Regular Paper

Covrig, M., Goia (Agoston), S.I., Igret, R.S., Marinas, C.-V., Burca, O.-A. (2025), "Emotional Intelligence and Work Engagement: Connected or not? Evidence from the IT&C sector in Romania", *Transformations in Business & Economics*, Vol. 24, No 2 (65), pp.43-71.

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BUSINESS & ECONOMICS

EMOTIONAL INTELLIGENCE AND WORK ENGAGEMENT: CONNECTED OR NOT? EVIDENCE FROM THE IT&C SECTOR IN ROMANIA

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Received: July, 2024
1st Revision: November, 2024
2nd Revision: January, 2025
Accepted: February, 2025

ABSTRACT. ***Emotional intelligence has been widely accepted as a very important feature of employees, influencing the way of thinking, the behaviour, and the interaction with other people. Traditionally, IT&C professionals are considered to have fewer soft skills than other types of professionals, as their education and work environment require task orientation, autonomy, reduced direct communication, and technical skills (Tang and Yin, 2008). The present research aims at investigating the emotional intelligence and its relationship with the work engagement among 450 Romanian IT&C professionals using a questionnaire-based survey. Two valid and reliable scales, the Wong and Law Emotional Intelligence Scale and Work (Wong and Law, 2002) and the Well-being Survey (UWES) (Schaufeli et al., 2017), were used to assess the concepts. The results of the study show that, contrary to our assumptions, the level of emotional intelligence of respondents is quite high, and that a direct relationship between the two concepts does exist. Our research reveals significant differences in multiple factors linked to Emotional Intelligence and Work Engagement according to various control variables, such as gender, age, residence, and income level.***

KEYWORDS: emotional intelligence, work engagement, IT&C professionals, Romania, demographic variables.

JEL classification: M5, J24, J28.

Introduction

Intelligence is an individual's ability to deal with different concepts, learn quickly, adapt to diverse situations and continuously develop. The concept has been defined in several ways, with almost all the specialists agreeing that it involves the ability to adapt to the environment (Cherry, 2022; Sternberg, 2019).

Nowadays, emotional intelligence (EI) is considered to be essential for the environmental adaptation of employees. Emotional intelligence can be described as the ability to identify, use, understand, and manage one's emotions in positive ways to release stress, communicate effectively, empathise with others, overcome challenges, and defuse conflicts. In addition to that, it is a skill that allows us to recognise and understand what others experience emotionally. For the most part, this recognition and understanding takes place as a non-verbal process that influences both the inner world, the thinking processes and the outer world, as well as the interpersonal relationships.

Evidently, EI is important for any type of job, being considered a combination between intelligence and emotion (Roberts *et al.*, 2001). Two types of models about EI are under research: ability and mixed models. In this present study we employ the ability model, in which EI is conceived as a set of competencies that may enable people to use emotions in order to achieve desired outcomes (Fox and Spector, 2000). A particularly crucial function of EI is to help individuals adapt to complex social environments and respond appropriately to different emotions. According to Davis *et al.*, (1998) EI has a number of components considered lower order factors and entails four dimensions: (1) appraisal and expression of emotion in the self; (2) appraisal and recognition of others' emotions; (3) regulations of emotions in oneself and other people; and (4) use of emotion to facilitate performance.

A high EI contributes to a better social interaction, and it is positively correlated with the academic performance of students (Parker *et al.*, 2004). Furthermore, studies emphasise a strong connection between EI and job performance (Dhani, Sharma, 2017).

Romania is among the most attractive markets in Europe in terms of investments in technology and outsourcing, with a highly skilled and diverse workforce, competitive prices, and a stimulating business environment. The IT sector in Romania has grown steadily over the past decade, despite political and economic turmoil, which is a good indicator of its driving force. Known for their broad technical expertise, flexibility, enthusiasm and excellent language knowledge, software service providers in Romania are one of the best prospects for long-term collaborations, having earned an excellent reputation in this global industry. Eurostat reported that between 2012 and 2021, the share of IT professionals with higher education in the Member States increased by over 30% in Austria, by over 15% in Romania and Portugal, and more than 10% in Slovenia, Bulgaria, Hungary, Sweden, Italy, Denmark, and Croatia. In 2019, Romania ranked 8 in the EU27's ranking "Employed ICT specialists by educational attainment level – Tertiary education" (EITHealth, 2021).

The aim of this study is to analyse the level of emotional intelligence of IT professionals in Romania, potential differences in EI levels according to various control variables, and the relationship between EI and work engagement. In this respect, the authors used reliable and valid instruments to evaluate the two concepts: WLEIS (Wong, Law

Emotional Intelligence Scale) (Wong, Law, 2002) and the Utrecht Work Engagement Scale (UWES) (Schaufeli *et al.*, 2017). The concern for measuring the level of emotional intelligence of IT specialists is justified by the fact that, in general, they are perceived as people with high IQ levels but less adaptable to social environments. Unfortunately, this can lead to lower levels of retention, little adaptability to teamwork, collaboration, or social interaction. Moreover, studies are revealing that persons with higher EI are likely to be drawn to occupations that involve social interaction than in occupations involving clerical or administrative tasks (Mayer *et al*., 2004).

The research questions (RQ) that we address in the present work are therefore the following:

RQ1: What is the level of emotional intelligence among IT&C professionals?

RQ2: Is there any relationship between emotional intelligence and work engagement among IT&C professionals?

RQ3: Are there any differences regarding the level of emotional intelligence between various demographic groups of IT&C professionals?

1. Theoretical Framework

1.1 Intelligence: Narrowing down the Concept

The study of intelligence has traditionally been one of the main fields of study in psychology (Sternberg, Detterman, 1986). Intelligence is the ability to adapt to new situations, to learn from one's own experience, to manipulate abstract concepts, to use metacognition (people's understanding and control of their own thinking processes) to foster learning and to develop in the environment either by the knowledge acquired or by solving different problems (Sternberg, 2018).

Over time, various authors explored different taxonomies of intelligence. For instance, Stephen Covey (2004) speaks about four different types of intelligence in his work: IQ (intelligence quotient), EQ (emotional quotient), SQ (spiritual quotient) and PQ (physical quotient), arguing that spiritual intelligence is central to all other forms of intelligence, representing a source of guidance for the others. The very famous Harvard psychologist Howard Gardner (1993), started from his belief that the conventional concept of intelligence is too narrow and the measurement of IQ too restrictive, leading to missing out other types of intelligences As a result, he developed the theory of multiple intelligences. Therefore, he speaks about seven types of intelligence: linguistic, logical-mathematical, kinaesthesic, spatial, musical, intrapersonal and interpersonal. Gardner's intrapersonal intelligence (one's intelligence in dealing with oneself) together with the interpersonal intelligence (one's intelligence in dealing with others) form the social intelligence of a person (Wong, Law, 2002). Wong and Law (2002) suggest that the origins of Emotional Intelligence can be traced back to the concept of social intelligence, first defined by Thorndike in 1920 as the ability "to act wisely in human relations" (p.245). However, Salovey and Mayer (1990) were among the first ones who used the term "emotional intelligence" to depict people's ability to deal with emotions. Relying on Salovey and Mayer's definition, Goleman (2005) enriched the theory, stating that EI implies abilities such as self-awareness, self-motivating, handling emotions and relationships, empathy.

There is a broad range of definitions dealing with the concept of EI. However, there is growing acceptance that emotional intelligence encompasses the ability to use emotion for

better reasoning as well as the ability to reason effectively using emotional information (Mayer *et al.*, 2011). Primarily, there are two well-established scientific approaches to EI: i) the ability model cemented by Salovey and Mayer (1990), which clearly separates personality traits from abilities connected to EI (Mayer, Salovey, 1997) and ii) mixed and trait models, which propose a much broader framework for the concept of EI, combing explicitly mental abilities with other psychological constructs (Herpertz *et al.*, 2016). In this study we rely on the ability model consisting of four different pillars (self-emotional appraisal, others' emotions appraisal, use of emotions and regulation of emotions), proposed by Salovey and Mayer (1990). This notion also underpins the WLEIS scale used in the present paper by the IT&C specialists for the self-assessment of their EI.

When speaking about intelligence and its measurement, historically, the emphasis lied on cognitive and attentional tasks (Humphreys, 1979). However, it is becoming widely accepted that assessing intelligence involves emotional (Goleman, 2006; Mayer *et al.*, 2004), practical (McDaniel *et al.*, 2001) and cultural intelligence (Ang *et al.*, 2007; Bratianu, Paiuc, 2023) all of which having an immediate impact in the "real world", influencing our relations and work in the broader sense (Compton, 2021; Goleman, 2005).

Since intelligence, i.e. the type of intelligence one possesses, and the way in which it is expressed, influences the work environment, the topic transcended the boundaries of psychology. It started to be intensively explored in other research areas related to organisational research (Jordan, Troth, 2011) and business management, such as human resource management, leadership and organisation, cross-cultural management etc.

Emotional intelligence was analysed in connection with various other concepts related to human resources, such as employability of individuals (Pathak *et al.*, 2018; Wilkerson, 2012), work performance (Dhani, Sharma, 2017; Hjalmarsson, Dåderman, 2022; Joseph, Newman, 2010; Law *et al.*, 2008), work engagement (Selvi, Aiswarya, 2023), job satisfaction (Gholipour Soleimani *et al.*, 2017; Wong *et al.*, 2005), personnel turnover (Falahat *et al.*, 2014; Gholipour Soleimani *et al.*, 2017; Jordan, Troth, 2011), leadership behaviour (Bratianu, Paiuc, 2023; Gholipour Soleimani *et al.*, 2017; Jordan, Troth, 2011; Majeed *et al.*, 2017).

