

Emotional intelligence of university students in Central Europe: cross-cultural comparison between Czech and Slovak students

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Abstract

The research focuses on emotional intelligence and its cross-cultural comparison between Czech and Slovak university students. Such surveys have not been carried out in Central Europe yet. This research is based on the trait EI model (Petrides & Furnham 2001, 2003). Data collection included 1122 Czech and Slovak university students and the use of the TEIQue. We found out significant ($p < .001$) cross-cultural differences between the students. Slovak students had a higher total EI score ($M = 4.83$) than Czech students ($M = 4.62$). Slovak students showed also a higher score in the factors of well-being (Czech $M = 4.72$; Slovak $M = 5.06$; $p < .001$) and emotionality (Czech $M = 4.53$; Slovak $M = 4.80$; $p < .001$). No cross-cultural differences were discovered in the factors of sociability and self-control. Cultural context amounts to about 2.3 % ($R_{\text{sum}}^2 = .023$; $p < .001$) variability of total EI.

Keywords: emotional intelligence, cross-cultural comparison, university students

1. Introduction

In this study we deal with the construct of emotional intelligence. We present the theoretical background of our survey focused on emotional intelligence in an intercultural comparison between Czech and Slovak students. Considering the history these countries share and their cultural closeness we aim to study the phenomenon in the cultural context of the countries and search for similarities and differences between new

generations of university students who grew up in the two independent countries. Czechoslovakia came into existence on 28th October 1918, and with the exception of WW II, it existed until 1993 when it split into independent Czech Republic and Slovakia. More than 70 years of history that these countries have in common is a presumption of the cultural closeness of the two nations, as well as more than 20 years of independent history can be a determinant of differences in the perception of the examined phenomenon. Cross-cultural comparison concerning emotional intelligence (EI) is a unique object of study in Central European countries. For us this study is a step forward in this theme which deserves further research in the future.

2. Emotional intelligence and its models

There are different definitions of EI by various authors. However, all models of EI comprise a core including intrapersonal components (e.g. mood regulation, stress management) as well as interpersonal components (e.g. emotion perception, social skills). Some researchers characterize EI as the ability that involves cognitive processing of emotional information. In an alternative view EI involves a wide constellation of cognitive and non-cognitive components that form the basis of emotions (Austin & Saklofske 2005).

In 1990 Peter Salovey and John Mayer published the first formal conception of EI as a leading element integrating a great number of disconnected researches into individual differences in the ability to process emotion-laden information and to adapt to it. According to this system the core of EI consists of three branches (mental processes) regarding emotional information. These are: 1. appraisal and expression of emotion, 2. regulation or control of emotion, and 3. utilization of emotion in adaptive way. This model also suggests that people with higher EI utilize their emotions more flexibly; they are more capable of flexible planning, creative thinking, and redirected attention, and can motivate oneself and others. In 1997 Mayer and Salovey introduced a refined conceptualization of EI that defined EI as a mental ability and distinguished it from classical social-emotional personality qualities. They define EI as the subset of emotional abilities that can be divided into four branches: 1. perception, recognition and expression of emotions, 2. use of emotions to facilitate thinking, 3. understanding emotional

meanings, 4. managing emotions. In relation to the emotion-area these four branches are arranged from the simple abilities to the highest level skills (Neubauer & Freudenthaler 2005).

Bar-On (2006) works with the concept of emotional-social intelligence (ESI). He understands this model to be *a cross-section of inter-related emotional and social competencies, skills and facilitators that determine how effectively we understand and express ourselves, understand others and relate with them, and cope with daily demands* (Bar-On 2006, 3). Bar-On researched personality traits determining a successful individual outside the taxonomy of cognitive intelligence, and identified five composite scales. He further divides them into 15 subscales, and considers them crucial for ESI measurement. These are as follows:

- A. Intrapersonal (1. self-regard, 2. emotional self-awareness, 3. assertiveness, 4. independence, 5. self-actualization).
 - B. Interpersonal (6. empathy, 7. social responsibility, 8. interpersonal relationship).
 - C. Stress management (9. stress, tolerance, 10. impulse control).
 - D. Adaptability (11. reality-testing, 12. flexibility, 13. problem-solving).
 - E. General mood (14. optimism, 15. happiness).
- (Bar-On 2006, 21).

Contemporary work on EI basically takes two directions. These relate to two models that have various names, for example *ability – based models of EI* versus *models of trait EI* (Mayer, Caruso & Salovey 1999). Whereas models of the first type regard EI exclusively as an ability, models of the second type enable a much wider combination of various personality traits (some of them older and established) all labelled EI (Neubauer & Freudenthaler, 2005).

