fear (m = 14,95, sd = 2,79), sadness (m = 12,82, sd = 3,23 ), careful (m = 12,06, sd = 3,92 ),fatigue (m = 10,56, sd = 2,80), shyness (m = 8,91, sd = 2,74), serenity (m = 8,33, sd = 2,48) and surprise (m = 7,43, sd = 1,68).

**Table 1.** Descriptive statistics for negative affectivity, positive affectivity and the 11 fundamental emotions

	Minimum	Maximum	Media	Sd
Negative affectivity	18	48	31,64	4,917
Affectivity Positive	16	39	27,59	7,15
Guilt	12	31	20,54	3,369
Pride	8	29	19,02	5,144
Joy	8	31	18,90	5,36
Rage	7	24	15,85	3,799
Fear	8	22	14,95	2,793
Sadness	6	20	12,82	3,230
Careful	5	21	12,06	3,924
Fatigue	4	17	10,56	2,808
Shyness	4	15	8,91	2,742
Serenity	4	14	8,33	2,489
Surprise	3	11	7,43	1,689

In order to test the hypothesis of the existence of statistical differences in the manifestation of positive affectivity and the negative affectivity, we applied the t test for independent samples.

**Table 2.** The differences between manifestations of positive affectivity and negative activity

Pairs	AP - AN	Pears differences		t	df	p	d
		Media	Ab. standard				
		-4,047	9,994	-4,959	149	,000	,66

Our results presented in table 2 reveal significant differences between positive affectivity (m=27,59, sd=4,91) and negative affectivity (m=31,64, sd=7,15), as the T-test analyses show.

For pair samples the t test showed statistical differences to be significant between manifestation of positive affectivity and the negative affectivity (149) = -4,95,  $p > .001$ , to the effect size was medium a (d=,66).

From these results the hypotheses confirm that negative fundamental emotions (AN) are more frequently manifested than positive fundamental emotions (AP) in educational settings.

Our research results are within the line of previous empirical studies which show that negative emotions are frequently experienced in an organizational environment, especially in the competitive power environment (Lazarus, 2006; Spector, fox & Van Katwyk, 1996; Payne & Cooper, 2001). The negative affectivity entails living unpleasant emotions like: fear, rage sadness, guild, envy, shame, etc., and it is associated with low levels of group cohesion. Guilt is frequently experienced at work, and together with fear, anger rage and sadness, form the category of negative emotions considered to have negative effects in an organizational environment and also called „stressful emotions” (Lazarus, 2006).

The second fundamental emotion identified here is „pride” a positive emotion that boosts self esteem at a personal and group level, but at the organizational level it has a negative impact by prompting competition among person/group /group cohesion. The third identified fundamental emotion „the joy” is related to the experience of wellbeing and together with pride and conscientiousness represent the positive fundamental emotions defined hereby as positive affectivity that is associated with job satisfaction ,increased productivity (Lyubomirsky, King & Diener, 2005), decreased levels of absenteeism (Thoresen, Klan & Barsky, 2003), a positive influence on conflict mediation in negotiation (Barsade, 2002), creativity growth (James, Broderse & Jacob, 2004 cit. in Bersade & Gipson, 2007), an improvement of physical health and wellbeing at work, etc.

Our results revelled lower scores of other fundamental emotions like fatigue shyness, serenity and surprise.

To verify the second research hypotheses we applied the t test for the independent samples. Our data indicate differences between men (m=27,29, sd=4,13) and women (m=27,93, sd=5,60) as regards positive affectivity, yet the difference was not statistically significant (d=0,13).

For the independent samples the t test shows the significant differences between men and women for negative affectivity AN:  $t(148)=4,38$ ,  $p < .001$ , the effect size being highest (d=0,74). Men exhibit to a greater extent negative emotions (m=34,0,3, sd=6,60) than women (m=28,99, sd=6,84) at work and the difference is statistical significant .

