

IMPLICATIONS OF PROFESSIONAL STRESS IN THE SCHOOL ENVIRONMENT - A COMPARATIVE STUDY

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ABSTRACT. Considered to be a real threat to the modern world, occupational stress manifests a special interest regarding the teaching profession exercised in distinct school environments, respectively mass education and special education. Three instruments were used in the comparative study: the JSS questionnaire to measure professional stress (C.D. Spielberg, Ph. D. and P.R.Vayg, Ph. D), the Job Satisfaction Survey Global, (1999, Lamond & Paul E. Spector) and a questionnaire to measure the group's cohesion-constructed by ourselves. The results showed the existence of a higher degree of professional stress in teachers from special education systems than in mass education, the professional satisfaction being inversely proportional to professional stress. The higher percentages registered in the evaluation of the teachers in mass education as compared to those in special education can be explained by the level of professional training, the teachers' expectations, the work employment type as well as the time allocated to preparation.

Keywords: *occupational stress, professional satisfaction, stressors, eustress, distress, adaptability, internal motivation, external motivation, performance.*

ZUSAMMENFASSUNG. Stress am Arbeitsplatz ist eine der Gefahren der modernen Welt. Unser Artikel konzentriert über die Existenz von Unterschieden zwischen Stress in der Regelschule und Sonderschule. Um vergleichende Studie zu erreichen verwendeten wir drei Instrumente: ein Fragebogen zur beruflichen Stress JSS (CD Spielberger, Ph.D. und PRVayg, Ph. D.), Arbeitszufriedenheit Fragebogen Job Satisfaction Survey messen - Global, (1999, Paul Lamond & E. Spector) und ein Fragebogen an Zusammenhalt der Gruppe von uns entwickelten messen. Die erhaltenen Ergebnisse zeigten die Existenz einer höheren Index der beruflichen Stress bei Lehrern in Regelschulen als in Sonderschulen, während der Index der Zufriedenheit am Arbeitsplatz in der Sonderpädagogik höher war als in der Regelschule ist die Zufriedenheit am Arbeitsplatz umgekehrt Stress. Höhere Raten in selbst Lehrer in Regelschulen aufgenommen zu denen in der Sonderpädagogik finden ihre Erklärung in der Ausbildung verbrachte Lehrer Erwartungen, Art der Beschäftigung und die Zeit Training.

Schlüsselwörter: *Stress am Arbeitsplatz, berufliche Zufriedenheit, Stressoren, Eustress, Ängste, Anpassungsfähigkeit, innere Motivation, externe Motivation, Leistung.*

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Stress was considered to be an actual issue of the contemporary world, “the disease of the XXth century” (Baban, A., 1997), responsible for generating increased pain, incomparable at the level of modern medicine.

Initially under the name of general adaptation syndrome, the concept “stress” was introduced by Hans Selye and refers both to the aggressions manifested upon the body (stress agents) and to their reactions to aggressions (Selye, H., 1984).

There is also a distinction between eustres (active means of reaction, the state of a person capable to identify the necessary resources in controlling the situation they are confronting with) and distress (passive reaction means, showing helplessness and negative reactions occurring in a hard to control situation.) Stress can thus be defined in most of the specialized writings as the conjunction state resulted from the action of the stressing agent and the body’s capacity to adapt, the rapports that appear between these two elements.

Job stress is defined as a pluri-causal and multidimensional phenomenon, reflected in the psycho-physiological responses of the individual, in a specific work situation, a phenomenon manifested by the lack of balance between work-imposed requirements and the objective or subjective perception that one uses in order to handle the situation. The job stress is one of the most serious threats of modern life. (Andreescu, 2006). The effects of job stress is one of the most serious threats of modern life and they are felt by every individual according to his/her biographic particularities, his/her personality features, his/her attitude to life, his/her behavioral style and the need for self-accomplishment. For instance the International Workforce Organization estimates that job stress causes a 10% loss in a country’s GDP. The statistics Bureau of Labor in the USA names the effects of job stress as neurotic reactions to stress, estimating that this causes \$300 billions yearly loss due to absenteeism, productivity decrease, and replacement of the staff, accidents, direct medical expenses, legal expenses, medical insurance expenses and employee’s compensations. We wish to mention in this context the fact that, as shown in the above source, these losses basically surpass the total net profit of the first 500 American corporations. (www.wall-street.ro).