The concept of EI has been explored across multiple professional categories, such as students (Carrothers *et al.*, 2000; Jassim *et al.*, 2024), employees (Amjad, Abid, 2011) and executives (Ezzi *et al.*, 2020; Schutte *et al.*, 2004) and fields of activity, each of them involving two different degrees of emotional labour: from education (Kumar, Muniandy, 2012; Majeed *et al.*, 2017; Nasir *et al.*, 2023) and health services (Kaur *et al.*, 2015; Nightingale *et al.*, 2018) up to airlines (Herpertz *et al.*, 2016), banking (Giao *et al.*, 2020; Das, Ali, 2014), or technology (Falahat *et al.*, 2014; Pathak *et al.*, 2018; Sameer, Shaji, 2022). Along with the rapid development of high-end technologies and the surge of artificial intelligence (AI) in recent years, during times when human touch seems to be neglected, and the sense of emotion and feelings goes dull (Sameer, Shaji, 2022). Many scholars focus in their research on the intersection of the two concepts, EI, a concept rather related to the very social, human part of people and technology. Numerous recent studies (Aoudni *et al.*, 2025; Rust, Huang, 2021) have focused on the human-robot/machine interaction and the role of emotional intelligence in AI based devices. The capacity to perceive emotions, understand verbal and non-verbal communication, react to humans' feelings, and display human emotions increases the adoption rate of robots and leads to more customised and more vivid interaction with users/customers. Emotional or psychological artificial intelligence determines machines to adjust their reactions and responses to the humans' behaviour giving the sentiment of empathy and creating social connections with the users and consequently providing a better,

more personal, user experience (Aoudni *et al.*, 2025; Edwards *et al.*, 2019; Rincon *et al.*, 2019).

1.2 Emotional Intelligence in the IT&C Sector

The fact that the IT&C industry represents a strategic sector and a source of competitive advantage for the Romanian economy is not new. Its emergence as such can be traced back to the early 2000s, as stated also in the official documents of the government: "the information technology sector represents a priority activity that is expected to be stimulated" including through fiscal incentives. The last twenty years have witnessed a remarkable development in Romania's IT industry. Its contribution to the country's GDP varied all over time, rising by 37.92% from 4.91% in 2000 to 6.77% in the first two quarters of 2023. Despite all the difficulties, it has always remained on an upward trend. The same applies to the employment numbers: with over 140,000 employees in this sector, Romania is the leader in Europe, and number six worldwide (as to number of employees per 1,000 citizens), concerning the number of certified IT specialists. In 2000 the number of employees in the field was around 4,500, rising each year and reaching a peak of 144,300 in the first half of 2023. Thus, this represents an increase of 3,204% over the last two decades. (Popescu-Predulescu, 2024).

The positive dynamics of this sector, doubled by financing opportunities (public funding and private investment capital), fiscal incentives and well-educated labour force, attracted direct foreign investments. What is more, it also facilitated the emergence and development of numerous entrepreneurial ventures and hubs in this sector, along with other research and development initiatives. As a proof for the above statement, remains also the company UiPath, a Romanian tech start-up founded in 2005 and rebranded 10 years later, specialising in robotic process automation (RPA). In 2018, it established itself as the first Romanian unicorn and in 2021 was also listed at the New York Stock Exchange. The extraordinary success of this Romanian start-up boosted even more the Romanian IT industry, stimulating also new emerging ventures in this sector (Ilie, Kahn, 2022).

According to experts (Stowe, 2020), the technology industry exhibits a very high personnel turnover rate, 13.2%, exceeding that of any other industry (10.5% average). Moreover, as reported by their HR leaders, the voluntary employee attrition rate in technology companies increased on a yearly basis, reaching a peak of 50% increase during the Covid-19 pandemic, in the second semester of 2021, as reported by their HR leaders. This trend indicates that the "Great Resignation" did impact technology companies in terms of people fluctuation, and perhaps to a greater extent than other business sectors. As job-switching gradually becomes the norm, technology companies should attempt to address the causes of attrition by implementing innovative, efficient solutions (Davis and Edmonds, 2022). The fact that work engagement and employees' turnover are negatively correlated is already proven by many researchers (Du Plooy, Roodt, 2010; Memon *et al.*, 2016; Woocheol, 2017).

On the other hand, studies conducted within the IT industry show that a high level of EI is connected with a smaller turnover rate of employees (Falahat *et al.*, 2014; Jordan, Troth, 2011). The analysis of EI in the IT&C sector is not new, many authors have scrutinised its various facets. Having said that, it should be also noted that in most of the studies the context is represented by Asian countries, from Malaysia to India and China, countries where the IT&C sector plays also a significant role in the economy (Falahat *et al.*, 2014; Harshini,

Ramachandran, 2020; Law *et al.*, 2008; Pathak *et al.*, 2018; Ravichandran *et al.*, 2011; Sameer, Shaji, 2022).

Thus, the outcome of previous research linked with the importance of the IT&C sector in Romania triggered our interest to closing a gap in the literature by investigating the level of EI among IT&C specialists and its connection with work engagement, while also considering different demographic variables.

1.3 Emotional Intelligence and Work Engagement

The concept of work engagement has been extensively researched, as engaged employees are considered to be more performant and reliable in their companies (Selvi, Aiswarya, 2023; Shimazu *et al.*, 2010). It is imperative to examine the work engagement in the IT&C, as there is a high turnover of employees in this sector in Romania, which results in high employment costs. In this research, we follow Kahn's (1990) definition of engagement as a workplace situation in which employees are deeply involved in their work and express themselves physically, cognitively and emotionally during the work performance. Engaged employees are more positive and enthusiastic at work, far away from the negative state of burnout, which is considered to be the opposite of engagement (Schaufelli *et al.*, 2002). Richaman (2006) argued that high employee engagement implies increased discretionary effort, productivity and a lower turnover.

This means that management must implement a range of people practices that are effective in increasing engagement, such as ensuring a positive, constructive organisational culture and climate, caring for the wellbeing of employees, or promoting servant leadership. Moreover, the availability of job resources is also considered to increase job involvement. Engagement is also related to job satisfaction and emotional intelligence. A study conducted on professors from a public university in Colombia has shown a correlation between self-awareness, self-management, relationship management, and empathy with both work engagement and job satisfaction. In addition, it revealed that EI is related to loyalty and happiness at work (Muñoz *et al.*, 2024).

Various other studies explore the relation between emotional intelligence and engagement. In this regard, the most recent include Jassim *et al.* (2024), who conducted a study among students of music educational institutions in Iraq, revealing a positive relationship between students' emotional intelligence and their engagement and innovation adoption.

In a study carried out on police officers from Australia, Brunetto *et al.* (2012) analysed the connection between emotional intelligence and work engagement. The research demonstrates that emotional intelligence increases job satisfaction and well-being, encouraging positive relationships that improve employee engagement and organisational commitment, thereby reducing turnover intentions. Similar results were obtained by Selvi and Aiswarya (2022), their research confirming a strong correlation between work engagement and emotional intelligence.

2. Methodology

2.1 Measures

Based on extensive literature review, a survey was developed. It consists of three parts: (1) general information about the respondents, (2) the 16-item WLEIS (Wong and Law Emotional Intelligence Scale) (Wong, Law, 2002) and (3) the 3-item version of the Utrecht Work Engagement Scale (UWES) (Schaufeli *et al.*, 2017).

The WLEIS tool for EI measurement follows the scientific construct of emotional intelligence firstly developed by Salovey, Mayer (1990). The aforementioned16 items of WLEIS, scored on a seven-point Likert scale, measure four competencies: (a) Self-emotion appraisal (SEA), which reflects the self-perception of one's own feelings; (b) Other's emotion appraisal (OEA), which reflects the understanding and evaluation of other people's emotions; (c) Use of emotions (UOE), which refers to how respondents set goals for themselves, self-motivate to achieve best results; and (d) Regulation of emotion (ROE), which refers to how one is capable to control its emotions. Each competency is evaluated under four categories.

In the present study, work engagement was measured through the short 3-item version of the Utrecht Work Engagement Scale (Schaufeli *et al.,* 2017). This scale is a self-report questionnaire derived from the UWES 9-item (Schaufeli *et al.,* 2006), which included three dimensions of work engagement: vigour (which refers to high levels of energy and resilience), dedication (which refers to a strong commitment for work) and absorption (which refers to the level of concentration at work), each with three items. In the 3-item UWES, the authors kept only three items, one item from each dimension: At my work, I feel bursting with energy (vigour), I am enthusiastic about my job (dedication), and I am immersed in my work (absorption). While studies from researchers such as Federici, Skaalvik (2011), Fong, Ng (2012), Carmona-Halty *et al.* (2019) demonstrated the internal consistency and reliability of the 9-item UWES, there are studies in which the 3-factor model with 9 items does not hold, for example, Willmer *et al.* (2019) or Kulikowski (2019). Schaufeli *et al*. (2017) proved in their work that "UWES-3 is a reliable and valid indicator of work engagement that can be used as an alternative to the longer version."

2.2 Methods

The quantitative analysis focused on performing Confirmatory Factor Analysis on the two scales (Emotional Intelligence and Work Engagement), followed by non-parametric correlation analysis, and lastly, non-parametric tests such as Kruskal-Wallis and/or Jonckheere-Terspstra.

