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Study of Emotional Intelligence Patterns with Teachers Working in Public Education

László BALÁZS

balazs.laszlo@mail.duf.hu
(College of Dunaújváros, Dunaújváros, Hungary)

Abstract: *The data necessary for the empirical research presented it this study were provided by 572 people, from altogether 26 schools. The schools included 18 primary schools, 7 secondary training institutions and 1 primary and secondary school. The major question of the study related to the pedagogues' emotional intelligence, more precisely if the teachers of different institutions showed any individual differences in their emotional intelligence patterns according to the given type of their school's organisational culture. We also examined if the nature of the organizational culture had any influence on the development the individual's emotional intelligence pattern. On the basis of the results we can declare that the teachers of different institutions having their own particular organizational cultures evolve different emotional intelligence patterns. Accordingly, we can come to the conclusion that in the long term the organizational culture affects the evolution of the individual's emotional intelligence pattern and vice versa.*

Keywords: psychology, intelligence, emotional intelligence

Emotional intelligence

The study of emotional intelligence partly took shape on the border of the research of cognition and emotions, in an area which was concerned with the question how emotions transform thinking, and vice versa. One of the results of the development of such studies was the concept of emotional intelligence, the recognition that emotions and reason – co-operating together – are able to process information in a much more sophisticated way than either of them alone.

Since the first publication of the concept, several – often entirely different – definitions and models of emotional intelligence have arisen. In their work, *Pérez, Petrides and Furnham* (2005) summarise the definitions so far published and their content as well as demonstrate the characteristics of the tools developed for measuring constructs. The fundamental difference among the models is expressed in what they classify within the domain of emotional intelligence. The 'strict' interpretations exclusively include mental abilities, while the models having a wider domain (Bar-On, 2006; Goleman, 2001) comprise various emotional, personal and social competencies. The distinction manifests in the operationalization of the concept as well. The followers of the 'wider' approach use self-description questionnaires, while those following the 'narrow' interpretation apply objective tests. Among other Hungarian researchers, *Attila Oláh* and his colleagues – committed to apprehending the concept as a mental ability – deal with the investigation of emotional intelligence in depth (Oláh, G. Tóth & Nagy, 2009). To measure it, they have developed a semi-projective method (SZEMIQ), which measures the elaboration level and deficit of the abilities belonging to emotional intelligence (Oláh, 2005).

The examination of emotional intelligence with pedagogues

Very few publications can be found on the use of emotional intelligence in Hungarian specialized literature, however, we can discover several different approaches. *Hegyiné Ferch* discusses the role it plays in education work (2001), while *Kádár* (2012) concentrates on the importance of developing schoolchildren's emotional intelligence. Besides these, in pedagogical literature we can discover several studies that aim at applying the already existing theories of emotional intelligence with an abductive method in some process of training and education (e.g. Hegyiné Ferch, 2001). We can also see examples of certain researchers' undertaking to reveal the interrelations connected to the characteristics of organizational psychology of emotional intelligence and school organization (e.g. Balázs, 2013; Péter-Szarka & Fehér, 2011).

The pedagogy-oriented analysis of emotional intelligence in international literature enjoys great popularity, we can find problem-centred and summative studies alike (Mortiboys, 2005; Coetzee & Jansen, 2007). Investigating the international literature on organizational psychology, it becomes obvious that although a fair number of studies has been carried out on the examination of different organizational context of emotional intelligence – probably also due to Goleman's scientific activity - , school references are analysed very fleetingly.

Pauwlik and Margitics (2008) studied the emotional intelligence of prospective pedagogues, using Bar-On's approach as a basis. In their work they pointed out that future pedagogues regard interpersonal skills as the most, while adequate stress management as the least typical of themselves.

Baracsi (2013) examined teachers' emotional intelligence pattern in his work (N=700). According to the results of his study, the pedagogues taking

part in the test show especially poor performance in identifying and controlling emotions. Women teachers, those having a lot of teaching experience and pedagogues satisfied with their work are the most efficient as far as their contact skills are concerned, while care is the least characteristic of teachers working at grammar schools. Regulating emotions causes most difficulty for the middle generation and vocational trainers.

The organizational culture of schools

The social psychological and organizational psychological research of public education institutions has been a major concern of Hungarian and international researchers in the past two decades. They have published a large number of studies and results which unfold the relationships of organizational culture at schools. In the course of national surveys researchers mostly apply the 'competing values' organizational culture model developed by *Quinn and Rohrbaugh* (1983). The name refers to the fact that organizations aim at increasing their efficiency and improving their results concentrating on different values. The model determines a three-dimension organizational framework regarding efficient organizations:

1. the focus of the organization can be internal, person-oriented, or external, organization-oriented,
2. it can favour stability and/or prefer flexibility related to organizational culture,
3. in relation to the desired goals the emphasis can be put on the tool by which it achieves the goal, or it can focus on the goal itself.