Teachers are part of the category of people whose profession includes high levels of stress. Throughout time, people have developed various mechanisms to face stress in a preventive or adaptive manner, in an attempt to ensure well-being, physical and mental comfort that is necessary to a harmonies, satisfaction and performance generating function. The Latin motto “Mens sana in corpore sano” can be extended to the whole teachers’ category as a slogan of the group.

The comparative study was made at the level of teachers in special and mass education from Beclean, Bistrița-Năsăud county. The subjects were selected from two school units, based on a multi-level random selection. In the selection of the subjects with two constituted groups: Group A-teachers-special education, Group B-teachers in mass education, we took into account the elimination of an external variable that could have influence the results and leads to an ineloquent comparison.

These were: gender, age, marital status, professional training level. The number of subjects in each group were the same, 24 out of which: 20 women, 4 men; age: 7 between 20 and 30 years old, 10 with ages 30-49, 7 in the 40-50 category; marital status: 8 singles, 14 married, 2 divorced; professional status: 4 teachers having medium studies, 20 teachers having superior education. We can mention that the participation of the subjects to the experiment was freely consented; the verbal agreement of each participant ensuring the benefit of an honest expression, and on behalf of the evaluator, there was confidentiality, thanks and appreciation for the support.

The utilized instruments were:

1. The JSS survey for measuring professional stress, elaborated by C.D. Spielberger, Ph.D. and P.R. Vayg, Ph. D. Part A in the questionnaire measures intensity and Part B frequency. The third page of the questionnaire consists of 36 items that are evaluated on a scale 1-6, respectively: 1- total disagreement, 2- moderate disagreement, 3- slightly in disagreement, 4-slightly in agreement and 6- highly in agreement. The high values don't always indicate high stress but the other way around: i.e. "I consider I am paid in accordance to the work I perform" and rather the appreciation system that indicates high stress is the minimum value 1- total disagreement. We used the third page in the JSS survey to make a comparison between professional satisfaction reported to occupation (workplace) and professional satisfaction reported to profession. (JSS Global)

2. The Satisfaction Survey – Global, 1999, Lamond & Paul E. Spector, aims at evaluating (measuring) the degree of content in relation to various work aspects. It uses indexes such as: gender, salary, other monetary benefits, collateral benefits/ other forms of benefits, supervising/control, recognition/appreciation, nature of work, actual work volume, colleagues, resources, training, development and professional improvement, promotion, work safety (of workplace), physical conditions, rules and procedures, work in general, the organization in general. We used this questionnaire to measure professional satisfaction as the operationalisation of well-being was accomplished through professional satisfaction. This scale has items evaluate from 1 to 6 on the Likert scale, which accounts for the expression of the force of feelings. Some items ask for a reverse score. High or low scores were rendered so that high numbers can indicate high job satisfaction.

3. The questionnaire for group cohesion measurement- 4 questions where the answer led to setting group cohesion indexes. Considering the implications of professional stress as multiple ones, we deemed that the number of choices, respectively of rejections would be sufficient. The answer to the questions asks for a numeric expression of the choices and rejections. We avoided obtaining evasive and incorrect answers, which would have happened if the questions had solicited to include in the answer nominally the chosen/rejected colleagues.

The questionnaires applied to the two samples were post modified and a database was initiated in SPSS.

Job stress, measured by the two sets of questions in the survey, on Lickert scales, was quantified in a new variable using the option data reductions in the statistics menu. The same procedure was applied both for professional satisfaction and workplace satisfaction. The direct and inverse rankings were pre-established; hence we used the addition procedure of each individual's scores in the sample. We tried to establish relations between professional stress and professional satisfaction at the levels of the two samples. by estimating the significance at the level of the provenance schools of the subjects. The relation between the intensity of stress and the frequency in producing stressful events (internal validation of the questionnaire) is shown in the results below: $r = 0,519$, $p < 0, 01$.