According to Price (2023), "Confirmatory factor analysis (CFA) is a technique used to analyse the efficacy of measurement models where the number of factors and their direct relationship is specified" a priori. The CFA was carried out through the parameter estimation and validation stages, the latter by goodness-of-fit measures, such as CFI, TLI, RMSEA, Chi-Square test. The relationship or association between the four factors of the Emotional Intelligence scale, and the Work Engagement latent construct was assessed by applying the Spearman's rank correlation coefficient: a point estimate and a test of statistical significance, similar to the approach used by Nicolae and Roșca (2022) or Leoveanu-Soare and Nimerenco (2023). The last part of the empirical analysis was reserved for non-parametric tests such as Kruskal-Wallis and/or Jonckheere-Terspstra, by considering a factor (latent construct) as the

quantitative dependent variable and a qualitative nominal or ordinal control variable as the independent variable. The first mentioned non-parametric test, the Kruskal-Wallis test, has also been conducted by Biclesanu *et al.* (2022), and the independent variables were demographic.

We were interested in investigating whether there are significant differences in the distribution of the dependent quantitative variable (factor or latent construct) among the categories of the independent qualitative variable. Kruskal-Wallis is the appropriate test to determine whether the population medians are equal against the alternative, and that at least two of them are significantly different. The Jonckheere-Terspstra test analyses whether there is an increasing or decreasing trend in the medians of the dependent variable in the classes or groups determined by the response categories of the ordinal control variables (Kraska-Miller, 2013).

2.3 Description of the Sample

The study was conducted on IT&C professionals from different industries in Romania. Since our research focuses on IT&C specialists from Romania, we employed a non-probability purposive sampling technique that allowed us to collect 450 valid questionnaires. These were further analysed using various statistical methods, as depicted in the other sections of the paper. Between the end of 2022 and the beginning of 2023, the questionnaire was distribute online through social media networks such as LinkedIn, Reddit, Facebook, Instagram, in various IT hubs and communities. The general information about respondents encompassed questions about gender, age, rural/urban environment, monthly salary, occupation, level of education. Additionally, a question was included targeting the self-assessment of respondents regarding their familiarity with the concept of Emotional Intelligence.

According to the data collected, the majority of the respondents are male, 85.11%, in accordance with the general statistics stating that the occupational domain IT&C attracts in general males (Econmedia, 2022); almost half of them are aged under 25 years, and the other half is split unevenly between those aged 26–35 and over 36 years. Slightly more than three quarters of them were born in urban areas. This data is also in accordance with the European statistics, which reveals that young people aged between 15 and 34 represent the majority of qualified employees in the IT&C sector in most member states of the European Union. Romania being one of the countries with the highest percentage of young employees in this domain, namely 78.8% (Econmedia, 2022).

Monthly income displays an unbalanced distribution; almost 84% of the respondents declared that their monthly earnings are at least 5,000 lei (≈ 1,000 Euro). Such income is considered high in Romania, a country where according to National Institute of Statistics (2023) the average net salary at the beginning of 2023 was 4,254 lei (≈ 850 Euro). However, it is widely known that in the IT&C industry the wages are higher than in other industries, benefitting also from certain other fiscal advantages, aimed at stimulating its development and the attractiveness in Romania (Popescu-Predulescu, 2024).

Regarding their current occupation, 80% of them are employed, followed by freelancers (12.22%) and entrepreneurs (2.67%), and the rest are IT&C students not working or currently unemployed. The respondents are highly educated, as almost 85% of them graduated from a form of tertiary education (62% BA, 24.22% M.Sc., 1.33% PhD). The participants occupy junior, middle, or senior positions, for instance, frontend Developer,

backend Developer, full Stack Developer, Java Developer, Python Developer, React Developer, NET Developer, Software Engineer, Developer Engineer, etc. Familiarity with the concept of Emotional Intelligence is very well represented with more than 80% of the respondents answering positively.

Therefore, the general profile of the respondent is: young male, employee in the IT&C industry, earning more than 1,000 Euro per month, graduated from a Bachelor program, and aware of the meaning of emotional intelligence.

3. Results and Discussion

3.1 WLEIS Scale for the Assessment of Emotional Intelligence

As previously specified, the WLEIS (Wong and Law Emotional Intelligence Scale) (Wong, Law, 2002) contains 16 items, grouped into 4 dimensions (*Self-emotion appraisal – SEA*: WL_I1-WL_I4, *Others' emotion appraisal – OEA*: WL_I5-WL_I8, *Use of emotion – UOE*: WL_I9-WL_I12 and *Regulation of emotion – ROE*: WL_I13-WL_I16) and evaluated on a 7-point Likert scale, where 1 = totally disagree, and 7= totally agree. By analysing the WLEIS results, we aim to address the first research question, related to the level of emotional intelligence among IT&C professionals.

Table 1 presents several descriptive statistics of the 16 items. All items show negative skewness, which indicates that more favourable response categories predominate in the sample, some items having even the skewness coefficient smaller than -1, suggesting that the distribution is highly skewed to the left. It can be observed that the item means range from 4.98 for item WL_I15 to 5.73 for item WL_I1, which is another convincing indicator that the answers tend to be closer to the Agreement alternatives. Therefore, the emotional intelligence of IT&C specialists is very high, despite the general assumption that respondents with a technical, rational profile based on critical and analytical thinking might underperform at tests related to emotional intelligence. This ability is rather connected with a humanistic profile and relevant in emotional labour jobs (Carrothers *et al.*, 2000; Herpertz *et al.*, 2016; Joseph and Newman, 2010; Lie and Liu, 2014; Wilkerson, 2012). However, we should also consider the risk of bias in the self-assessment process, which might lead to the Dunning-Kruger effect (Dunning, 2011). The effect, also known as cognitive self-analysis bias, means that individuals may tend to over-evaluate issues they perceive as having a positive connotation with which they wish to be associated. When performing self-evaluations, people are drawn to socially desirable responses and self-enhancement, as part of impression management (Paulhus, 1991). Another reason for a potential bias of over-self-evaluation could be represented by the fact that people might possess rather limited self-awareness and knowledge regarding their emotional abilities (Herpertz, 2016). However, considering the very high values reported in *Table 1*, despite the potential biases mentioned above, the tendency towards high levels of emotional intelligence among IT&C professionals from Romania cannot be questioned.

Table 1. Descriptive Statistics of the 16 Items Included in the WLEIS Scale

Items	Question	mean	sd	skew	kurtosis
WL_I1	I have a good sense of why I have certain feelings most of the time.	5.73	1.12	-1.42	5.58
WL_I2	I have good understanding of my own emotions.	5.56	1.18	-1.28	4.91
WL_I3	I really understand what I feel.	5.44	1.24	-1.12	4.34
WL_I4	I always know whether or not I am happy.	5.71	1.19	-1.18	4.53
WL_I5	I always know my friends' emotions from their behaviour.	5.13	1.28	-0.99	4.06
WL_I6	I am a good observer of others' emotions.	5.42	1.33	-1.01	4.02
WL_I7	I am sensitive to the feelings and emotions of others.	5.24	1.52	-0.78	2.96
WL_I8	I have good understanding of the emotions of people around me.	5.22	1.26	-0.92	3.89
WL_I9	I always set goals for myself and then try my best to achieve them.	5.49	1.40	-0.90	3.26
WL_I10	I always tell myself I am a competent person.	5.13	1.55	-0.67	2.69
WL_I11	I am a self-motivated person.	5.52	1.50	-1.07	3.61
WL_I12	I would always encourage myself to try my best.	5.68	1.42	-1.17	3.90
WL_I13	I am able to control my temper and handle difficulties rationally.	5.34	1.36	-0.76	3.13
WL_I14	I am quite capable of controlling my own emotions.	5.15	1.42	-0.71	2.96
WL_I15	I can always calm down quickly when I am very angry.	4.98	1.56	-0.65	2.80
WL_I16	I have good control of my own emotions.	5.14	1.41	-0.77	3.24

Note: Skewness coefficients are to be compared to 0, while Kurtosis coefficients are to be compared to 3.

Source: authors' processing in R.

Our results are consistent with the findings of other authors which investigate emotional intelligence in IT&C (Sinha, 2018). The relatively high values of emotional intelligence among IT&C specialists could be partly explained by level of perception of the importance of the emotional skills already developed during the study years. According to Kansal and Sadawarti (2025), final-year computer- science students rank emotional factors first, having the highest contribution to the self-perceived employability. Non-cognitive skills followed by cognitive skills influence, in the subjective perception of the surveyed IT students, much less the chances to be employed. Among the emotional quotient, self-management was assessed as particularly impactful. The awareness regarding the importance of emotional intelligence since university studies can influence the drive and efforts to improve it and subsequently, implicitly lead to increased values of emotional intelligence among IT&C professionals. In addition, the research of Wilkerson (2012) conducted in the USA reveals that certain non-technical skills are more important to IT specialists than some technical skills.

