Emotional Intelligence in the Context of Personal Dispositions Development of Students - Future Psychologists

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Abstract: The article is connected with a theoretical analysis of the emotional intelligence and empirical studies of the development of emotional intelligence in the context of personal dispositions of students future psychologists (n=84). The following methods were used in the empirical study: EQ test K. Barchard, «Diagnosis of emotional intelligence» (N. Hall), «Questionnaire SVF120» (V. Yanke, G. Erdmann, adaptation N. Vodopjanova), «Methods of diagnosing viability» (S. Muddy, adaptation D. Leontiev), «Oxford Happiness Inventory», «Diagnosis of emotionality» (Suvorov, 1976), «Questionnaire Machiavellianism of the individual». Mathematical data processing and graphical representation of the results were performed using the statistical package SPSS 17.0. It is noted that the real impetus for the emergence of the concept of EI in science were the works of G. Gardner and his theory of multiple intelligences. The basic models of EI and the author’s interpretation of this concept are analyzed, which leads to the conclusion: the integrated understanding of this phenomenon by psychologists is still absent, the main definition of the concept of EI is often a list and description of its components, and the main justification for its importance is a list of those areas of life where the role of EI is most obvious.

Keywords: emotional intelligence; emotionality; happiness; Machiavellianism; vitality.

Introduction

The study of emotional intelligence is at the peak of popularity in psychology in the world. Many scientists, without even trying to thoroughly understand the essence of this phenomenon, but only accepting ideas about the understanding of emotional intelligence and its components by other authors and minimally modifying them and adapting them to their own perception of this concept, still tend to consider it almost a panacea not only in human achievement life and professional success, but also in solving a wide variety of socio-economic and organizational tasks/problems. In this context, quite predictable, but no less important, the question arises: is the development of emotional intelligence connected with other personal traits, and if so, with which ones and to what extent?

The study of emotional intelligence (EI) has a relatively short history, but the number of scientists who have analyzed it is quite significant and constantly increasing. In particular, the specifics of EI were studied by: Andreeva (2019), Barchard (2001), Chebykin (2020), Degtyarev (2012), Goleman (2017), Golis (2021), Liusin (2004), Mayer & Salovey (1993, 2000), Nosenko & Kovryga (2003), Rakityanska (2019), Serrat (2017) and many others.

Scientists have not neglected the possible connection of EI with personality traits. In particular, Kawamoto et al. (2021) analyzed the relationship of the general factor (GFP), selected on the basis of existing interrelationships between personal spheres (according to the “Big Five” method), with the emotional intelligence of adults, understanding it as a personality trait and its ability. Davis & Nichols (2016) examining the scientific literature on the issue of EI to support the idea that “higher EI” is not always better for a person, concluded that the way and result of EI manifestation depends on other dispositional characteristics of the individual, while the imbalance of its components is associated with a person’s greater emotional vulnerability, and affects his/her feeling of psychological discomfort and the mental health of the individual in general. This led scientists to the interesting idea of the optimal manifestation of EI, which implies an average level of development of its components, excluding imbalance in its structure. Andreeva (2019) also notes that “modern studies emphasize” the dependence of EI on “personal characteristics.”
Literature Review

Prerequisites for the formation of the EI concept

We can assume that the appearance of the concept of “emotional intelligence” was a kind of reaction/answer to the “omnipotence” of the term IQ: not only were IQ tests conducted practically in high volume, but also a high IQ score was traditionally associated with both a person’s mental abilities and his/her future achievements not only in academic studies, but also in life and science.

However, Thorndike (1920) and T. Hunt (1928) were the first to break the “power” of IQ, expressing the opinion that a component of IQ is social intelligence as a person’s ability to understand another person, interact wisely and judiciously in interpersonal relations with him/her (Goleman, 2020, p. 91; Srivastava, 2013; Bazarsadaeva, 2013, p. 23).

The work of Gardner, who in 1983 (before the appearance of the term “emotional intelligence”) published his work “Structure of Thinking”, implementing the idea of identifying the natural talents of a person, which will be able to develop by finding the activity (profession) where he/she can best reveal himself/herself, his/her abilities (in essence, self-realization), instead of focusing on IQ diagnosis as a prerequisite for academic success. Gardner (1983) presented the idea of multiple, multifaceted (but not mono) intelligence (Rakityanska, 2019), which is based on seven main abilities: linguistic, logical-mathematical, musical, bodily-kinesthetic, spatial-visual, interpersonal and intrapersonal (self-awareness) (Goleman, 2020, p. 84). The scientist called the last two components “personal intelligence” (here it will not be superfluous to mention that the concept of “intelligence” is not the same as the concept of “thinking”). Over time, Gardner’s model began to look simpler: 1) interpersonal intelligence – is manifested in the understanding of other people, the reasons for their behavior and actions, relationships with others, and adequate response to them, their emotions and desires; in fact, it is the ability to observe other people, draw conclusions, using it in one’s relations with them (we would call it social receptivity); 2) internal (intrapersonal) intelligence – a person’s ability to understand and control himself/herself, his/her feelings, to realize the true motives of his/her own actions, emotional self-awareness (Srivastava, 2013) – we would call this reflection. Research by H. Gardner did not reveal a significant relationship between the results of the IQ method and those that determined multiple intelligences (Goleman, 2020, p. 90).
Basic models of “emotional intelligence”