In our research we focused on the EI model that was conceptualized by Petrides and Furnham in 2001. In view of the different EI measurement approaches, they emphasize the distinction between the trait based model and ability based model of EI. In their opinion the trait EI approach ought to concentrate on measurement with the use of self-assessment and self-report tests (questionnaires, scales). Considering that intelligence and personality are independent constructs, then trait EI should be investigated exclusively within a personality framework, and not in relation to cognitive intelligence. Petrides and Furnham (2001,

2006) propose their formal trait EI model as a framework to integrate and systematize the aspects' variance that is scattered in existing mixed models. Although emotion-related abilities are affected by personality traits when measured through self-report, some authors (e.g. Neubauer & Freudenthaler 2005) claim that self-report is an asset and should not be ignored. Self-report measures can: 1. provide relevant information about inner processes and experience that cannot be measured via performance tests, 2. be used to assess the validity of performance tests, and 3. be used as a direct or indirect predictor for success. Unlike trait EI, ability EI is viewed as a cognitive-emotional ability that ought to be measured by performance based tests. Thus, EI as an ability ought to relate primarily to the components of cognitive intelligence (Neubauer & Freudenthaler 2005). Although there are basic differences between ability – based models of EI and models of trait EI – as for conceptualization and operationalization – these models do not rule out, but rather complement each other in the components relating to emotions. Almost all existing EI concepts and instruments cover at least four areas relating to emotions that are the result of a factor combination of two dimensions: *oneself* versus *the other*, and *perception* versus *regulation/management*: 1. to perceive emotions in oneself, 2. to perceive emotions in others, 3. to regulate or manage one's own emotions and 4. to regulate or manage others' emotions.

Thus, according to Petrides and Furnham (2001, 2006) trait models and ability – based models of EI do not rule out, but rather complement each other. Trait EI relates to the ability to process emotional information (Petrides & Furnham 2003). Petrides and Furnham (2003) proposed an integrating approach that is reflected in *Trait Emotional Intelligence Questionnaire-TEIQue*. The Trait EI model integrates views on emotional intelligence into a general framework that encompasses 15 specific aspects: adaptability, assertiveness, emotion expression, emotion management, emotion perception, emotion regulation, empathy, happiness, impulsiveness, optimism, relationship skills, self-esteem, self-motivation, social competence and stress management (Petrides & Furnham 2003). TEIQue assesses these with 15 subscales organized under four factors. Moreover, it gives the score of the four factors that have wider meaning (*well-being, self-control, emotionality and sociability*). We have to keep in mind that the trait EI score does not reflect cognitive abilities

(such as IQ), but rather self-perceived abilities and behavioural dispositions. TEIQue is a scientific measurement instrument based exclusively on trait EI theory. This theory is unrelated to what lay people understand by “emotional intelligence”, and it is incompatible with any of the other models. TEIQue is not an alternative to the questionnaires or tests that claim to measure “emotional intelligence”. It was specifically designed to provide a gateway to trait EI theory (Trait Emotional Intelligence Research Program 2001).

3. Method

The relation between cultural context and EI has not yet been researched thoroughly in Central European countries. Therefore, in our survey we focus on cross-cultural differences as well as differences in study programs of Czech and Slovak university students regarding EI. We seek to determine the effect of factors on EI indicators; namely the factors of the country (the Czech Republic and Slovakia) and study program (management and social pedagogy). We examine whether Czech and Slovak cultural context can be a factor that influences the students’ EI traits. We also want to find out whether there is a significant difference in EI traits between the students of management and the students of social pedagogy (social work), and the interaction effect of the two key factors of the country and program with regard to the students’ EI.

We collected the data with the use of *Trait Emotional Intelligence Questionnaire – Short Form* (TEIQue-SF)¹ translated into Czech and Slovak. The content validity of the translated questionnaires was evaluated by two independent experts not from the researchers’ institute. Due to time effectiveness we used the shortened version – TEIQue-SF consisting of 30 self-report items. The respondents selected their options on the 7-point Likert-type scale (1 = completely disagree; 7 = completely agree). 15 items are reverse. During data analysis these items’ options were reverse-coded.

The research sample included students of Czech and Slovak universities (n = 1122) in the study programs of management (n = 639), and

¹ TEIQue-SF is freely available for research purpose on the website of London Psychometric Laboratory at University College London. Available at: <http://www.psychometriclab.com/admins/files/TEIQue-SF.pdf>.

social pedagogy, or social work² (n = 483). Table 1 shows the structure of the research sample. The students filled in the questionnaire using the Paper-and-Pencil method.