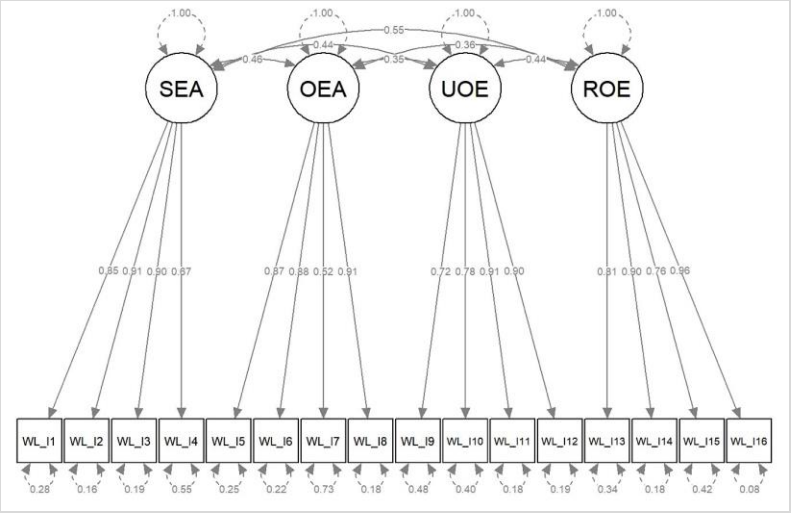
The items in the WLEIS scale do not follow normal distributions, neither individually (i.e., each of them) nor multivariate; the multivariate Mardia test of normality is rejected at the 1% level of significance. The Mardia Skewness and Mardia Kurtosis statistics are 3354.76 and 53.52, respectively, with p-values extremely close to 0. The Bartlett sphericity test applied to the polychoric correlation matrix of the items, with $\chi 2=5482.65$, p-value≈ 0, and the Kaiser-Meyer-Olkin measure of factor adequacy of 0.86 greater than 0.7 show that the data are suitable to complete the factor analysis.

These results, together with the fact that the items are measured on a 7-point Likert-type ordinal scale, prompted us to conduct Confirmatory Factor Analysis on the items of the WLEIS scale using the WLSMV (Weighted Least Squares) method with diagonally weighted least squares (DWLS), as an alternative to ML, as suggested in Brown (2015, p.354), and implemented in the R package lavaan (Rosseel, 2012), that we used extensively in the data analysis.

We have conducted confirmatory factor analysis on the 16 items of the Wang and Law Emotional Intelligence Scale with the 4 factors indicated in Wang and Law (2002), utilising

the CFA function in lavaan package. In order to evaluate the quality of adjustment, we assessed the measures of fit (goodness-of-fit indexes), which were very satisfactory, indicating that the data are suitable and adjust well the proposed model: CFI = 0.980 and TLI = 0.975 are well above 0.9, as recommended in Hu and Bentler (1999), and the Standardized Root Mean Square Residual SRMR was 0.047, less than 0.08. The Root-mean-square error of Approximation RMSEA was 0.075, below the specified threshold of 0.8, suggesting that the model was adequately fit, as stated in Browne and Cudeck (1993), with the 90% confidence interval [0.066; 0.084], where the upper bound is less than 0.10, above which the model should have been rejected, according to Browne and Cudeck (1993). The Chi-Square statistic of 354.289, df = 98, was significant, but this could be experienced in large samples, where the calculated value of the test statistic is strongly influenced by the sample size. Similar evaluation of the confirmatory factor analysis has been done by Ahmed *et al.* (2022) or Hoang and Tung (2023).

The average variance extracted by each of the four factors SEA = Self Emotion Appraisal, OEA = Others' Emotion Appraisal, UOE = Use of Emotions, ROE = Regulation of Emotions amounted to 0.705, 0.656, 0.688, and 0.743, respectively, all being higher than 0.50. The composite/construct reliability was greater than 0.70 for each factor: 0.903, 0.829, 0.883, and 0.896, respectively. Finally, the internal consistency was assessed by Cronbach's alphas, all above 0.7: 0.89 for the whole WLEI scale, and 0.87, 0.85, 0.97, and 0.90, respectively, for each of the four latent constructs, demonstrating good internal reliability.



Source: authors' processing in R.

Figure 1. **Path Diagram of the Four Factors CFA on the WLEI Scale**

The path diagram of the estimated CFA with four factors is displayed in *Figure 1*, and it shows that all standardised loadings are greater than 0.50, and they range between 0.52 and 0.96, with only two of them below 0.7. The inter-factor correlations range between 0.35 and 0.55, values far below 0.8; otherwise, a much simpler structure could have been considered. All the standardised factor loadings and inter-factor correlations are statistically significant, with p-values less than 0.0001.

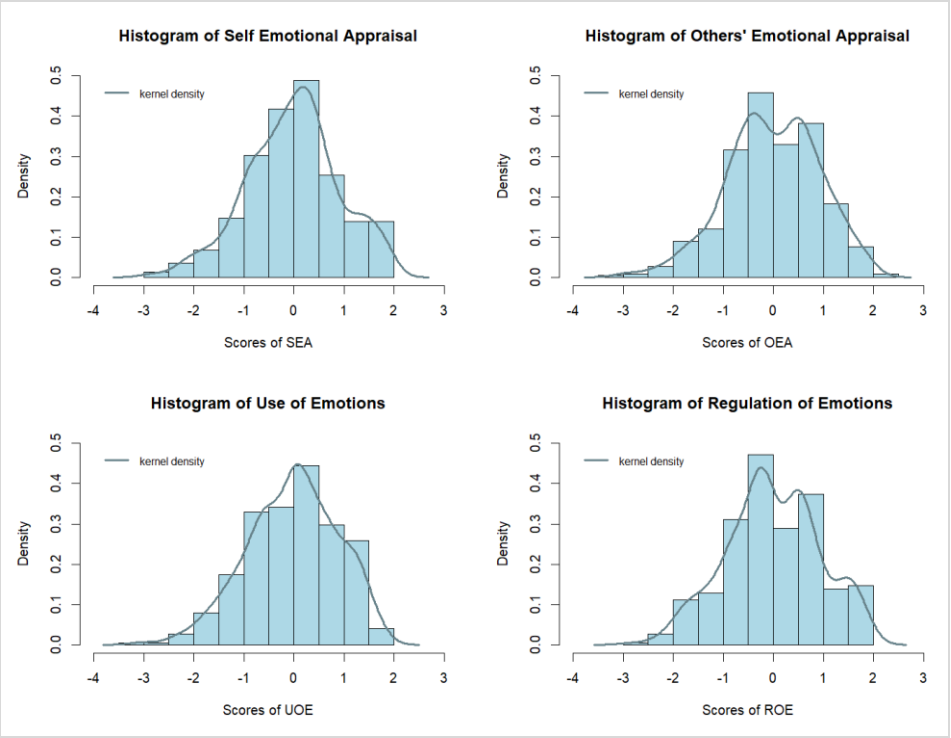
After the four-factor model of the Wang and Law Emotional Intelligence Scale has been successfully fitted on the observed data, we predicted the scores of the identified factors. Their descriptive statistics and histograms are presented in *Table 2* and *Figure 2*.

Table 2. Descriptive Statistics of the Four Latent Constructs of WLEI Scale

factors	mean	sd	min	Q1	median	Q3	max	skew	kurtosis
SEA	-0.02	0.92	-2.90	-0.64	0.03	0.55	1.98	-0.176	2.971
OEA	-0.01	0.92	-3.05	-0.60	-0.03	0.60	2.04	-0.295	2.970
UOE	-0.03	0.90	-3.09	-0.60	0.04	0.61	1.79	-0.337	2.847
ROE	-0.01	0.94	-2.87	-0.63	-0.09	0.58	1.94	-0.121	2.646

Note: Skewness coefficients are to be compared to 0, while Kurtosis coefficients are to be compared to 3.

Source: authors' Processing in R.



Source: authors' processing in R.

Figure 2. **Histogram and the Estimated Kernel Density of the Four WLEIS Factors**

The four factors of the WLEIS scale have negative skewness coefficients (*Table 2*), and the shape of their distributions is represented by histograms and density curves (*Figure 2*), where we notice longer tails to the left in each case. Similarly to Vâlsan *et al.* (2024), to perform a rigorous analysis, for each factor we tested the hypothesis of normality of the scores distribution, as well as the hypothesis that the distribution is symmetric and the hypothesis that the distribution is mesokurtic, respectively.

The test results reported in *Table 3* demonstrate that none of the factors follow a normal distribution, as the Shapiro's tests p-values are lower than a significance level of 1%. Moreover, except for the ROE factor (regulation of emotions), all the other three factors exhibit significant negative skewness with a p-value less than 0.10 for the factor SEA (self-emotion appraisal), and much lower p-values, less than 0.01, for the factors OEA (others' emotional appraisal) and UOE (use of emotions). These results indicate that higher scores are prevailing in the data, contrary to what is believed, that IT&C professionals do not possess a high EI.

As for the kurtosis tests, they complement the findings from the skewness test in the sense that skewed distributions are mesokurtic, and the symmetrical distribution of the fourth factor ROE (regulation of emotions) is platykurtic.

Table 3. Statistical Tests for the Distribution and Distribution Shape of the Four Factors

	WLEI scale factors			
Test	F1 – SEA	F2 – OEA	F3 – UOE	F4 – ROE
Shapiro's test of normality H_0: the factor follows a normal distribution H_1: the factor is not normally distributed	W = 0.9912, p-value = 0.0087	W=0.9907, p-value = 0.0061	W=0.98729, p-value = 0.0006	W=0.9896, p-value = 0.0028
D'Agostino Skewness test H_0: data does not have skewness H_1: data have negative skewness	skew = -0.176, p-value = 0.0624	skew = -0.295, p-value = 0.0055	skew = -0.337, p-value = 0.0019	skew = -0.121, p-value = 0.1449
Ascombe-Glynn kurtosis test H_0: data have kurtosis 3 H_1: kurtosis is lower than 3	kurt = 2.971, p-value = 0.5148	kurt = 2.970, p-value = 0.5122	kurt = 2.847, p-value = 0.2867	kurt = 2.646, p-value = 0.0419

Source: authors' processing in R.