Initially, the idea of emotional intelligence was based on an attempt by psychologists to discover what “can help a person achieve” true success in life by finding the “right” job and desirable relationships, and not just to determine the possibility of their successful studies in educational institutions (Goleman, 2020, p. 92). As a result, Mayer & Salovey (1993) created the first model of EI (subsequently it was improved). The authors understood EI as an innate component of social intelligence, which manifests as a connection of cognitive and affective parts of the psyche through a person’s ability to clearly express and evaluate his/her and others’ emotions (Mayer, Salovey, & Caruso, 2000) and involves a person’s ability to control his/her feelings and emotions of another person, understand them and use this information to manage one’s own thoughts and actions, to make decisions and influence other people, which should contribute to the “emotional and intellectual growth of the individual” (Golis, 2021; Srivastava, 2013; Serrat, 2017; O’Connor et al. 2019; Vorslav, 2015), as well as “motivation, planning and achievement” in human life (Salovey & Mayer, 1990). The model contained 4 branches (Liusin, 2004) of abilities which are the basis of emotional intelligence: self-awareness is an accurate perception, awareness and understanding of one’s own emotions (recognition of one’s own feelings, the ability to explain and evaluate them), which reduces doubts about the correctness of decisions or the choice made; emotion management (self-control) – the ability to manage emotions, reducing the intensity of negative experiences and using emotions to direct one’s thoughts; that they correspond to the situation and for a quick return of the sense of inner balance; social awareness – the ability to recognize and understand the emotions of other people, to use the information contained in emotions; social skills - the ability to regulate one’s own and other people’s emotions, to build relationships (skillfully deal with other people’s emotions, feeling the situation; to be socially competent) (Goleman, 2020, p. 94). Later, scientists began to believe that emotions contain various information about a person’s connections/relationships with other people and the environment in general, and EI began to be interpreted by them as “the ability to process information contained in emotions, determine the meaning of emotions, their relationships, use this information for understanding and decision-making” (Degtyarev, 2012; Liusin, 2004).

D. Goleman, a New York Times journalist who was interested in the question of what a person needs to succeed in life, who is considered a popularizer of the concept of EI, proposed his own model of EI, which is...
called a “compilation of others research” (Ackley, 2016, p. 269), first by adding the term “competence” to the Mayer & Salovey model (Goleman, 2020, p. 17); which shows how much of a person's EI abilities they have learned or developed in order to use them to achieve success in their professional activities (that is, a person can have EI components and not be able to use them). Later, in another version, his model of EI consisted of self-control (a mindset that did not interfere with rational thinking), this characteristic of EI the scientist considers a meta-ability; perseverance (the ability to restrain impulsive actions and empathize, hoping for the best), perseverance - despite existing difficulties on the way to the goal; the ability to self-motivation, which ensures a person's success in business (Goleman, 2020, p. 27, 77); and self-awareness – an unbiased attitude to making sense of understanding and orientation in one’s own states, the ability to navigate one's emotions. That is, the model of D. Goleman (2020) refers to “mixed” models of EI, where cognitive abilities and personal characteristics are combined. The concept of EI is defined by Goleman as the ability of a person to restrain his own emotions, notice the outwardly hidden feelings of other people and smooth out disagreements and conflicts in relations with them (Goleman, 2020, p. 28) in order to use the information received from them to achieve his/her own goals (Jacjuk, 2019); the ability to understand both one's own experiences and the emotions of another person in order to successfully control and manage them in order to effectively build a relationship with another person (Goleman, 2020). The scientist also notes that EI is neither more important than IQ, nor does it guarantee a person's professional or life success. However, in situations where mental abilities are less important than emotional self-control, self-regulation or empathy, its importance becomes paramount (when “the heart prevails over the mind”) (Goleman, 2020, p. 34). At the same time, Goleman’s EI model was focused on “productivity at work and the development of management skills” – on achieving business success (Goleman, 2020, p. 15).