The first two dimensions describe the four basic types connected to the efficiency of organizational culture, while the third one determines the tool- or goal-oriented approach. *Quinn* placed the four types along two axes: controllability and internal/external focus, which resulted in the types of organizational culture.

In the *rule-oriented* type of culture well-defined roles are developed. The main expectation is to follow the rules. The respect for formal positions is essential. This model is characterized by a high level of inward orientation, control and supervision, which leads to order, predictability, stability and balance. Two important processes belong here: documentation and stabilization. In view of this, the two primary roles of a leader are monitoring and coordination. As a monitor he knows what happens in the organization, and a coordinator is expected to sustain the structure of the organization as a whole and ensure its operation. By contrast, in the *innovative* culture the emphasis is laid on creativity and risk-taking. It is characterized by the free flow of information, teamwork and permanent re-training of the members. They are not monitored, but inspired and encouraged. Besides outward orientation, controllability is limited. Its main strengths are adaptability and the ability to change. The two main roles of the leader are those of an innovator and a broker. The task of the innovator is to recognize and promote necessary changes, while

the broker aims at maintaining external legitimacy. In the case of a *goal-oriented* culture the emphasis is on profit, productivity and efficiency. In this type of organization the clarification of tasks and setting goals are the most important. It is characterized by control, a high level of monitoring and external focus. Aiming at efficiency and giving instructions are determining factors. The two primary roles of the leader are those of a director and a producer. The leader – as a director – formulates the expectations, while as a producer he focuses on the task or the job, inquires about the subordinates and motivates them. By contrast, the *supportive culture* puts the stress on agreement, solidarity and the role and importance of team work, providing for an essential role for internal control as well. In this culture human resources, the possibility of individual development and commitment are emphasized. This organizational culture pays attention to internal processes and at the same time it is flexible. The two primary roles of the leader are those of a facilitator and a mentor. The facilitator is expected to promote joint effort, while the mentor is required to develop the members' abilities and skills as well as to ensure training opportunities. The mentor helps to plan the individual development of employees (Bíró & Serfőző, 2003).

The importance of studying organizational culture is emphasized by Hungarian and international researches alike. The studies - besides having identified typical culture types at school – have revealed a connection between the organizational culture and the size of the organization, its efficiency (Gaziel, 1997; Arshad, 2003), its culture perception and the commitment of the organizational members (Hsi-Kong Chin Wang &-Feng-Chan Hwang, 2007).

The connection between organizational culture and emotional intelligence

The study of emotional intelligence in an organizational context primarily focuses on leaders' characteristics, and the issue of effectiveness and efficiency. Studies aiming at the overall, entire community rarely take place. Furthermore, in connection with the study of educational institutions we can also say that the focus of emotional intelligence mainly emerges in specialized literature regarding educational and methodological processes. In the following part I am going to introduce studies that can be linked to the theme of the present research. It is true that they ignore the study of public educational organizations. – I have not found any analysis concerning this context so far.

Higgs and Dulewicz (1999) based their studies on the theories of organizational culture earlier established. The *Goffee and Jones model* (1998) examines the social structure of organizations, regarding two distinct types of social competencies: sociability and solidarity. Sociability, for example, refers to networks that we establish by our decisions, or the ones that we get already made. These are natural systems, where there are common values, backgrounds, interests and family ties. Solidarity describes relationships existing in the public sphere. These are based on common tasks, clear goals and shared functions. It is not necessarily

essential for people to like each other as long as they can successfully work on the implementation of a selected goal. Both dimensions can be positive or negative. The results of their study refer to the fact that there is a connection between organizational culture and individual emotional intelligence. However, in order to extend and confirm the previous results, they propose the necessity of further studies to be performed on a bigger sample (Higgs & McGuire, 2001).

A fundamental question of *Herriford*'s work (2002) refers to the relationship between the environment and individual emotional intelligence. – In his study the leaders interviewed had to report on how the community of people working in the area operates, and how this community culture influences the individual's emotional intelligence. The culture they described gave priority to aspects – like e.g. individual performance, advancement – that make the given culture attractive, but at the same time significantly make professional commitment more difficult. Thus it creates an unbalanced situation exploited and systematically facilitated by organizations where specific superior-inferior relationships evolve, and consequently some kind of distorted emotional intelligence develops, which manifests itself in strong self-oriented skills and weak competencies directed towards others. In order to achieve the opportunities provided by human intellect, organizations have to promote the balance of emotional skills as well as support values that imply the richness of human experience.