3.2 UWES scale for the Assessment of Work Engagement

Next, we turn our attention to the second scale employed in our research, the Utrecht Work Engagement Scale (UWES) or the Well-being Survey Scale (UWES), the short version with 3 items (Schaufeli *et al.*, 2017). All the items are measured on a Likert scale from 0 to 6, where 0 means never and 6 means always.

The descriptive statistics of the 3 items (see *Table 4*) show that the means range from 3.47, item "At my work, I feel bursting with energy", assigned to vigour, to the greatest sample of 4.18, item "I am immersed in my work", assigned to absorption. The observed data for the items exhibits both positive skewness for vigour, and negative skewness for the other two items, but for none of the skewness coefficient is larger than 1 in absolute value, thus, the items distributions are not highly asymmetric.

Table 4. Descriptive Statistics of the 3 Items Included in the UWES Scale

Item	mean	sd	skew	kurtosis
(vigour) At my work, I feel bursting with energy	3.47	1.01	0.14	3.07
(dedication) I am enthusiastic about my job.	4.17	1.17	-0.26	2.49
(absorption) I am immersed in my work.	4.18	1.19	-0.16	2.38

Note: Skewness coefficients are to be compared to 0, while Kurtosis coefficients are to be compared to 3.

Source: authors' processing in R.

The data were suitable for factor analysis as the Bartlett sphericity test applied to the polychoric correlation matrix yielded $\chi 2=428.965$, p-value$\approx$0, and the Kaiser-Meyer-Olkin measure of factor adequacy was 0.68 greater than 0.6. This one-factor model fits excellently our data in the sense that CFI, TLI are well beyond 0.95, and RMSEA, SRMR are well below 0.05. *Table 5* shows the standardised loadings and their statistical significance.

Table 5. Standardised Loadings of CFA Estimation for UWES-3 Items

Latent Variable: work engagement				
Items	Estimate	Std.Err	z-value	P(>|z|)
(vigour) At my work, I feel bursting with energy	0.707	0.034	20.492	0.000
(dedication) I am enthusiastic about my job.	0.885	0.029	30.670	0.000
(absorption) I am immersed in my work.	0.671	0.032	20.999	0.000

Source: authors' processing in R.

Cronbach's alpha for the work engagement factor in the UWES 3-items model was 0.76, greater than 0.7, which proves that the 3-items model has good internal reliability; the average variance explained was 0.578, above the limit of 0.50 recommended by Hair *et al.* (2010), and the composite/construct reliability of the new latent construct was 0.774, higher than 0.7.

Work engagement factor scores do not follow a normal distribution (Shapiro Wilk test statistic was 0.991, with p value=0.006), their distribution is negatively skewed (sample skewness was -0.18, p value=0.059<0.10) and mesokurtic (sample kurtosis was 2.279, p value=0.113). Overall, the scores of the work engagement factor indicate a left skewed distribution, with higher levels of work engagement prevailing in the sample, however, the degree of asymmetry is roughly weaker than that of OEA (others' emotion appraisal, skew=-0.295) and UOE (use of emotions, skew=-0.337).

3.3 Relationship between the Factors of WLEIS Scale for Emotional Intelligence and the Factor of UWES Scale for Work Engagement

Addressing the second research question, the relationship between the four factors of the WLEIS scale and the work engagement factor was assessed by means of nonparametric correlation, calculating the Spearman sample correlation coefficients, and making inferences on the true value of them in the population. The results are presented in *Table 6*, p values are associated with the test of H_0: the population Spearman correlation coefficient is not statistically significant against H_1: the population Spearman correlation coefficient is significantly greater than 0. As it can be seen in *Table 6*, all p values are smaller than the significance level of 1%, proving that all correlation coefficients are significantly greater than 0. The strongest positive association was found between the factor UOE – use of emotions – and the Work Engagement factor; their correlation coefficient is 0.3619.

Table 6. Non-parametric Correlation of the WLEI Scale

		SEA – Self-Emotion Appraisal	OEA – Others' Emotion Appraisal	UOE – Use of Emotions	ROE – Regulation of Emotions
Work Engagement factor	Spearman sample correlation coefficient	0.2014	0.1734	0.3619	0.2049
	P-value	8.38e-06	0.0001	1.15e-15	5.93e-06

Source: authors' processing in R.

Our results are in line with Selvi and Aiswarya (2022) research that identifies a strong correlation between the work engagement of automobile sector employees and emotional intelligence, giving significant value to people's needs and emotions even in technical jobs. Moreover, Brunetto (2012) study emphasises that emotional intelligence of police officers predicted well-being and job satisfaction, which in turn influenced their engagement. These

results might suggest that employees who self-assess their and other people's emotions, understand how to use their feelings and regulate them during work, are more aware of their working environment and better understand everyday challenges. These can translate into a higher work engagement, as they feel more vigorous and dedicated to work.

3.4 Emotional Intelligence and Work Engagement among IT&C Specialists According to Various Demographic Characteristics

The final part of the analysis addresses the third research question, focusing on six selected control variables: gender, age, provenance, income, occupation, and completed education, examining whether there are significant differences between the groups in relation to the factors of the emotional intelligence and work engagement scales. Similar aspects have previously been explored. For instance, Jorfi *et al.* (2011) revealed that demographic variables such as age, gender, position title, educational and working experience may have positive association with emotional intelligence. Authors like Gautan and Khurana, (2018), Kumar and Muniandy (2012), Pooja and Kumar (2016) are also interested in the influence of demographic profiles on emotional intelligence.

For this purpose, non-parametric tests such as the Kruskal-Wallis (KW) test, and the Jonckheere-Terpstra (JT) test were conducted. The latter is considered with an increasing or decreasing trend in medians (see *Table 7*).

Table 7. Results after Conducting Nonparametric Tests, such as Kruskal-Walis (KW) Test, Jonckheere-Terpstra (JT) Test

	Sex	Age	Provenience	Monthly income	Occupational status	Completed education
Self-Emotion Appraisal	JT = 15169, increasing ↗ Pvalue = 0.0083	JT = 31089, increasing ↗ Pvalue = 0.0073	JT = 19738, increasing ↗ Pvalue = 0.0367	JT = 16524, increasing ↗ Pvalue = 0.0347	JT = 18307, increasing ↗ Pvalue = 0.1833	KW = 0.6778, Pvalue = 0.8784
Others' Emotion Appraisal	JT = 11328, decreasing ↘ Pvalue = 0.0593	JT = 27297, decreasing ↘ Pvalue = 0.3973	JT = 19462, increasing ↗ Pvalue = 0.0647	KW = 4.8866, Pvalue = 0.1803	JT = 19508, increasing ↗ Pvalue = 0.0237	KW = 3.208, Pvalue = 0.3607
Use of Emotions	JT = 14706, increasing ↗ Pvalue = 0.0257	JT = 25567, decreasing ↘ Pvalue = 0.0637	JT = 18041, increasing ↗ Pvalue = 0.3903	JT = 14852, increasing ↗ Pvalue = 0.4427	JT = 18795, increasing ↗ Pvalue = 0.0837	JT = 25501, decreasing ↘ Pvalue = 0.0637
Regulation of Emotions	JT = 16441, increasing ↗ Pvalue = 0.0003	JT = 27954, increasing ↗ Pvalue = 0.4123	JT = 19011, increasing ↗ Pvalue = 0.1343	JT = 14274, decreasing ↘ Pvalue = 0.3323	KW = 1.4532, Pvalue = 0.8381	JT = 24427, decreasing ↘ Pvalue = 0.0123
Work Engagement	KW = 0.0554, Pvalue = 0.8139	JT = 27365, decreasing ↘ Pvalue = 0.4303	JT = 16689, decreasing ↘ Pvalue = 0.1727	JT = 13491, increasing ↗ Pvalue = 0.8847	JT = 18296, increasing ↗ Pvalue = 0.1813	JT = 26401, decreasing ↘ Pvalue = 0.123

Note: In the above table, JT refers to the Jonckheere-Terpstra test statistic. The alternative hypothesis in JT test is specified as ↗, meaning increasing order of the medians along the categories of the ordinal independent variable, or ↘, meaning decreasing order of the medians along the categories of the ordinal independent variable. We considered 3000 permutations when calculating the p-values.

Source: authors' reporting based on results from R.

In order to easily interpret the results from *Table 7*, we created several box-plot diagrams (see *Figure 3*).