The third concept of EI belongs to the clinical physiologist R. Bar-On (2005), who in 1980 became interested in researching the problem of “people’s achievement of general emotional health and well-being.” He understood EI as a complex of non-cognitive, emotional and social competencies, abilities and skills that affect a person’s ability to cope with environmental pressure, while showing intellectual behavior (Emotional intelligence, 2021) for effective life activities (Degtyarev, 2012), emphasizing the role of personal characteristics in EI. His EI model, updated in 2011, contains 5 domains with three substructures within each:

– self-perception/cognition: self-respect, self-actualization (striving for meaning, independence), emotional self-awareness (understanding of one's emotions);
– self-expression: emotional expression (accurate manifestation of emotions), assertiveness (ability to clearly express one’s feelings and thoughts), independence (freedom from emotional dependence);
– interpersonal: interpersonal relationships (for mutual satisfaction), empathy (understanding and evaluation of other people’s feelings, compassion), social responsibility (usefulness, social consciousness);
– decision-making: solving problems (in which emotions are involved), reality testing (trying to see things as they really are), impulse control (ability to restrain impulsive actions);

Modern scientists (Davis & Nichols, 2016; Lea et al., 2019) point out that two main views on emotional intelligence can be distinguished in the scientific literature: it is understood as a trait (related to emotions) or as an ability (to process emotional information, in order to understand it), as a result of which the methods/methodologies of diagnosing emotional intelligence also differ.

**Understanding the concept of “emotional intelligence”**

The APA dictionary (Emotional intelligence, n.d.) offers such definition of EI, obviously in the context of the Mayer & Salovey (2000) model, it is a type of intelligence that involves a person’s ability to process emotional information and then use it in their own reasoning and reflection. Cambridge dictionary (2021) interprets it as a person’s ability to understand the feelings and reactions of both his/her own and other people, reacting accordingly and using this information to avoid problems or solve them.
According to K. Srivastava (2013), EI is better characterized as a person's ability to understand, distinguish and control his/her own emotions and the emotions of other people, using the information contained in emotions to control thinking and behavior, in fact, this definition almost repeats Mayer's understanding of EI - Salovey (Mayer & Salovey, 1993).

In addition, a fairly significant number of interpretations of EI exists in domestic psychology, which indicates its fascination with this phenomenon. EI is understood as an integral property of a person, a certain aspect of the detection/manifestation of his/her inner world, which reflects “the degree of reasonableness of a person’s attitude to the world, to other people and to himself/herself as a subject of life” (Nosenko & Kovryga, 2003), as “the ability to understand the attitude of the individual” presented in emotions, and to manage the emotional sphere of the individual on the basis of “intellectual analysis and synthesis” (Garskova, 1999), as an integral property of the individual, which is able to contribute both to its development and to improve its interpersonal relations, giving his/her optimal opportunities for self-realization (Burkalo, 2019, p. 45).

O. Chebykin also offers his own definition of EI, accusing other scientists of analyzing them “as a subject of research” of completely “different signs”. In his opinion, it is a “psychic property of an individual”, which is determined by the manifestations of “complex, as if integrated cognitive-emotional and thinking features, thanks to which an individual achieves his/her goal”, solving complex tasks in its activities (Chebykin, 2020, p. 26).

Andreeva (2019), as if summarizing the previously mentioned, notes that common to most interpretations of EI is the idea of scientists that a high level of EI implies the presence of the ability to understand emotions (one’s own and other people’s), their manifestation and management, which leads to better adaptability and the effectiveness of the individual in interpersonal communication and activity (Andreeva, 2019). According to the scientist herself, and we tend to mostly agree with this understanding of this concept, EI is a meta-processual phenomenon, being at the same time a cognitive (which provides knowledge and understanding of emotions) and regulatory (allows to regulate one’s own emotional processes and control other people’s emotions) formation. Andreeva (2019) also offers her own interpretation of the concept: EI is an “integral cognitive-personal formation”, in which the cognitive component is maximally expressed, it is “a set of mental abilities to understand emotions and manage them, competencies related to the processing and transformation of emotional
information” and those personality properties that “contribute to the adaptation of the individual”.

Among the post-Soviet EI models, the most famous is the Russian model by D. Liusin (2004), who defines EI as a set of human abilities that allow him/her to understand and manage his/her own and other people's emotions, dividing it into interpersonal (when it comes to other people’s emotions) and intrapersonal (manifests in relation to one’s own emotions) EI (Jaciuk, 2019; Degtyarev, 2012). At the same time, the ability to understand emotions involves the recognition of emotions, their identification (naming), awareness of the reasons for their detection and the possible consequences of their experience; while the ability to control emotions means a person's ability to control emotions (their external manifestation) and the ability to cause a certain experience in oneself (another person). Liusin (2004) also notes the existence of a connection between EI and the personality’s focus on the emotional sphere (inner world) of one’s own or another person. At the same time, if Mayer & Salovey (1993) considered EI to be innate and capable of development only within the limits provided for by its innate part, then Liusin (2004) that EI is formed during life and defines the main factors influencing this process: cognitive abilities (speed and accuracy of perception and processing of emotional information); perception of emotions (as a valuable source of information) and features of human emotionality (emotional stability, sensitivity, etc.) (Degtyarev, 2012).