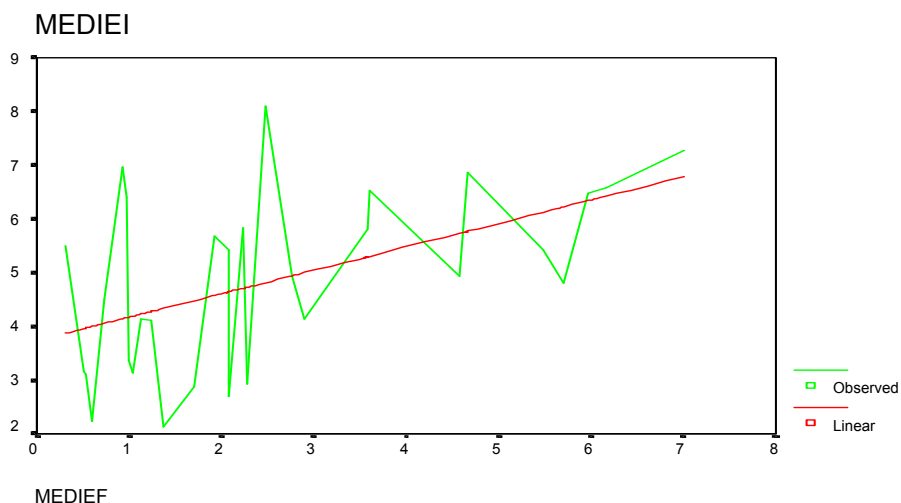


Figure 1. The relation between stress intensity and frequency of stressful events

One can easily observe the fact that the appreciation of events as stressful can also take place in the situation in which they are produced at a lower frequency. Nonetheless, the relation is not inverse; the correlation coefficient 0.519 of the two averages being significant at a probability level of 0.01.

To determine the relation stress-professional satisfaction a stress calculated index was built, encoded MEDSTRES to a sample made of 31 subjects. Initially, the survey was applied to a number of 48 persons, but due to numerous completion errors, the volume of the final sample was adjusted with the maintenance of representativity. In our sample, the average for MEDSTRES is situated below the average level of the test's reference (items were evaluated on a scale with 9 levels, the average value being 5). In determining the significance of the difference between the sample average and the test average and the extrapolation at the population level where we extracted the subjects from are shown below:

Table 1

Description of MEDSTRES indicator

Indicator	Volume of sample (N)	Average	Standard error	Standard average error
MEDSTRES	31	3,7094	1,5469	0,2778

Table 2

ANOVA results for the difference of the MEDSTRES average indicators

	Reference test average = 5		
	T	Number of liberty degrees (df)	p
MEDSTRES	-4,645	30	,000

The test value ($t = -4,645$) and the significance threshold is significant. By comparing the stress level on the two sub samples) mass education and special education= significant differences were obtained.

Table 3

Average values of stress on sub samples

	Number of subjects	Average	Standard Error	Standard average error
Special education	16	3,03	1,37	0,34
Mass education	15	4,42	1,43	0,36
Total	31	3,70	1,54	0,27

By applying the statistic procedure of intra and inter group (ANOVA) the result was, by a 99% probability ($F = 7,648$, $p < 0,01$), that the difference between the two samples is significant and it can be found also at the level of the schools where subjects come from.

The medium stress level can be easily observed also in the figure presented below:

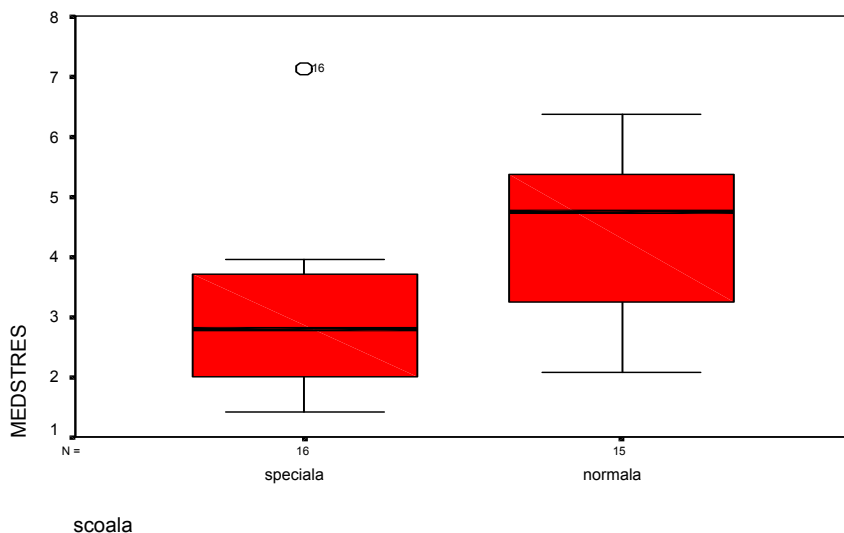


Figure 2. Sub sample stress level

In other words, for teachers in special education there is a reduced level of stress as in mass education subjects.