The research and its methodological background

The study of both emotional intelligence and organizational culture is individually in the focus of scientific interest. Nevertheless, any attempt to reveal the connection between the two has been typically made only by abductive reasoning (e.g. Higgs & Dulewicz, 1999). Very few empirical studies have been published examining this issue. Higgs and McGuire (2001) demonstrate the connection between the two constructs, but at the same time they remark that in order to confirm their results an examination on a bigger sample is needed to be done. In his dissertation Herriford (2002) also shows a link between emotional intelligence and organizational culture, however, the findings of his study are restricted to a special field: high-tech organizations. I have not found any empirical studies concerning the two constructs in the context of educational institutions, though.

The question of the research:
1. Can a connection be detected between the organizational culture of the school and the teachers' emotional intelligence patterns?
2. What emotional intelligence characteristics does each organizational culture dimension show a connection with?

Hypothesis. I think that a significant connection can be pointed out between the two examined factors. I suppose that different organizational culture types prefer different emotional intelligence patterns. According to this, in different culture types different emotional intelligence patterns can be identified. I believe that the connection between the different culture

types and the emotional intelligence factors supported by them can be well described. Theoretically, in the long term the change of organizational culture can result in the change of emotional intelligence, and vice versa, the uniform change of an organizational group's emotional intelligence can contribute to the evolution of organizational culture.

The people involved in the research

To carry out the research, I visited primary and secondary schools. Having regard to the hectic situation of today's public education, the majority of the schools refused to take part in the study. By my relationships of work and privacy I managed to get to several schools where they were pleased to fill in the questionnaires. I examined 26 schools altogether. The schools included 18 primary schools, 7 secondary training institutions and 1 primary and secondary school.

Completing the questionnaires took place in the institution – in the staff room or a classroom. Because of some shortcomings one institution had to be excluded from the research.

I distributed 808 questionnaires altogether, out of which 589 (73%) got completed. The participation of teachers in the research varied from one school to another: it was over 80% in 13 schools, 70-80% in 9 and below 70% in 4 institutions. As for culture types, out of the 26 schools we identified 10 supportive (N=213), 2 innovative (N=78) and 13 rule-oriented (N=279) cultures.

The sex distribution of the sample clearly illustrates the more and more intensive feminisation of the teaching profession: 14.5 % (85) men and 78.4% (460) women filled in the questionnaire, and the question related to sex. In connection with the age distribution we cannot be particularly surprised either: 38% (223) respondents were over 48 years old, 30% (177) between 39 and 47, while altogether 25% (145) were below 38 years old. 7% of the respondents did not answer this question.

The tools of the research

In my research I applied one tool for measuring organizational culture, and another one for measuring emotional intelligence. I have already mentioned the "competing values"-model developed by Quinn and Rohrbaugh (1983) in detail before. Quinn's questionnaire formulates six groups of questions that relate to:
- the character or basic nature of the organization,
- the cohesion within the organization,
- the leader of the unit,
- the atmosphere of the organization,
- the evaluation of success, and
- the management system.

Each group of questions includes four statements that reflect the characteristics of different culture types. The task of the respondents is to

determine in what percentage each statement is true regarding their organization. They can divide 100 points among the four answers in each question. The score related to each culture type is calculated from the average of the points belonging to the answers connected to it.

To measure emotional intelligence we used Bar-On's emotional intelligence scale (2006). This scale consists of 121 statements. The questions identify five basic factors altogether: inter- and intrapersonal emotional intelligence, adaptability, stress management and general mood emotional intelligence. The 5 basic factors contain several closely related competencies, skills and moderators, which I am going to cover below. When completing, the respondent has to value each statement on a scale of 1 to 5 according to how true it is for him. The score of each meta-factor is constituted by the average of the items belonging to it. The value of the main factors is made up by the average of the meta-factors.

The presentation of the results

When examining emotional intelligence, we summed up the total research sample and calculated an average (see Table 1.) It can clearly be seen that the teachers attained a high score on average in the dimensions of self-actualization and social responsibility. The results correspond to *Pauwlik and Margitics's* (2008) statements concerning prospective pedagogues. In the case of teachers we have also found that the respondents consider themselves to be less experienced in stress management and more competent in interpersonal skills.