Summarizing, it is worth noting: we fully agree with the opinion of Barchard (2003, p. 841) that, firstly, there are different definitions of EI, even in terms of scope, and secondly, EI borders meaningfully with the concepts of social intelligence, empathy, alexithymia and emotional regulation, which in general makes it difficult to understand; and Zarytska (2019) that “there is still no unified interpretation of the concept of emotional intelligence” is quite obvious. After all, now the main definition of this concept is most often the list and characteristics of its components, which depend on the views of a particular scientist, while its importance for the successful life of a person is practically considered proven. Chebykin (2020) generally emphasizes that most scientists do not study EI itself, but “social intelligence and its communicative features”, and analyzing precisely different features.

Different definitions of emotional intelligence by Russian and domestic scientists, in our opinion, are actually a selection (emphasis by their authors) of individual components of emotional intelligence defined by foreign psychologists.
The role of emotional intelligence in human life

Many EI researchers, although in this context there are no equals to D. Goleman, the popularizer of the term, single out/name both areas of life where the role of EI is particularly obvious, and life situations where a high level of its development is particularly significant: business success (Golis, 2021), the effectiveness of the organization’s activities (interpersonal and business communication, achievement of the organization’s goals, satisfaction of its members with work (Breus, 2014)), absence or quick resolution of conflicts and the ability to overcome stress, increasing the potential of the leader (Goleman, 2020), leadership effectiveness, team work (Emotional intelligence, n.d.), effective working relationships, etc.); and at the personal level: a person is aware of and controls himself/herself, his/her own emotions (Mind your, n.d.), trying not to impair business communication, which will affect the success of work; is psychologically healthy, productive and successful, can help others in this (Serrat, 2017), copes with stress and difficult life situations relatively easily, is adaptive, helps those in conflict to reach an agreement, knows how to find the right (matching abilities) job and form desirable relationships (Serrat, 2017). D. Goleman (2020, p. 27) believes that a person’s moral views on life are formed on the basis and under the influence of “basic emotional abilities” (moral principles of self-control of the individual and manifestations of compassion for others).

In this context, we note that scientists (Kawamoto et al., 2021) found that EI (as a personality trait) is strongly (r=0.85) correlates with the general personality factor, which is formed on the basis of the existing relationship between different areas of personality according to the “Big Five” method; and it is the general personal factor that is a “higher-order factor” and that “social factor of efficiency” that has an adaptive function). Barchard (2003, p. 856) also notes that cognitive abilities and individual personality traits of a person are better able to predict his success in education than EI components. The scientist concludes: EI should not be considered a panacea for a person to achieve success in various areas of life, instead, new research should be conducted to identify those areas where EI is important. Moreover, before employers decide to add the EI research methodology to their own test batteries, they must be convinced not only that EI predicts success, but also that it has “incremental predictive validity” – capable of improving predictions.
Methodology

Aim of the research

The aim of the work is to theoretically analyze the understanding of the phenomenon of emotional intelligence in psychology, to empirically investigate the relationship between emotional intelligence and personality characteristics.

Research Questions

The problem presented in this article is intended to solve several interrelated issues connected to the features of EI and students’ personality traits:

What are the features of emotional intelligence in future psychologists?

Is there a relationship between EI and personal characteristics of students?

Are there significant differences in the set of personal dispositions in subjects with different levels of EI?

Study sample

The sample was made by psychology students (IV-V year) Yuriy Fedkovych Chernivtsi National University, n=84. The average age of respondents is 21.20 years.

Methods and techniques

The research used a set of complementary methods and techniques:

– theoretical: analysis and comparison of the main provisions of scientific sources on the problem of emotional intelligence; systematization and generalization of the results of theoretical research of the problem;

– empirical:

Questionnaire of emotional intelligence Barchard (2001), adapted by Knjazev et al. (2012), designed to diagnose the development of emotional intelligence and its 7 potential scales: positive expressivity, negative expressivity, attention to emotions, emotion-based decision-making, responsive joy, responsive distress, empathic concern.

The questionnaire consists of 68 statements, with which the respondent is asked to express his/her degree of agreement “yes, agree”/”no, it's not about me”). The results are evaluated according to the key to the methodology. Then, the raw scores on the scales are converted into final scores by normalizing their values.
N. Hall’s EQ test (Emotional intelligence test, n.d.) – EI research method – determines how the respondent uses emotions in his life and different aspects of EI: emotional awareness (understanding of one’s own emotions), managing one’s emotions (a person’s ability to arbitrarily control one’s own emotions), self-motivation (controlling one’s behavior based on managing emotions), empathy (understanding and empathizing with the emotions of another person) and managing the emotions of other people (the ability to influence the emotional state of another person). For each statement of the methodology (n=30), the subject indicates the degree of his agreement with it (from “completely disagree” (-3 points) to “completely agree” (+3 points), a total of 7 gradations). For each scale, the sum of points is calculated, taking into account the sign of the selected answers, determining the level of development of each side of EI (up to 7 points – low, 8-13 points – average, 14 and more points – high); the total number of points according to the method is an integral indicator of the level of development of emotional intelligence: 70 points and more – high, 40-69 points – average, up to 39 points – low.