The general level of stress in special education is lower than in mass school due to reasons that are shown in the qualitative data analysis. The sample for special school reflects in a high proportion its characteristics: homogenous staff, collaboration between the individuals, favorable work environment etc. These results are supported by the following figure, where there is a presentation of the frequency in the stressful events in the two samples.

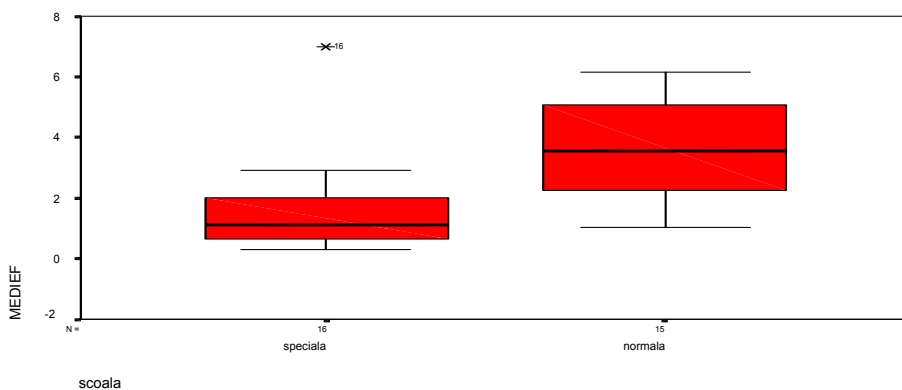


Figure 3. Frequency of stressful events (MEDIEF) on sub samples

The calculation of the professional satisfaction index and the difference estimation at the level of the two samples is presented as follows:

Table 4

Description of the job satisfaction indicator (MEDSATIS)

Indicator	Volume of sample (N)	Average	Standard error	Standard average error
MEDSATIS	31	3,30	0,24	4,429E-02

Table 5

ANOVA results for the difference of MEDSTATIS average indicator

	Test reference average = 5		
	t	Number of liberty degrees (df)	P
MEDSTRES	-38,293	30	,000

Job satisfaction is significantly lower (3,30) than the reference average (5). At the level of the two sub samples job satisfaction is different, as shown in Figure 4.

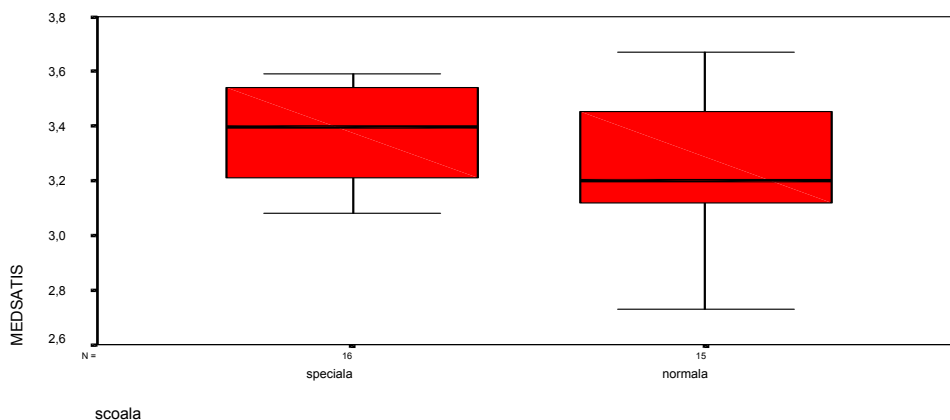


Figure 4. Average level of professional satisfaction (MEDSATIS) on sub samples

The difference of the job satisfaction average indicators on the two sub samples was appreciated by ANOVA. Value $F = 2,92$; $p > 0,05$ ($p = 0,09$) indicates the fact that we cannot reject the nullity hypothesis (job satisfaction on sample does not differ from professional satisfaction in the two schools), sub samples representing suggestively the provenance population.