**Table 3.** Statistically significant differences between men and women - positive affectivity (AP) and negative affectivity (AN)

Affectivity	Group	N	Media	Sd	t	df	p	d Cohen
Positive Affectivity	male	79	27,29	4,13	-,793	148	,429	,13
	female	71	27,93	5,67				
Negative Affectivity	male	79	34,03	6,60	4,386	148	,000	,74
	female	71	28,99	6,84				

Based on these results we concluded that there are no statistically significant differences between the manifestation of positive fundamental emotions in female and male employees at work.

Men recorded higher scores for rage, joy, pride, serenity and surprise, and women scored higher on guilt, sadness, shyness and fatigue. Results are presented in table 4.

**Table 4.** Mean scores for AP and AN and 11 fundamental emotions

	AP	AN	FEAR	RAGE	GUILT	SADNESS	JOY
<b>sex</b>							
men	27,29	34,03	14,27	16,56	20,00	11,72	18,99
women	27,93	28,99	15,72	15,07	21,15	12,44	19,72
<b>sex</b>							
	PRIDE	CAREFUL	SHYNESS	FATIGUE	SERENITY	SURPRISE	
men	21,48	13,95	8,28	10,30	9,11	7,84	
woman	16,28	11,56	9,62	10,85	7,46	6,99	
Total	19,02	12,82	8,91	10,56	8,33	7,43	

Our results are, to a certain degree, different than others in this field of study. Watson and Clark (1994) mention that general dimensions, like positive and negative affectivity, surprise and sadness are not sensible to gender, whereas in our study only negative affectivity shows no connection to respondents' gender.

The results we obtained confirm results reported by other studies, where women registered higher scores for *happiness*, *fatigue* and *fear* (Watson & Clark, 1994; Crawford & Henry, 2004).

In order to test our hypotheses, concerning the manifestation of the fundamental positive and negative emotions in relation to age, we proceed to applying the *t* test for independent samples to show whether there is or there is not any difference between scores obtained by participants aged 25 to 40, and participants aged 41 to 62, and, moreover, if this difference is statistically significant.

The empirical data we obtained shows that for the age group 25 to 40, positive affectivity (PA) is manifested to a smaller degree ( $m = 25.04$ ,  $sd = 4.04$ ) as compared to age group 41 to 62 ( $m = 29,71$ ,  $sd = 4,57$ ), but considering *t* Test value of  $t(148) = -6,54$ , for  $p = 0.532$ , with a low effect size of  $d = -1.08$ , the difference is not statistically significant.

The *t* Test for independent samples indicate that differences exist between the two age groups in *negative affectivity* (NA):  $t(148) = 2,45$   $p < .007$ , with a medium effect size ( $d = 0,40$ ). Hence, participants younger than 40 manifest negative emotions to a higher degree ( $m = 33,19$ ,  $sd = 6,60$ ) than participants aged 41 to 62 ( $m = 30,35$ ,  $sd = 7,79$ ), in an educational environment, the difference being statistically significant.

Subsequent to applying variance analysis, we can consider that ***there are no significant differences in the level of manifest fundamental positive emotions (PA) between employees aged 25 to 40, and employees aged 41 to 62, in the educational environment.***

The younger participants aged 25 to 40, manifest positive emotions to a smaller degree than participants aged 41 to 62, but the difference is not statistically significant.

In the same way, the data we obtained permits us to specify that ***significant differences in manifesting fundamental negative emotions (NA) exist between employees aged 25 to 40, and employees aged 41 to 62, in the educational organisational environment.*** Teachers do manifest negative affectivity (NA), but the ones aged 25 to 40 do it to a greater degree, than those aged 41 to 62.

The younger manifest negative affectivity to a greater degree than positive affectivity, as showed in Lazarus, Pimley și Novacek (1987, apud. Lazarus, 2006), Cartensen, Graff, Levenson and Gottman (1996, apud. Lazarus 2006). More recent studies (Pelfrene et al., 2001, Nogueras, 2006) show that with age, people manifest more positive than negative emotions.