Table 1 The structure of the TEIQue-SF research sample

Program	Country	Sex	N	%
Management	Czech R.	male	52	4.6
		female	169	15.1
	Slovakia	male	89	7.9
		female	329	29.3
Social pedagogy/work	Czech R.	male	29	2.6
		female	176	15.7
	Slovakia	male	78	7.0
		female	200	17.8
Total			1122	100

The exploratory factor analysis³ confirmed the 4-factor solution: 1) the factor of *well-being* (n = 12 items; factor loading in interval from .726 to .458; $\alpha = .838$), 2) the factor of *self-control* (n = 6 items; factor loading from .620 to .514; $\alpha = .714$), 3) the factor of *emotionality* (n = 6 items; factor loading from .590 to .459; $\alpha = .612$), 4) the factor of *sociability* (n = 3 items; factor loading from .597 to .472; $\alpha = .510$). Three items were discarded because of low factor loading. Reliability of the factors is satisfactory. The low reliability of the sociability factor indicates lower internal consistency. Due to the low number of items that cover this factor, the lower level of reliability is no surprise. The potentially lower reliability of TEIQue-short form is also mentioned by K. V. Petrides (2009). The total reliability of measurement was estimated with Cronbach's $\alpha = .866$. Table 2 shows higher level of correlation between the factors.

² In the Czech Republic it was social pedagogy, in Slovakia it was social work. The contents of the programs as well as the position of the graduates in the labour market are very much similar; therefore, we did not differentiate the two programs in the survey and data processing.

³ Extraction method: Principal component analysis. Rotation method: Varimax norm. We concentrated on items with factor loading greater than or equal to .450.

Table 2 The correlation between TEIQue-SF factors

	1	2	3	4
1 Well being	–			
2 Self-control	.457*	–		
3 Emotionality	.462*	.384*	–	
4 Sociability	.325*	.438*	.317*	–

* Correlation is significant at the .01 level (2-tailed).

4. Results

We have noticed a significant difference between Czech and Slovak students in the total score of EI ($p < .001$). Czech students have given a lower average score in EI indicators ($M = 4.62$) than Slovak students ($M = 4.83$). There are significant differences in the factors of well-being (Czech $M = 4.72$; Slovak $M = 5.06$; $p < .001$) and emotionality (Czech $M = 4.53$; Slovak $M = 4.80$; $p < .001$). No differences between Czech and Slovak students can be seen in the average scores in the other two TEIQue factors of sociability and self-control.

Table 3 The differences in EI between Czech and Slovak students

Factor	Country	Mean	Standard deviation	Sig. (2-tailed)
Well being	Czech Rep.	4.72	.82	< .001
	Slovakia	5.06	.84	
Self-control	Czech Rep.	4.75	.92	.733
	Slovakia	4.73	1.08	
Emotionality	Czech Rep.	4.53	.87	< .001
	Slovakia	4.80	.88	
Sociability	Czech Rep.	4.15	1.13	.842
	Slovakia	4.17	1.18	
Total	Czech Rep.	4.62	.67	< .001
	Slovakia	4.83	.72	

Table 4 shows differences in average EI scores of Czech and Slovak students by study program. Slovak students of management had the

highest average score ($M = 4.85$), whereas Czech students of management scored $M = 4.67$ ($p = .002$). Slovak students of social work also achieved a higher average score ($M = 4.79$) than their Czech counterparts ($M = 4.57$; $p = .001$).

Table 4 The average score of Czech and Slovak students by study program

Country	Program	Mean	Standard deviation
Czech Rep.	Management	4.67	.69
	Social pedagogy/work	4.57	.65
Slovakia	Management	4.85	.70
	Social pedagogy/work	4.79	.76

Above we have stated that between Czech and Slovak students there exists a difference in EI (in the overall score as well as in the factors of emotionality and well-being). However, is this difference caused by different cultural context? MANOVA proved that the variable of country (figuratively cultural context) influences only about 2.3% ($R_{\text{sum}}^2 = .023$; $p < .001$) variability of total EI. As for the EI factors that are significantly different between the Czechs and Slovaks, i.e. emotionality and well-being, cultural context explains about 2.4% ($R_{\text{em}}^2 = .024$; $p < .001$) and 5% ($R_{\text{wb}}^2 = .051$; $p < .001$) variability of these. The factors of the country and program had no significant interaction effect.

5. Discussion and conclusion

Emotional intelligence is a complex construct that has to be researched in many contexts (intrapersonal, interpersonal, or intercultural). We concentrated on EI indicators by means of the TEIQue-SF questionnaire; the analysis of the indicators was primarily focused on cultural context of the respondents. We found out that cultural context is a determinant of EI indicators. However, the strength of this determinant is limited (it accounts for only about 2.3% variability of EI indicators). This confirms the conclusions of numerous researches that draw attention to the differences in EI between cultures (cf. Vivian Tang, Yin & Nelson 2010; Johnsen, Meeus, Meling, Rogde, Eid, Esepevik, Olsen...