Table 6**Average values of the job satisfaction on sub samples**

	Number of subjects (N)	Average	Standard error	Standard average error
Special education	16	3,37	0,18	4,530E-02
Mass education	15	3,22	0,28	7,448E-02
Total	31	3,30	0,24	4,429E-02

The difference of sub sample averages suggests that there is no linear dependent between the institution type (normal schools, special school) and professional satisfaction, and there are other factors that determine the differentiation of the school from the point of view of job satisfaction. The job satisfaction measurement survey reported in the workplace brings additional information to explain the job satisfaction indices. The sample average (3,64) is significantly different ($t = -14,33$; $p < 0,01$) from the reference average (5).

Table 7**Average values on sub samples for professional satisfaction reported to job (MEDS)**

	Number of subjects	Average	Standard error	Standard average error
Special education	16	3,51	0,62	0,1553
Mass education	15	3,78	0,37	9,661E-02
Total	31	3,64	0,52	9,452E-02

An additional piece of information can be obtained from the ANOVA interpretation for the variable „professional satisfaction in workplace” (MEDS). In this case, the same as with the previous satisfaction test, there are no records of significant difference between the averages of the two sub samples ($F = 2,08$; $p > 0,05$ ($p = 0,15$)). From the data shown above we can say that workplace satisfaction and professional abilities form a whole that leads to the affirmation of competences, hence professional satisfaction.

To establish the relation between stress and professional satisfaction the regression analysis has been used. The data refer to the whole subject samples (31 persons).

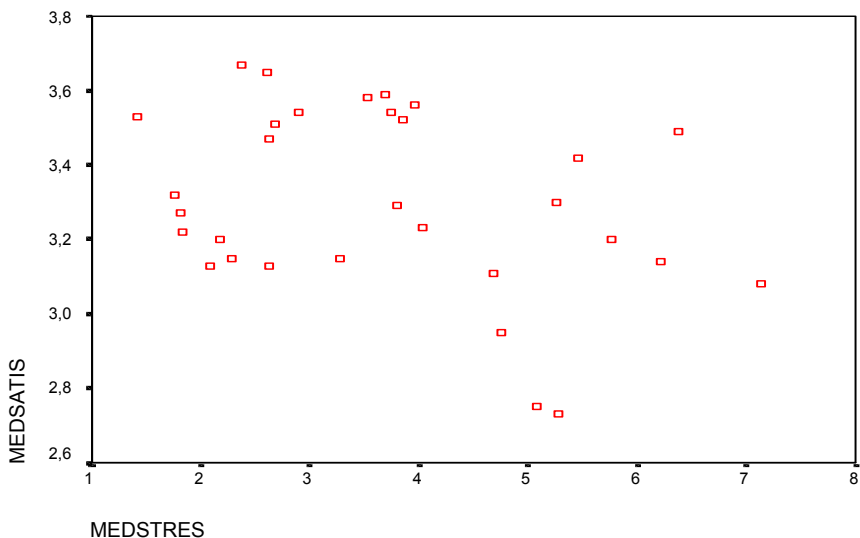


Figure 5. Distribution of indicator professional satisfaction and stress scores

The form of the point cloud indicates the existence of a negative correlation between stress and satisfaction ($r = -0,33$; $p = 0,04$), specifically, the more the stress level increases, the more professional satisfaction decreases. Hence, it can be said that job satisfaction is 85% determined by stress.

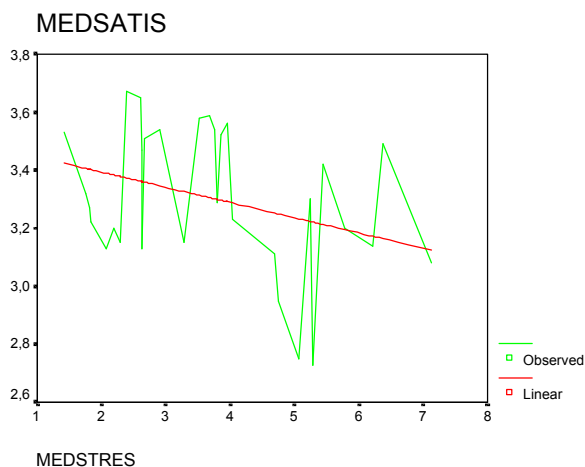


Figure 6. Regression line (professional satisfaction and professional stress)

The general form of the regression line indicates the existence of negative correlation between stress and job satisfaction at the level of the sample.

The regression analysis on sub samples indicates the means of relating stress and job satisfaction at the level of mass and special education.