Considering the need for a new perspective in studying emotions, the narrative-integrative view respectively (Lazarus, 2006), that surpasses the limits of previous theoretical views which focused on the general dimensions of affectivity, on the axis of positive-negative, pleasant-unpleasant, activation-inhibition, etc., or studying one of the fundamental emotions in a determined context, our process in this study was to identify and measure both the two meta-constructs – *positive and negative affectivity* – and fundamental emotions, and the way these emotions relate to the pressure sources of the organisational level, according to an interpretative-explicative and integrative model, that adequately meets the needs of a study concerning organisational stress (Cartwright & Cooper, 2002).

The results of our study determine the existence of a relationship between the manifestation of fundamental emotions, especially that of negative emotions, and a higher level of work stress in educational settings. At this level we find manifest the negative affectivity, as a general dimension, and negative emotions, like *guilt, anger, fear* and *sadness*.

Our results are supported by a large series of empirical studies, showing that negative emotions manifest in strongly competitive environments (Lazarus, 2006; Spector, Fox & Van Katwyk, 1996; Payne & Cooper, 2001).

The manifestation of negative emotions is associated with perception of the stress source (control, professional relationships, workplace certainty, work-personal life balance, work overload, particular aspects of working place payments and benefits) while the manifestation of the positive emotions is associated with a higher resistance to stressors (workplace certainty, professional relationships, payments and benefits).

#### **4. The fundamental emotions and the stress**

The literature reports more studies proving the existence of a positive correlation between negative affectivity and an overload in work stress.

Our research results show that the manifestation of negative fundamental emotions correlates with lower levels of physical health and psychological wellbeing. Negative affectivity is related to consequences on psychological wellbeing to a larger extent than to consequences on physical health. In other words, negative affectivity has a greater impact on psychological wellbeing than on physical wellbeing.

As far as psychological wellbeing is concerned, our results highlight that, as the employee manifests more negative emotions (*fear, anger, guilt* and *sadness*), her psychological wellbeing will decrease. The strongest correlation exists between *fear* and psychological wellbeing, meaning, the more manifested the fear, the lower her psychological well-being.

*Fear, anger, guilt* and *sadness* are fundamental negative emotions that associate with an impaired psychological well-being of employees in educational work settings.

The data we obtained highlight a negative correlation between positive emotions like *pride, happiness* and *surprise*, and psychological well-being. That is, the more these emotions are manifested, the lower the signs and symptoms of impaired well - being.

Our results show that the strongest predictor of *psychological wellbeing* is *fear*. The fear experienced at work is accompanied by feelings of discomfort, caused by injustice, and it determines aggressive reactions of defence (verbal, physical violence, threats) (Fitness, 2000, cit. in Kkiewitz, 2002), open conflict with others, resistance to change (Folger & Skarlicki, 1999, cit. in Kkiewitz, 2002).

#### **5. Conclusions**

The results of our study confirmed the existence of a relationship between the expression of fundamental emotions, especially the negative ones, and a high level of stress in organizational settings. Thus, the expression of negative emotions is related to the perception of environmental stressors (control, professional relations, job security, work-life balance, overwhelming tasks, other workplace-related aspects such as salaries and perks), while the expression of positive emotions is associated to a higher resistance to stressful factors (job security, work relations, salaries and perks).

Based on the results of the study we can conclude that there is a relationship between the expressions of negative emotions especially that of negative ones, and a high level of stress in educational work settings.

Emotions such as guilt, fear and anger might explain a negative impact on physical health, while joy, as a positive emotion, predicts a beneficial influence on health.

Fundamental emotions such as guilt, fear, anger, joy, pride and surprise explain and predict psychological wellbeing in the organization. It is worth noting that four of the studied emotions – guilt, fear, anger and sadness, predict a low level of psychological wellbeing. The strongest predictor of psychological wellbeing is anger.

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