Table 1. Emotional intelligence averages covering the total research sample (N=572)

	Assertiveness	Self-awareness	Self-regard	Independence	Self-actualization	Emphaty	Social responsibility	Interpersonal relatinship	Reality-testing	Flexibility	Problem-solving	Stress tolerance	Impulse control	Optimism	Happines
N	557	553	554	557	550	555	560	554	554	562	563	558	547	552	552
Missing	15	19	18	15	22	17	12	18	18	10	9	14	25	20	20
Mean	19,94	26,84	32,73	22,47	29,13	19,87	38,48	38,60	37,88	26,30	30,97	28,88	31,84	28,30	34,57
EI max	30	35	45	35	35	25	45	50	50	40	40	45	45	40	45
%	66%	77%	73%	64%	83%	79%	86%	77%	76%	66%	77%	64%	71%	71%	77%

The identification of differences in emotional intelligence according to different culture types

In the following subsection we aim at identifying the significant differences among different culture types. If in the course of the study we regard the main factors as the basis of the research, we can point out significant differences using the ANOVA analysis in two dimensions out of the five skills (intrapersonal and interpersonal skills, stress management, adaptability and general mood). These two dimensions are *stress management* and *intrapersonal skills*. In order to provide further details, we have also done the study with the meta-factors, which resulted in the possibility of determining three significant differences among the three different culture types: independence (.001); flexibility (.000); stress tolerance (.011). The T-Probe further clarifies the differences of different culture types. Table 2 summarizes its results.

Table 2. Differences in different culture types in the light of the individuals' emotional intelligence results – significance values of the T-Probe, N=572

| | Innovative | Supportive | Rule-oriented | | | |
	Supportive	Rule-oriented	Innovative	Rule-oriented	Innovative	Supportive
Assertiveness	,102	,040	,102	,559	,040	,559
Self-awareness	,673	,068	,673	,053	,068	,053
Self-regard	,370	,123	,370	,320	,123	,320
Independence	,021	,000	,021	,067	,000	,067
Self-actualization	,689	,198	,689	,203	,198	,203
Empathy	,343	,336	,343	,973	,336	,973
Social responsibility	,682	,893	,682	,682	,893	,682
Interpersonal relationship	,091	,029	,091	,551	,029	,551
Reality-testing	,625	,564	,625	,142	,564	,142
Flexibility	,002	,000	,002	,334	,000	,334
Problem-solving	,969	,843	,969	,823	,843	,823
Stress tolerance	,108	,004	,108	,086	,004	,086
Impulse control	,835	,920	,835	,871	,920	,871
Optimism	,167	,028	,167	,250	,028	,250
Happiness	,232	,162	,232	,794	,162	,794

On the basis of the individuals' average emotional intelligence results the following differences can be detected among different culture types:

- *Innovative culture:* the individuals are characterized by higher average assertiveness, independence and flexibility. Average self-awareness is the highest here.
- *Supportive culture:* it can be described by higher average self-awareness, in the dimension of independence it holds the mean value, while in the flexibility dimension the individuals show a value far lower than in the innovative and much higher than in the rule-oriented culture.
- *Rule-oriented culture:* its members show low average values in the dimensions of assertiveness, self-awareness, independence, interpersonal skills, flexibility and stress- tolerance.
- *Goal-oriented culture:* it has not been included in the research sample.

Summing up the disparity among the different cultures, we can point out significant differences between the rule-oriented - innovative and rule-oriented - supportive cultures on the basis of the individuals' emotional intelligence averages, while the analyses resulted in smaller differences between the innovative and supportive cultures. After separating the characteristic features of different cultures, we focused on the mutual relationship of emotional intelligence and organizational culture. We examined the connection between the typology of culture and emotional intelligence.

Summary

The study has proved that we can make a difference among different culture types in the organizational members' average emotional intelligence patterns. The results have made us come to the conclusion that there is a mutual relationship between the individual's emotional intelligence pattern and his environment, in the current case, the organizational culture (compare Herriford, 2002). Revealing the connection between emotional intelligence and organizational culture, we can have an opportunity to organize the ongoing processes of an organization in a more conscious and goal-oriented way or to promote a more dynamic reorganization, whether it is about raising awareness or the development of the education and training process, or making the operation of a school organization more dynamic (compare Balázs 2013).

The development of emotional intelligence in a school environment can provide several benefits for the institution: it strengthens the organizational culture, through the models represented by the pedagogues it indirectly improves students' emotional intelligence, which has been proved to lead to better learning outcomes, makes the organization stronger and improves the organizational climate.