The test of coping with difficult life situations – Questionnaire SVF-120 (Janke & Erdman, 2009) is designed to diagnose typical ways (copings) of the subject to overcome difficult life situations out of the 20 offered by the method.

The methodology consists of 120 statements with which respondents need to express their degree of agreement, which varies from “never” to “always” (contains five gradations).


Sensitivity test – method of V.V. Suvorov (1976) defines the general emotionality of a person as one of the invariable signs of his/her temperament, which combines vulnerability, sensitivity and impulsivity, etc. The methodology contains 15 questions/statements, agreement/disagreement with which the respondents express. The number of points for affirmative answers is counted, and the more points the subject scored, the
greater his/her emotionality is. The methodology diagnoses five levels of the indicator, the transition to a higher level is carried out with each scored three points (from 0-3 points – low emotionality, to 13-15 points – high level of emotionality).

According to the author of the method, emotionality implies the presence of: emotional-evaluative, expressive, cognitive, physiological and behavioral components; characterizes a person’s attitude to the world and is expressed in positive or negative emotions, features of the manifestation and termination of a person's emotional processes.

The updated Oxford Happiness Inventory (OHI, Oxford Happiness Inventory, n.d.) is designed to diagnose the feeling of happiness as a three-factor (predicts satisfaction with life, the predominance of positive emotions and the absence of negative experiences), but a holistic phenomenon. The questionnaire contains 29 groups of statements. From each group of statements (out of four), the respondent needs to choose one that best describes his/her feelings recently (option a corresponds to 0 points, b – 1, c – 2, and d – 3 points). The sum of the points obtained according to the questionnaire is divided by 87 (the maximum possible number of points according to the method), multiplied by 100, resulting in the percentage of the indicator of the feeling of happiness, compared to the maximum possible: up to 20% scored by the researched correspond to a low level of the indicator, 21-40% to a reduced level, 41-60% – average, 61-80% – elevated and 81-100% – high level of happiness).

The viability test, S. Muddy’s technique, is an adaptation of D.A. Leontiev of the “Hardiness Survey” questionnaire (Leontiev & Rasskazova, 2006), where resilience is understood as “the courage to be”, as a system of beliefs that allows a person to effectively cope with stressful situations and contains three relatively independent components: commitment (to the flow and events of life), control (a person's confidence in his/her ability to influence the outcome of what happens to him/her) and challenge (willingness to act without clear guarantees, hoping for a new experience).

The methodology contains 45 statements and provides for four gradations of their evaluation by the respondent (from “no” to “yes”), which are calculated partly in a direct, partly inverse value from 0 to 3 points. The points on separate scales and on the total indicator of vitality are summed up. The conclusion about the indicator of vitality and its components in the respondent is made by comparing the points scored by him/her with the average values and standard deviations specified in the methodology.

Machiavellian Personality Questionnaire, Mach-IV (Christie & Geis, 1970), adapted by Znakov (2001), designed to determine a person's
propensity for manipulation. According to the authors of the method, Machiavellianism is a psychological syndrome that combines cognitive, motivational and behavioral characteristics and is manifested in the individual’s conviction that other people are not only possible, but also necessary to be manipulated, and have the ability to do so.

The questionnaire contains 20 statements to which the respondents are asked to express their attitude (degree of agreement with them: from “absolutely disagree” (1 point) to “completely agree” (7 points)). When calculating the result, part of the points for the answers are inverted, the total MAK indicator is calculated, which theoretically can be within the range of points and indicates the severity of Machiavellianism in the subject;

– mathematical and statistical: methods of descriptive statistics, correlation analysis (Pearson r), Kruskel-Wallis and Mann-Whitney criteria, coefficient of determination.

Results

Peculiarities of EI students

Application of the questionnaire EI K.A. Barchard (2001) made it possible to reveal the peculiarities of the formation of emotional intelligence and its components in students (see Figure 1).

![Figure 1. Average values of indicators according to the questionnaire of EI by K. Barchard](image)

Source: Authors’ own conception
The average for the integral indicator of EI was 23.61 points. At the same time, the expression of indicators does not tend to limit values (min. = 17.9 points, max. = 30.2 points) and reflects the average level in the sample as a whole (in 56% of the respondents).

The interpretation of the results obtained using the EQ N. Hall test (Emotional intelligence test, n.d.) to detect the level of EI was carried out according to high, low and average values on six scales (see Table 1).