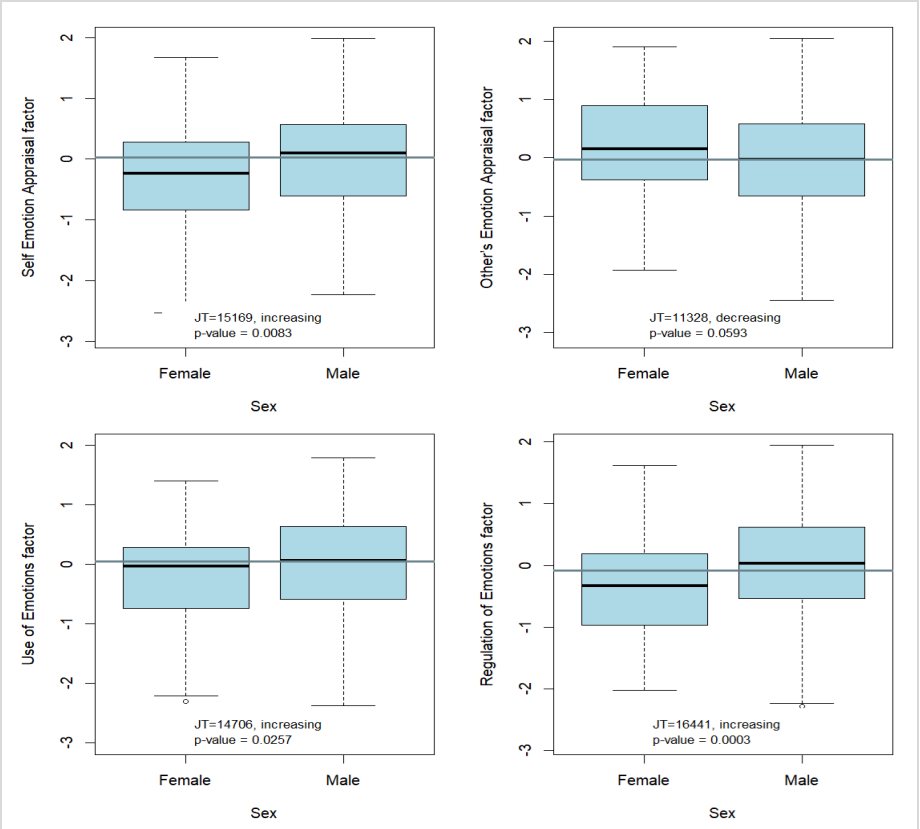
Thus, as can be seen in *Table 7*, for the control variable **gender**, we found that for all four factors of the emotional intelligence scale, the JT test was significant. To illustrate, the medians are in ascending order (female, male) for SEA, UOE, ROE factors, respectively descending (female, male) for the factor others' emotions appraisal. These aspects can be

better visualised in *Figure 3*. As for the factor of others' emotions appraisal, a randomly selected score from both categories, it is more likely to result in a higher score for the Female group than for the Male group of respondents. This demonstrates that females tend to hold higher scores in relation to this factor as opposed to males.

For the other three factors, SEA, UOE și ROA, the JT tests are increasingly more significant since they reveal that males (who work in IT&C and are mainly young) tend to evaluate their emotions more accurately, use them more efficiently and manage them better than females.

In general terms, studies unveil divergent results regarding the levels of EI depending on the gender: while Goleman (1998) did not identify any gender differences, Shahzad and Bagum (2012) demonstrated in their study conducted in Pakistan that male participants have higher level of emotional intelligence as compared to females, and authors like Gautan and Khurana, 2018; Pooja and Kumar (2016), Venkatappa *et al.* (2012) express the contrary, namely that females are more intelligent emotionally than men. The results of Dhani and Sharma (2017) indicate significant gender differences relating to emotional intelligence and job performance in the IT sector, suggesting that females score better than men.

The median values for the work engagement factor are very close, the distribution of scores is not significantly different between the two sex categories.



Note: The horizontal blue line is in each case the latent construct median.

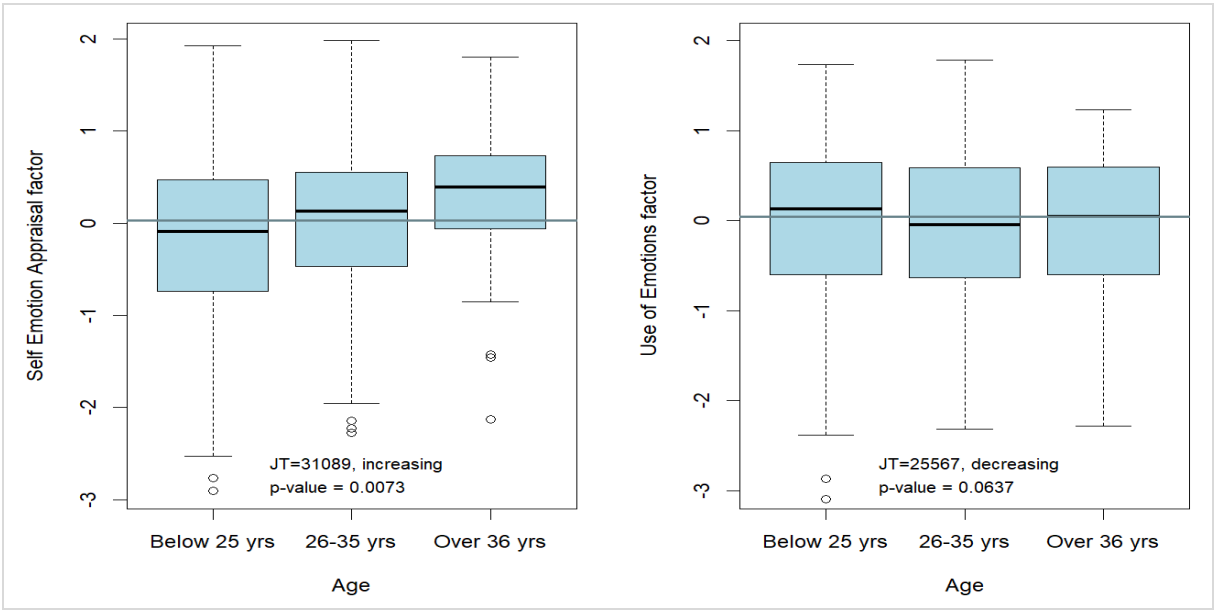
Source: authors' realisation in R.

Figure 3. **Boxplot of the Emotional Intelligence Factors According to Gender.**

Regarding the variable **age**, there have been significant differences confirmed only for the self-emotion appraisal and use of emotions dimensions, one involving an increasing trend and the other a decreasing trend. This means that, as people get older, the assessment of their own emotions becomes increasingly better, with those above 36 years having, in general, the highest scores, and approximately 75% of them having scores above the overall factor's median in the sample. These results are in accordance with the research of other authors (Gautan and Khurana, 2018, Pooja and Kumar, 2016) which confirm that EI increases with age. Petrides and Furnham (2006) concluded that age interacted with gender, such that older females showed in their research higher emotional intelligence compared with younger females. For the same SEA score, the proportion of respondents with lower values than the score in the group of over 36 years is smaller compared to the proportions of the two younger groups; the biggest proportion can be found in the class of very young respondents, of below 25 years, where we can observe the smallest median, below the overall median of the factor.

Another type of pattern is observed for the use of emotions dimension, where the medians present a decreasing trend. The highest scores are mainly held by very young respondents, followed by those in the age category of 26–35 years and those above 36 years. The oldest respondents display a balanced distribution according to UOE, their median overlapping the median of the factor in the sample.

Although not significant, the work engagement factor exhibits a decreasing trend; in other words, as IT&C employees are more mature, work engagement tends to become lower, as can be seen in *Figure 4*, top centre plot.



Note: The horizontal blue line is the factor median.

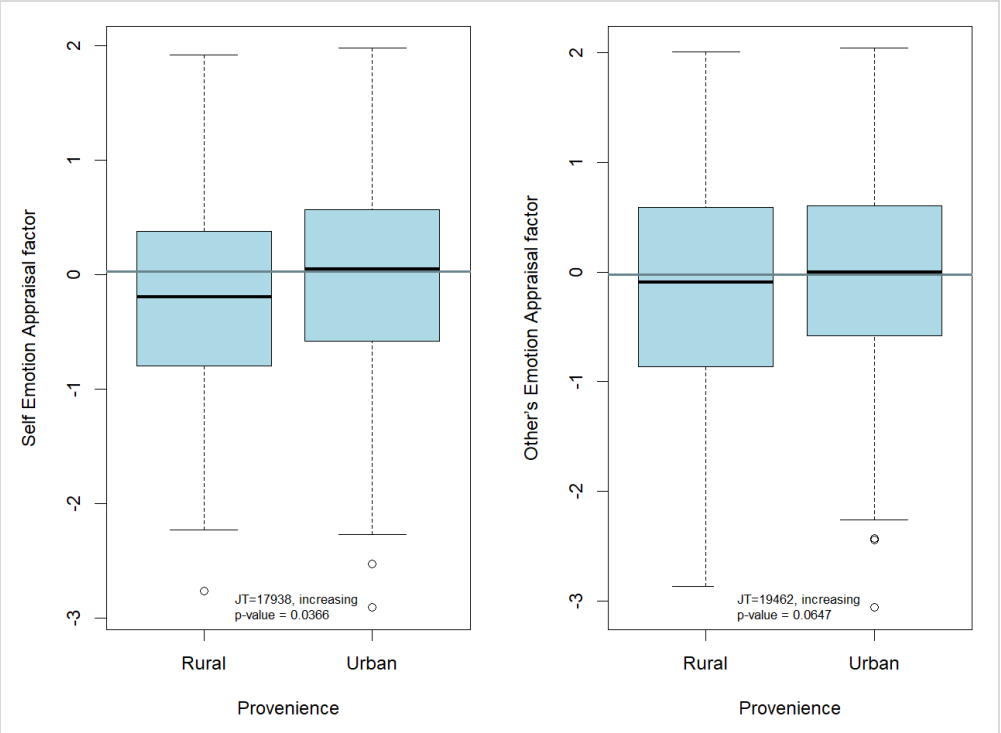
Source: authors' realisation in R.