References

Arshad, M. (2003). *A study of organizational culture and effectiveness of secondary schools.* [PhD thesis.] Lahore: University of Punjab.

Balázs L. (2013). *A szervezeti kultúra és az érzelmi intelligencia kapcsolatának vizsgálata az iskolában.* [PhD thesis.] Pécs: PTE BTK Pszichológia Doktori Iskola Alkalmazott Pszichológia Doktori Program.

Baracsi Á. (2013). Pedagógusok érzelmi intelligenciája. In Karlovitz J. T., & Torgyik J. (Eds.), *Vzdelávanie, výskum a metodológia* (480-488). Komárno: International Research Institute sro.

Bar-On, R. (2006). The Bar-On model of emotional-social intelligence. *Psicothema*, 18, Suplemento, 13-25.

Bíró B., & Serfőző M. (2003). Szervezetek és kultúra. In Hunyady Gy., & Székely M. (Eds.), *Gazdaságpszichológia* (pp. 481-541). Budapest: Osiris.

Coetzee, M., & Jansen, C. A. (2007). *Emotional Intelligence in the Classroom. The Secret of Happy Teachers.* Cape Town: Juta.

Gaziel, H. H. (1997). Impact of School Culture on Effectiveness of Secondary Schools With Disadvantaged Students. *Journal of Educational Research*, *90* (5), 310-318.

Goffee, R., & Jones, G. (1998). *The Character of a Corporation.* New York: Harper Collins.

Goleman, D. (2001). Emotional intelligence: Issue in paradigm building. In Cherniss, C., & Goleman, D. (Eds.), *The emotionally intelligent workplace: How to select for, measure, and improve emotional intelligence in individuals, groups, and organizations.* Vol. 1. (pp. 13-26). San Francisco: Jossey-Bass.

Hegyiné Ferch G. (2001). Az érzelmi intelligencia szerepe a nevelői munkában. *Új Pedagógiai Szemle*, *51* (7-8), 8-19.

Herriford, O. S. (2002). *High-technology organizational culture and emotional intelligence.* [PhD thesis]. Los Angeles, CA: University of Phoenix

Higgs, M., & Dulewicz, S. V. (1999). *Making Sense of Emotional Intelligence.* Windsor: NFER Nelson.

Higgs, M., & McGuire, M. (2001). *Emotional Intelligence and Culture: an Exploration of the Relationship Between Individual Emotional Intelligence and Organisational Culture.* Working Paper Series. Greenlands Henley on Thames Oxon: Henley Management College.

Hsi-Kong Chin Wang, K., & Feng-Chan Hwang (2007). Study on Organizational Culture, Organizational Commitment and Attitude toward Organizational Reform – comprehensive high schools as example. *The Journal of Human Resource and Adult Learning*, *3* (2), 189-198.

Kádár A. (2012). *Az érzelmi intelligencia fejlődése és fejlesztésének lehetőségei óvodás- és kisiskoláskorban.* Cluj-Napoca: Ábel.

Mortiboys, A. (2005). *Teaching with Emotional Intelligence: A Step-by-Step Guide for Higher and Further Education Professionals.* London and New York: Routledge.

Oláh A., G. Tóth K., & Nagy H. (2009). Az érzelmi intelligencia mérésének néhány problémája: a fejlődési kritérium tesztelése. *Pszichológia 29*, (2), 165-186.

Oláh A. (2005). *Érzelmek, megküzdés és optimális élmény.* Budapest: Trefort.

Pauwlik Zs., & Margitics F. (2008). Pedagógusjelöltek érzelmi intelligenciája. *Új Pedagógia Szemle*, 58 (6-7), 37-46.

Pérez, J. C., Petrides, K. V., & Furnham, A. (2005). Measuring trait emotional intelligence. In R. Schulze, & R. D. Roberts (Eds.), *International Handbook of Emotional Intelligence* (pp. 181-201). Cambridge, MA: Hogrefe & Huber.

Péter-Szarka Sz., & Fehér Á. (2012). Iskolai zaklatás a tanári érzelmi intelligencia és az iskolai klíma tükrében. In *Interdiszciplináris Pedagógia és a Felsőoktatás Alakváltozásai* (pp. 233-242). Kiss Árpád Archivum Könyvsorozata, 7. Debrecen: Debreceni Egyetem Neveléstudományok Intézete.

Quinn, R. E., & Rohrbaugh, J. (1983). A spatial model of effectiveness criteria: Towards a competing values approach to organizational analysis. *Management Science, 29* (3), 363-377.