**Table 1. General data according to the results of the N. Hall’s Test, %**

<table>
<thead>
<tr>
<th>Scales</th>
<th>Levels</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>high</td>
<td>medium</td>
</tr>
<tr>
<td>Scale of emotional awareness</td>
<td>92.62</td>
<td>2.38</td>
</tr>
<tr>
<td>Scale of managing your emotions</td>
<td>90.48</td>
<td>9.52</td>
</tr>
<tr>
<td>Scale of self-motivation</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Scale of empathy</td>
<td>95.24</td>
<td>4.76</td>
</tr>
<tr>
<td>Scale of recognizing emotions of other people</td>
<td>95.24</td>
<td>4.76</td>
</tr>
<tr>
<td>Scale of the integral indicator of emotional intelligence</td>
<td>92.62</td>
<td>2.38</td>
</tr>
</tbody>
</table>

*Source: Authors’ own conception*

The average indicators for the sample as a whole (see Figure 2) indicate the predominance of a high level of the integral indicator EI and its components.
For further analysis, the emotional intelligence questionnaire by K. Barchard (2001) was chosen, as it most fully allows differentiation of a sufficiently wide repertoire of subjectively assessed emotional experiences. Regarding the N. Hall test, we agree with the opinion of Andreeva (2020), who claims that in this methodology there is a “discrepancy between the names of the scales and their semantic load”, since the ability to manage one’s own emotions is better viewed as emotional flexibility, and self-motivation, as the arbitrary regulation of one’s own emotions, and the ability to recognize the emotions of other people, as a way of influencing the emotional state of others.

**Correlation analysis**

Correlation analysis (Pearson r) of the research results revealed a significant number of statistically significant correlations between various indicators, however, in accordance with the aim of the article, we will focus on: 1) the relationship between the two methods of diagnosing EI; 2) correlations of the components of these techniques with indicators of others that determine various characteristics of the individual. Note that the

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**Figure 2.** Average indicators according to N. Hall's EQ test

*Source: Authors' own conception*
impossibility of paying attention to all the revealed correlations, which testify to the connection of EI with the personal characteristics of a person, in the scope of one article, makes it necessary to concentrate on those personal characteristics whose connections with EI scales within the scope of our study are found most often (respectively, associated with the largest number of EI components).

So, all the indicators of the N. Hall method are related to the scales of the K. Barchard method, and the most complete connections are with the scale of empathy for positive emotions. This indicator is related to: emotional awareness (r=0.25; p≤0.05), management of own emotions (r=0.23; p≤0.05) and emotions of other people (r=0.54; p≤0.001), self-motivation (r=0.8; p≤0.001), empathy (r=0.48; p≤0.001), development of EI in general (r=0.47; p≤0.001). With the indicators of the K. Barchard method: positive expressiveness, attention to emotions, decision-making based on emotions, empathy and the integral indicator of EI, the components of the N. Hall method also correlate positively, while with the indicators of negative expressiveness and empathy for distress, the connection of the Hall’s method is negative. That is, N. Hall’s understanding of EI obviously does not involve the inclusion of negative experiences or their expression by a person in its structure (we assume that they are influenced by “emotion management”).

**Table 2. Correlation analysis**

<table>
<thead>
<tr>
<th>Personal Dispositions</th>
<th>Integral Indicator of Emotional Intelligence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coping «Self-approval»</td>
<td>-0.31, p≥0.01 (II)</td>
</tr>
<tr>
<td>Coping «Distraction»</td>
<td>-0.31, p≥0.01 (II)</td>
</tr>
<tr>
<td>Coping «Psychomuscular relaxation»</td>
<td>-0.33, p≥0.01 (II)</td>
</tr>
<tr>
<td>Coping «Control over the situation»</td>
<td>0.39, p≥0.01 (I)</td>
</tr>
<tr>
<td>Coping «Stuck record»</td>
<td>0.43, p≥0.01 (I), 0.32, p≥0.01 (II)</td>
</tr>
<tr>
<td>Coping «Self-blame»</td>
<td>0.32, p≥0.01 (II)</td>
</tr>
<tr>
<td>Positive factors 3 of coping</td>
<td>0.45, p≥0.01 (I)</td>
</tr>
</tbody>
</table>
As can be seen from Table 3, statistically significant (p≤0.01) inverse correlations were found between the integral indicator of EI and: copings “self-approval”, “distraction”, “psychomuscular relaxation”, Machiavellianism, direct - between the integral indicator of EI and copings “control over the situation”, “worn-out record”, “self-blame” and positive coping factors, as well as vitality and emotionality and a person’s sense of happiness.

**Personal dispositions of students with different levels of EI**

According to the integral indicator of EI, determined according to the method of K. Barchard (2001), the sample was divided into three groups: with high, medium and low levels of EI.