Sommerfelt-Pettersen 2012; Reilly & Karounos 2009; Koydemir, Simsek, Schutz, Tipandjan 2013).

Regardless of the program they study Slovak students show a higher score of EI indicators than Czech students. Despite having lived in the same country for 74 years (from 1918 until 1992), the Czechs and Slovaks are two independent nations with different cultural traits. In our view this cultural difference manifested itself in EI indicators of the students. Why do the Slovaks score higher EI than the Czechs? The researchers who focus on cross-cultural comparison of EI often interpret these differences using the dimensions of culture described by Hofstede (2003). However, for comparison they use distant cultures with very different cultural traits as well as geographically distant. The research on the relation between perceived emotional intelligence and depression showed a difference between participants from the USA representing masculine culture and participants from Chile and Spain as representatives of feminine culture (Vivian Tang, Yin & Nelson 2010). Gökçen, Furnham, Mavroveli & Petrides (2014) described differences in EI traits between British and Chinese students. To interpret the differences they used individualistic-collectivist characteristic of culture by Hofstede. Kaelber & Schwartz (2014) studied EI among American and Thai counsellor trainees. Specificities of Czech and Slovak cultures are not at all as different as e.g. when comparing Western and Asian cultures. Moreover, there is no geographical distance either. In spite of this there is a difference in EI traits between the Czechs and Slovaks. The Slovaks are considered to be more emotionally expressive and effervescent than the Czechs. Emotional expressivity is more associated with individualistic cultures (Kang, Shaver, Min & Jing 2003). Individualistic cultures score higher EI than collectivist cultures (cf. Vivian Tang, Yin & Nelson 2010; Gökçen, Furnham, Mavroveli & Petrides 2014). This interpretation of differences in EI could be problematic, considering the conclusions of the research carried out by Kolman, Noorderhaven, Hofstede & Dienes (2003). The results of their survey imply that Slovak culture is more collectivist than Czech culture which shows more individualist traits. Individualist cultures put emphasis on the role of the self, including the emotional needs and expression of an independent individual. Emotions in individualistic cultures relate to especially the quality of life, the subjective experience of the balance between positive and

negative emotions. So, individualistic cultures show higher well-being than collectivist cultures. On the contrary, collectivist cultures are more focused on social cohesion and their members are expected to be more adaptable and obedient as parts of a whole. These cultures are less interested in the individual's emotional needs. It is necessary to emphasize that this distinction between individualistic and collectivist cultures cannot always be applied rigorously; instead, it can provide a general framework. Bigger differences in expression of emotion than between individualist and collectivist cultures can be seen between feminine type of culture (in the survey it was represented by respondents from Chile and Spain) and masculine type of culture (represented by respondents from the USA) (Vivian Tang, Yin & Nelson, 2010). Higher EI is more characteristic of feminine cultures (Fernández-Berrocal, Salovey, Vera, Extremera & Ramos 2005). However, if we use this approach for the interpretation of the difference between Czech and Slovak students, we will be again at variance with the survey results described by Kolman, Noorderhaven, Hofstede & Dienes (2003). They found out that unlike Czech culture Slovak culture is notably masculine-oriented, which would lead to the expectation of lower EI in Slovak students.

We have to realize that we need to find an explanation of 2.3% variability of EI. We do not know a great number of other factors that influence differences between Czech and Slovak students. This can inspire further research in Central European countries. We are conscious that our interpretation of the differences in EI indicators between Czech and Slovak students needs further elaboration and empirical verification. To date, there have not been done any research into the individualism or collectivism of Czech and Slovak students in relation to emotional intelligence. So, we welcome that this opens a new important area of intercultural research.

We expected that there would be a significant difference in EI indicators when comparing the programs (management versus social pedagogy). Social pedagogy is an academic program that prepares students for so-called helping professions. Helping professions emphasize attributes such as empathy or ability to be a good listener. The hypothesis that this would lead to higher EI of social pedagogy students than of management students was not confirmed. The students' study program is not a significant factor of EI.

What is a limiting component in the survey is the self-report form of the used instrument. It is the most frequent form of a questionnaire, so its data have to be interpreted with respect to this fact. Considering such intricate constructs as emotional intelligence, it is the rule that self-report scales have to be taken as a clue to knowledge, but not as a complex indicator of the phenomenon's state. It is necessary to be aware of the fact that the TEIQue-SF does not measure EI, but EI indicators. Therefore, the results should be taken as a step forward in the subject of measuring this phenomenon in cultural context and an inspiration for further research.

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