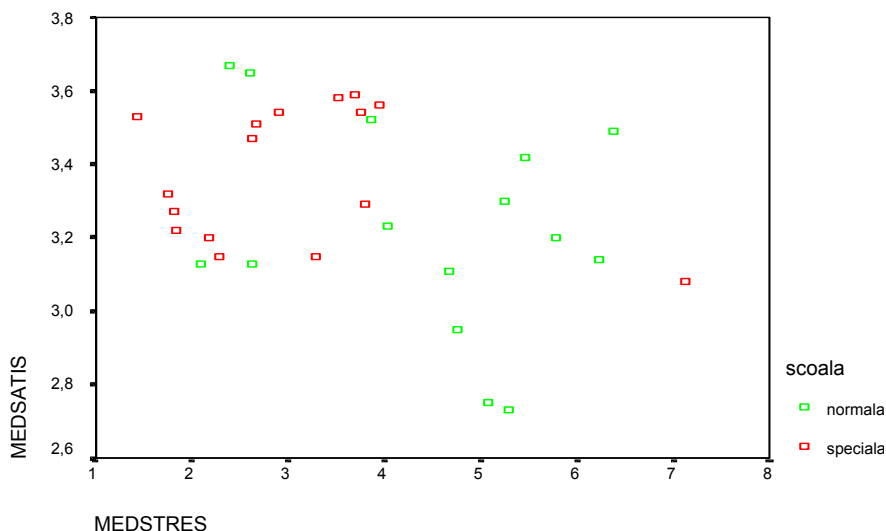


Figure 7. Distribution of professional satisfaction and stress indicator scores on sub samples

One can observe that in special education system the cases in which decreased professional stress determines a higher professional satisfaction are more frequent, (concentration of professional satisfaction at a higher level and avoiding low satisfaction situations), while in normal education systems the dispersion of the point cloud renders the model of the whole sample.

By putting the data in a table pattern (bifactorial plan-2 x 2) we have a clearer image of the results of the comparative study:

Table 8

Average values on sub samples regarding stress and professional satisfaction

	Special education	Mass education
Professional stress	4,42	3,03
Professional satisfaction	3,22	3,37

The results in the „Survey-group cohesion” complete the explanation of the relation between the two indicators (stress and professional satisfaction) on sub samples.

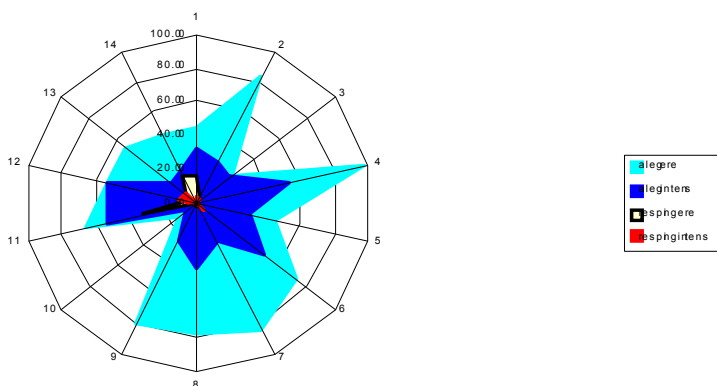


Figure 8. Preference diagram in special education

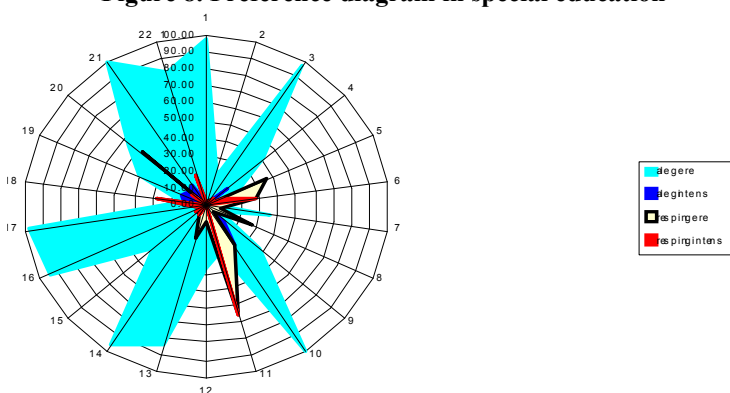


Figure 9. Preference diagram in mass education

The graphic representations of the sociometric estimations emphasize group cohesion at the level of the two school units. The graphs show the fact that the persons in special education develop deeper interaction relations, ensuring professional support and reciprocal help.