For the purpose of multivariate comparison, the Kruskal-Wallis H-test was used, which allows to assess the presence of differences in the level of manifestation of symptoms simultaneously in three groups without indicating the direction of changes when moving from one group to another (see Table 2).
In order to verify the reliability of the differences between the groups of subjects, posteriori pairwise comparisons were performed using the Mann-Whitney U-test with Bonferroni correction (the differences between the groups are statistically significant if p<0.05; 3=0.0167) (see Table 3).
**Table 3.** Personal dispositions of students with different levels of emotional intelligence (by Mann-Whitney U-test)

<table>
<thead>
<tr>
<th>Personality dispositions</th>
<th>Mann-Whitney U</th>
<th>Asymptotic significance</th>
<th>The groups being compared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coping «Self-approval»</td>
<td>96.00</td>
<td>.004</td>
<td>2&gt;3</td>
</tr>
<tr>
<td>Coping «Distraction»</td>
<td>166.00</td>
<td>.005</td>
<td>1&gt;2</td>
</tr>
<tr>
<td>Coping «Self-control»</td>
<td>18.00</td>
<td>.000</td>
<td>1&gt;3</td>
</tr>
<tr>
<td>Coping «Anticipatory avoidance»</td>
<td>170.00</td>
<td>.007</td>
<td>1&gt;2</td>
</tr>
<tr>
<td>Coping «Escape from a stressful situation»</td>
<td>116.00</td>
<td>.001</td>
<td>3&gt;2</td>
</tr>
<tr>
<td>Coping «Stuck record»</td>
<td>98.00</td>
<td>.005</td>
<td>3&gt;2</td>
</tr>
<tr>
<td>Coping «Self-blame»</td>
<td>60.00</td>
<td>.000</td>
<td>3&gt;2</td>
</tr>
<tr>
<td>Coping «Aggression»</td>
<td>16.00</td>
<td>.001</td>
<td>3&gt;1</td>
</tr>
<tr>
<td>Coping «Self-control»</td>
<td>80.00</td>
<td>.001</td>
<td>3&gt;2</td>
</tr>
<tr>
<td>Coping «Escape from a stressful situation»</td>
<td>12.00</td>
<td>.001</td>
<td>3&gt;1</td>
</tr>
<tr>
<td>Coping «Stuck record»</td>
<td>110.00</td>
<td>.010</td>
<td>2&gt;3</td>
</tr>
<tr>
<td>Negative coping strategies</td>
<td>26.00</td>
<td>.009</td>
<td>1&gt;3</td>
</tr>
<tr>
<td>Integral indicator of emotionality</td>
<td>78.00</td>
<td>.001</td>
<td>3&gt;2</td>
</tr>
<tr>
<td>The level of Machiavellianism</td>
<td>98.00</td>
<td>.005</td>
<td>3&gt;2</td>
</tr>
<tr>
<td>The level of Machiavellianism</td>
<td>6.00</td>
<td>.000</td>
<td>3&gt;1</td>
</tr>
<tr>
<td>The level of Machiavellianism</td>
<td>26.00</td>
<td>.010</td>
<td>1&gt;3</td>
</tr>
</tbody>
</table>

*Note: own elaboration, 1 – group with a low level of EI, 2 – group with a medium level of EI, 3 – group with a high level of EI.
Source: Authors’ own conception*

In order to find out the degree of manifestation of differences in these dispositions, the effect size (ES - Effect Size) was calculated using the Rosenthal criterion (r-effect) (see Table 4).

\[
r = \frac{Z}{\sqrt{n}}
\]

(1)

where Z is a standardized indicator for the U-value, n is the total volume of subjects.
According to J. Cohen (Cohen, 1988), the size of the effect is the strength of the relationship between phenomena, the magnitude of the difference between groups, the correspondence of the theoretical model to empirical data, which allows us to assess the usefulness, importance, value, and meaningfulness of such a relationship. Thus, the obtained indicator allows us to go beyond dichotomous thinking: to move away from the question “Is there a difference/relationship or not?” to the question “What is the magnitude of these differences, or what is the strength of the relationship?”.

We immediately note that we perceive the proposed generalized gradations of effect sizes only as guidelines, because an individual approach must be used for each individual study.

**Table 4. Determination of effect sizes**

<table>
<thead>
<tr>
<th>Personality dispositions</th>
<th>Z-standardized indicator for U-value</th>
<th>r-effect</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coping «distraction»</td>
<td>-3.136</td>
<td>-0.350</td>
<td>medium</td>
</tr>
<tr>
<td>Coping «stuck record»</td>
<td>-3.193</td>
<td>-0.356</td>
<td>medium</td>
</tr>
<tr>
<td>Coping «self-blame»</td>
<td>-3.411</td>
<td>-0.381</td>
<td>medium</td>
</tr>
<tr>
<td>Coping «Aggression»</td>
<td>-2.611</td>
<td>-0.291</td>
<td>small</td>
</tr>
<tr>
<td>Integral indicator of emotionality</td>
<td>-3.797</td>
<td>-0.424</td>
<td>medium</td>
</tr>
<tr>
<td>The level of Machiavellianism</td>
<td>-2.588</td>
<td>-0.289</td>
<td>small</td>
</tr>
</tbody>
</table>

Source: Authors’ own conception

Taking into account the identified relationships, let's analyze whether personal dispositions affect the development of emotional intelligence. To solve this issue, we used the procedure for determining the coefficient of determination (see Table 5), which allows us to find out the share (percentage) of the variation of the dependent variable, that is, it indicates
what share of the variability (in percent) of the dependent variable \(Y\) is explained by the independent variable (regression model).