Figure 4. **Boxplot of the SEA and UOE Latent Constructs According to Age**

As for **provenience**, only two factors showed significant results, particularly increasing trends in the self-emotion appraisal and others' emotion appraisal, with a greater difference in medians for the SEA factor than the difference in medians for the OEA factor, yet significant at 10% for the latter one. Those respondents who were born and grew up in

rural areas tend to have a weaker assessment of emotions, as opposed to those who grew up in an urban environment, whereas when it comes to work engagement, the trend is reversed, although not significant (see *Figure 5*).

The determination, motivation, energy, vigour, and dedication of young specialists in IT&C coming from the countryside may explain predominantly higher levels of work engagement than those coming from city areas. Maybe this aspect is something interesting, something that can be found mostly in countries of Central and Eastern Europe and less in countries of the West, where the living conditions between rural and urban environments have been, for some time, reduced, or at least, balanced. The increased engagement of the employees coming from rural areas can be also related to fewer work opportunities.



Note: The horizontal blue line is the factor median.

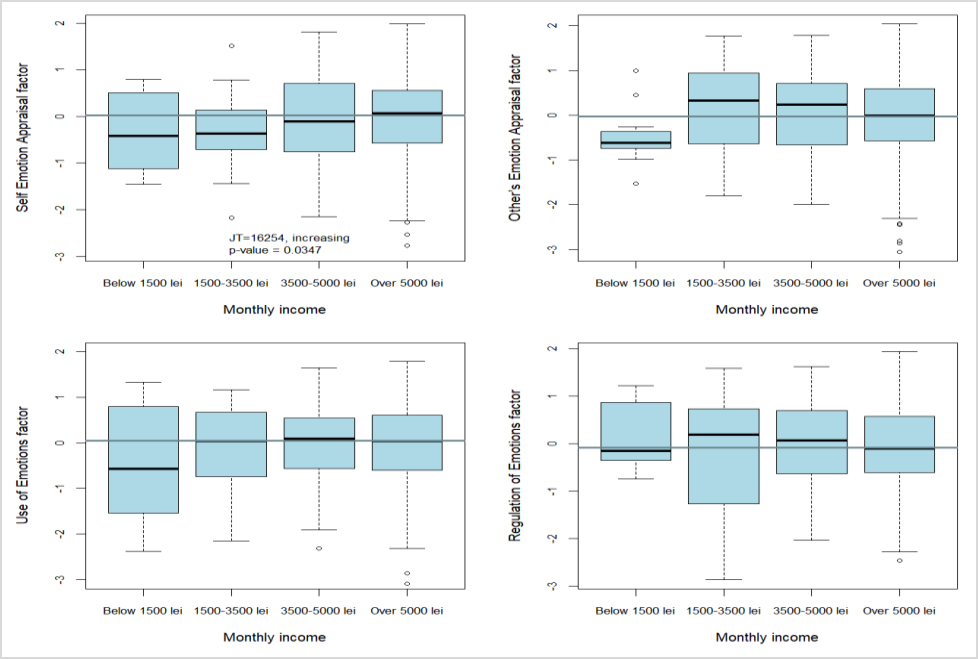
Source: authors' realisation in R.

Figure 5. **Boxplot of the SEA and OEA Latent Constructs According to Provenience.**

The next control variable is the **monthly income**, recorded in four categories, the first one corresponding to the lowest incomes, below 1500 lei (below ≈ 300 euro), and the fourth one to the highest recorded category of wages, above 5000 lei (above ≈ 1000 euro). Regarding the first factor, self-emotion appraisal, the JT test, p-value = 0.0347, confirms an upward trend, indicating that higher-paid IT&C professionals tend to have a greater appreciation of their own emotions. A higher salary is frequently associated with a more significant professional and life experience, which in turn leads to a better understanding of feelings and emotions. There were no noteworthy results obtained for the other factors in the statistical tests. We did notice, though, that for others' emotions appraisal scores, there are notable differences between the medians of each of the three categories of earnings above 1500 lei compared to the lowest monthly earnings category. This can be seen even more clearly in *Figure 6*, where the median of the OEA scores for low wage income is below the overall

factor median, and the medians of the other categories are above (blue horizontal line). Also from *Figure 6*, in the case of the use of emotions factor, we notice an upward trend in the medians of the scores, though insignificant, and an apparently trendless behaviour for the ROE factor.

Although not imperative, the pattern of median work engagement by monthly income is interesting in that the medians display an increase in the first three classes of wages (those which are smaller than 5000 lei), whereas the median for the highest wages (above 5000 lei) is much lower than that of the previous category, almost identical to the one of the latent construct in the sample.



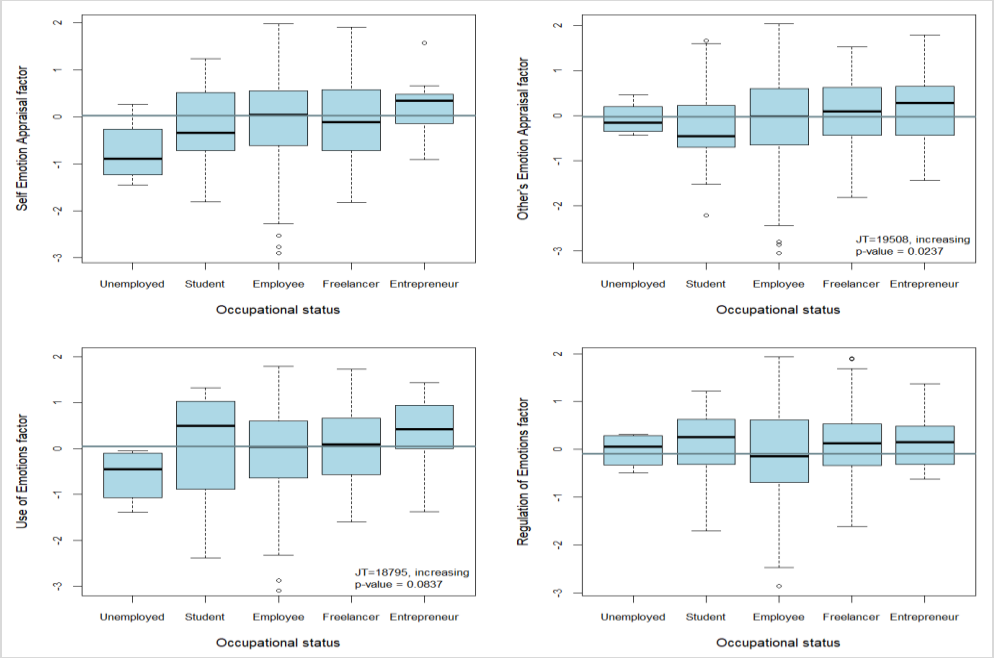
Note: The horizontal blue line is the factor median.

Source: authors' realisation in R.

Figure 6. **Boxplot of the Four Latent Constructs of WLEI Scale According to Monthly Income**

In terms of **occupational status**, the categories range from unemployed, student, employee, freelancer to entrepreneur. The JT test was significant for two factors OEA and UOE, at 5% and 10%, respectively. This finding was also discovered in *Figure 7* with the (predominantly) increasing trend in the medians of the two mentioned factor scores, by the occupational status categories. An upward trend was also noticed in the medians of self-emotion appraisal factor, but notably not at 10%, the largest differences in medians being observed between those of employee and entrepreneur groups, compared to the unemployed category.

The trend in medians of work engagement is increasing (*Figure 7*, bottom centre), with the highest scores for entrepreneurs. The plot also indicates a great difference in the medians between Entrepreneurs and Employees as well as between Entrepreneurs and Freelancers. Even though the JT test is not statistically significant, p value = 0.1813, this test, the one for provenience and the one for the next control variable, educational attainment, have the lowest p values, in the range from 0.10 to 0.20.



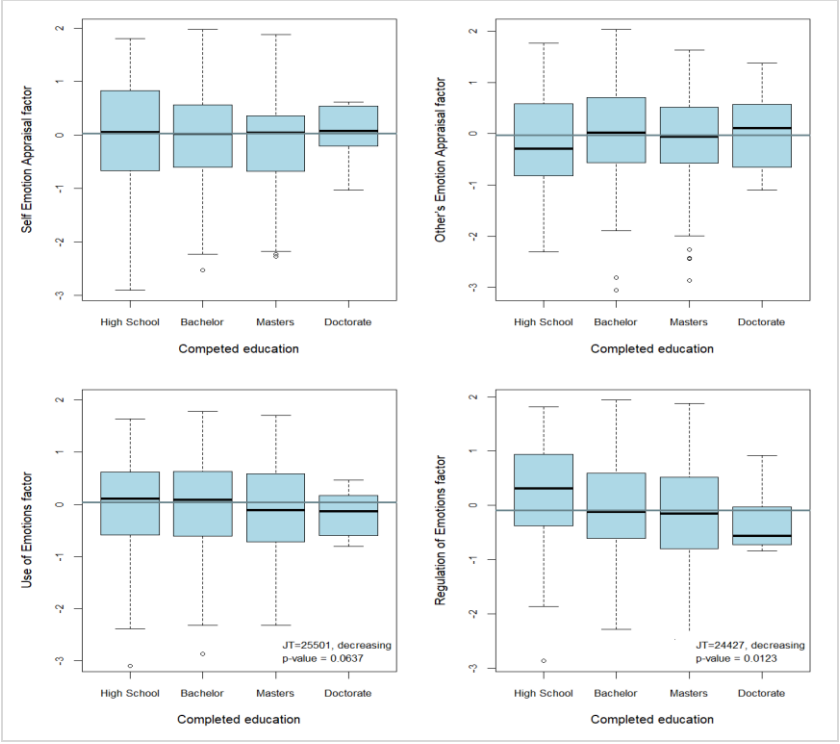
Note: The horizontal blue line is the factor median.