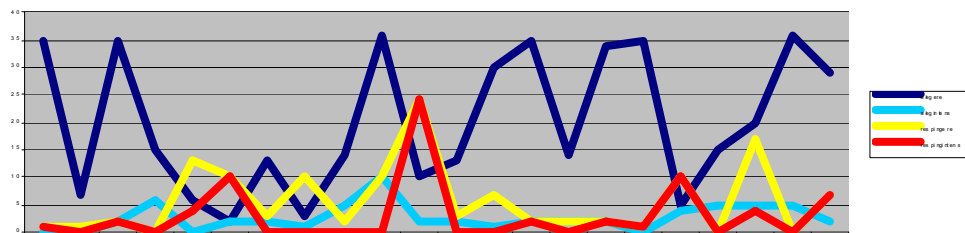


Figure 10. Distribution of preference in mass education

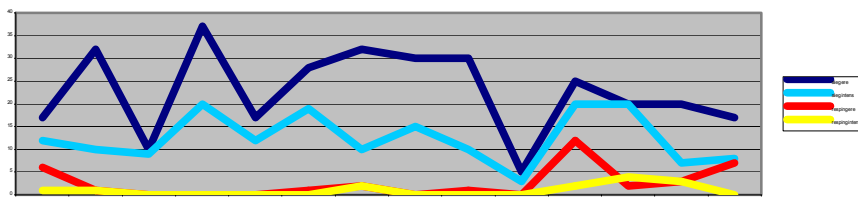


Figure 11. Distribution of preference in special education

The qualitative analysis of the results and the data comprised in the study allows us to state that professional stress in special education is higher than in mass education, and between the professional stress and professional satisfaction there is an inversely proportional relation. We present the arguments that support the qualitative analysis:

Teachers in special education systems have a professional education that is in accordance to the position they have (e.g. Pedagogical High school and continuous training courses „Special Psycho pedagogy module”, High school and „Special education college”, Higher education- Special Psycho pedagogy, Psycho pedagogy, Psychology, which allowed them the moral-affective, cognitive-action training, indispensable for the new job. We appreciate that the organizational culture and the organizational intelligence are responsible for the means in which special education supports instructive-educative-compensative-recovery programs.

The dynamic evaluation of personalized intervention programs at the level of special education allows for a rigorous identification of the individual progress registered by every pupil.

The expectancy of the teachers in special education is reported to other valoric indicators than in the case of mass education teachers. If for a teacher in special education the obtaining of a little progress in child X (for instance focusing attention on task for 5 minutes as compared to the initial stage when attention was maintained for 45 seconds has a deep professional meaning and raises a feeling of professional satisfaction), for the teacher in Liviu Rebreanu School – school with a certain reputation (verbal label that shows excellent school results, exceptional professional competences of the entire staff) progress means reaching the target of 80-90% students with very good results in school and behavior, obtaining prizes and medals in school contests etc.

To obtain positive results teachers in special education invest an energetic effort in manifesting a high degree of affection, patience and compassion, while teachers in mass education invest physical and psychical energy in preparing didactic activities, teaching students even after school hours, high volumes of didactic materials, analysis and evaluation.

By comparing the two groups we can observe that the indices that were included in the survey for the evaluation of job satisfaction registered higher values in the mass education teachers' self-assessment than in the case of special education teachers, one of the explanations being based on: level of professional training, teachers' expectancies, work employment and time allocated to preparation.

From the comparison of the data resulting from the survey to measure group cohesion we can observe that the level of special schools there is a higher number of choices than in the case of Liviu Rebreanu teachers. This is in accordance to the results obtained in the Job Survey and Job Satisfaction Survey-Global. A higher frequency of the choices can be associated with a lower level of professional stress and a higher value of professional satisfaction. The negative correlation between professional stress and professional satisfaction (less stress triggers more satisfaction) both in special and normal education systems can be explained by the implications of stress at cognitive level, affective-emotional, behavioral. High self-esteem, feeling of self-efficiency, control locus, meaning and purpose in life mean the simultaneous reaching of a low stress level and high job satisfaction.

The study led us to formulating some conclusions, as follows: professional stress in mass education is higher than in special education; professional satisfaction increases inversely proportional to the stress level both in special and normal education systems; the interval that comprises the job satisfaction index in special education is lower than in the interval comprising mass education index.

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