Source: authors' realisation in R.

Figure 7. **Boxplot of the Four Latent Constructs of WLEI Scale According to Occupational Status**

The sixth control variable shows the level of education most recently completed by the respondents (or **educational attainment**), from high school to doctorate (PhD). The first two factors have no significant differences between the category medians (see *Figure 8*, top left and top right); as for the use of emotions and regulation of emotions factors, the JT test is at 10% and 5% level of significance, respectively. As it can also be seen in *Figure 8*, in the bottom boxes, there is a decreasing tendency in the medians, more evident in the case of ROE. The highest median corresponding to those who have completed high school (and are now likely to be students) and the lowest medians for those with PhDs. Assuming that the higher the education level, the greater the work experience, an interesting result was reported in the Indian service sector: the value of EI rises with increasing years of work experience and peaks among employees with 16–20 years of experience, and after that, decreases again (Pooja and Kumar, 2016). On the other hand, Gautan and Khurana (2018) reveal that educational qualifications do not have any significant impact on the emotional intelligence of respondents included in their study.

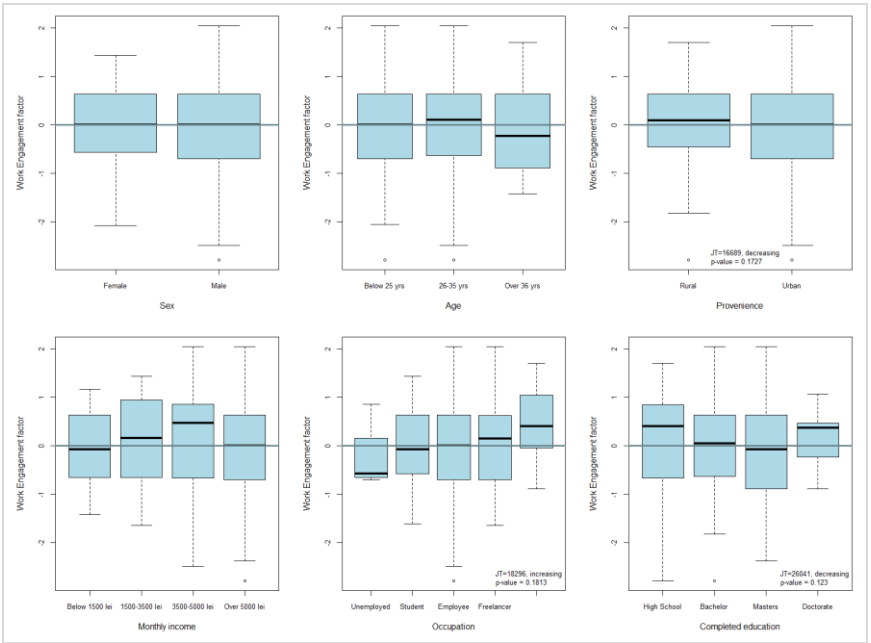
Speaking of the work engagement factor, the nonparametric tests results are not notable, but with a p value of 0.123 only slightly greater than 0.10. Nevertheless, we notice a decreasing pattern in the medians from high school to M.Sc., and the PhD median bounces back, reaching a value greater than the one observed for high school (*Figure 9*, bottom right).



Note: The horizontal blue line is the factor median.

Source: authors' realisation in R.

Figure 8. **Boxplot of the Four Latent Constructs of WLEI Scale According to Completed Education**



Note: The horizontal blue line is the factor median.

Source: authors' realisation in R.

Figure 9. **Boxplots of the Work Engagement Factor According to the Six Control Variables**

Conclusions

The study analyses the level of emotional intelligence among those who contribute to the creation of technology, namely IT&C professionals. The focus lies on Romania, an Eastern European country, which has a good reputation in Europe for its numerous and well-trained IT&C specialists (Dobre, 2014). Considering the relevance of the Romanian IT&C industry on a global level (Popescu-Predulescu, 2024) and its challenges regarding employees' attrition (Davis and Edmonds, 2022), as well as the importance of EI in creating work engagement and setting consequently some prerequisites for the sustainable success of an organisation on global markets, we considered scientifically relevant to conduct a research which investigates the level of EI among IT&C specialists in Romania and its connection with work engagement (also considering various demographic variables as control variables). Therefore, the present study brings added value to the academic literature by filing a gap (geographically and industry specific). Other scientific contributions refer to the validation of both scales, WLEIS and UWES in the Romanian IT&C context.

The conclusions from the empirical analysis cover several aspects, including: validation of the four-factor WLEI scale, for which the distribution of scores shows negative skewness, indicating that IT&C professionals with higher scores predominate in the sample in all four dimensions; validation of the short version 3-item UWES scale, which predicted a work engagement latent construct with a lower degree of negative skewness; direct and highly significant association between the four EI factors and the work engagement factor was confirmed, the strongest relationship was observed between the use of emotions latent factor and work engagement.

We have further examined whether there are significant differences in the latent variables among the classes or groups of the control sociodemographic variables. Subsequently, we found that according to SEA, men stochastically dominate women in all EI factors, except for others' emotion appraisal, for which the order is reversed. For the other control variables, we discovered several situations with significant increasing or decreasing order of the factors' medians. SEA displays a significant increasing trend in the medians according to age, provenience, and monthly income; OEA has as well an increasing trend in the medians for provenience and occupational status, while UOE proved to have a decreasing tendency in the medians according to age, completed education, and an upward tendency for occupational status. Except for SEA, ROE shows a significant pattern, a downward one, with respect to completed education. As for the work engagement latent construct, the non-parametric tests were all non-significant for all control variables.

The limitations of the research refer to the geographical limitation and sample representativeness, which does not allow the extrapolation of the results. Another limit is represented by the self-assessment method of both EI and work engagement, which, despite its utilisation on a large scale, might be biased. Some possible causes of biases were discussed earlier in the present paper. However, in order to be more objective, instead of self-reporting could be used performance-based models, since these types of tests are more resistant to the cognitive biases of self-reporting and faking good (Day, Caroll, 2004; Herpertz *et al.*, 2016).

Another potential research direction, which could endorse the relevance of our research that investigates emotional intelligence within IT&C professionals and eventually offer further insights related to geographical distribution and interest for the topic, as well as connected subtopics, could be represented by a complex bibliometric analysis approach. This approach is similar to that deployed by Delcea *et al.*, 2024.

Further research perspectives are represented by the exploration of various topics closely related to EI in the Romanian context, eventually in a comparative manner. Cultural intelligence is closely interconnected emotional intelligence: what is considered emotional intelligent in one cultural setting might be considered less intelligent in another one, be it in society or in the work environment (Ang *et al*., 2011; Compton, 2021; Saklofske *et al*., 2015). Following the approach of Bratianu and Paiuc (2023), who determined that cultural and emotional intelligence is more developed in the Romanian business environment than in the American one, other cross-cultural analyses could be conducted. Other further avenues which could be explored more deeply relate to the motives that remain behind the various results of the present research: for instance, the average values of EI and work engagement are significantly different within certain demographic groups. It would be interesting to reveal the reasons that hide behind this outcome.

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EMOCINIS INTELEKTAS IR ĮSITRAUKIMAS Į DARBĄ: AR TAI SUSIJĘ? RUMUNIJOS INFORMACINIŲ IR RYŠIŲ TECHNOLOGIJŲ SEKTORIAUS ATVEJIS

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SANTRAUKA

Pripažįstama, kad emocinis intelektas yra labai svarbi darbuotojų savybė, veikianti mąstymą, elgesį ir bendravimą su kitais žmonėmis. Tradiciškai manoma, kad informacinių ir ryšių technologijų (angl. IT&C) specialistai turi mažiau socialinių emocinių gebėjimų nei kiti specialistai: jų išsilavinimas ir darbo aplinka reikalauja orientacijos į užduotis, savarankiškumo, mažesnio tiesioginio bendravimo, techninių įgūdžių (Tang ir Yin, 2008). Šio tyrimo metu, pasitelkus anketinę apklausą, siekta ištirti 450 Rumunijos IT&C specialistų emocinį intelektą ir jo ryšį su įsitraukimu į darbą. Šioms koncepcijoms įvertinti naudotos dvi pagrįstos ir patikimos skalės: Wong ir Law emocinio intelekto ir darbo skalė (angl. *Wong and Law Emotional Intelligence Scale and Work*) (Wong ir Law, 2002) ir gerovės tyrimas (angl. *Well-Being Survey*) (UWES) (Schaufeli ir kt., 2017). Tyrimo rezultatai atskleidė, kad, priešingai nei manyta, respondentų emocinio intelekto lygis yra gana aukštas ir tarp dviejų tiriamų koncepcijų egzistuoja tiesioginis ryšys. Atlikus tyrimą paaiškėjo reikšmingi daugelio su emociniu intelektu ir įsitraukimu į darbą susijusių veiksnių skirtumai, nustatyti pagal įvairius kontrolinius kintamuosius, tokius kaip lytis, amžius, gyvenamoji vieta ir pajamų dydis.

REIKŠMINIAI ŽODŽIAI: emocinis intelektas; įsitraukimas į darbą; informacinių ir ryšių technologijų specialistai; Rumunija; demografiniai kintamieji.