For a linear dependence, the coefficient of determination is equal to the square of the correlation coefficient \(r_{xy}\):

\[
R^2 = r_{xy}^2
\]

(2)

where \(r_{xy}\) is the correlation coefficient, \(R^2\) is the coefficient of determination

**Table 5.** The influence of personal dispositions on the level of emotional intelligence

<table>
<thead>
<tr>
<th>(X_1 \ldots X_n)</th>
<th>(r_{xy})</th>
<th>(R^2)</th>
<th>% Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coping «Distraction»</td>
<td>-0.310</td>
<td>0.096</td>
<td>9.6%</td>
</tr>
<tr>
<td>Coping «Stuck record»</td>
<td>0.431</td>
<td>0.185</td>
<td>18.5%</td>
</tr>
<tr>
<td>Coping «Self-blame»</td>
<td>0.320</td>
<td>0.102</td>
<td>10.2%</td>
</tr>
<tr>
<td>Coping «Aggression»</td>
<td>-0.288</td>
<td>0.082</td>
<td>8.2%</td>
</tr>
<tr>
<td>Integral indicator of emotionality</td>
<td>0.489</td>
<td>0.239</td>
<td>23.9%</td>
</tr>
<tr>
<td>The level of Machiavellianism</td>
<td>-0.461</td>
<td>0.212</td>
<td>21.2%</td>
</tr>
</tbody>
</table>

*Note: own elaboration, \(X_1 \ldots X_n\) – незалежні змінні, \(r_{xy}\) – коефіцієнт кореляції, \(R^2\) – коефіцієнт детермінації*

*Source:* Authors’ own conception

**Discussions**

Based on the analysis of the definitive characteristics of EI, we interpret it as a person’s ability to perceive and adequately understand both his/her own emotions and experiences, as well as those of another person, which makes it possible to influence their manifestation, manage them in order to achieve success in life and in professional activities in particular, and increase the effectiveness of interpersonal/business communication.

According to the results of an empirical study, average (methodology of K. Barchard) and high (methodology of N. Hall) EI levels prevail among students. That is, students at a sufficiently high level know how to manage their own emotions, their behavior, understand the emotions of other
people and empathize with them, are able to influence the emotional state of another person.

The following components dominate the EI structure of the subjects: “attention to emotions”, “positive expressiveness” as a level of positive attitude, “empathy of joy” as the ability to experience the joy of another person, to feel pleasure from other people’s successes without envy or jealousy.

The presence of statistically significant correlations confirms the assumption of the existence of relationships between EI and personal dispositions.

Statistically significant inverse correlations were found between the integral index of EI and:

– coping of “self-approval”: i.e., it is related to the development of EI of the individual, although this connection is not unambiguous (due to different authors' interpretation of EI); however, if a person is able to understand his/her emotions and manage their manifestation, he/she uses “self-approval” coping when necessary, as when he/she is not inclined to openly express his/her own negative experiences and take other people’s problems to heart and, when deciding, does not rely on emotions (guides by logic);

– “distraction” coping: since the connections are negative, it is unlikely that a person with developed EI will use this version of the coping strategy;

– coping “psychomuscular relaxation”: i.e., developed EI does not contribute to complete relaxation, rest;

– Machiavellianism as the inability to experience the joy of another person together with him/her, to empathize with his/her joy.

Statistically significant direct correlations were found between the integral indicator of EI and:

– coping “control over the situation”, that is, the ability to analyze the situation, plan and perform actions aimed at control is accompanied by the development of EI;

– coping with a “worn-out record” (constant reflection on the situation) and “self-blame”, which can be used by a person with developed EI;

– a positive factor of 3 copings (actions to control stress and reactions to it), that is, it can be assumed that it is the copings of this group that will find a place in the arsenal of mental protection of a person with developed EI;
– vitality and an integral indicator of emotionality, that is, a developed EI of a person can assume a similar manifestation and development of his/her ability to withstand and effectively overcome stressful situations and emotionality as a property that characterizes the content, quality and dynamics of human emotions and feelings (vulnerability, sensuality, impulsiveness, etc.);

– a person’s feeling of happiness, that is, a person with a developed EI is able to openly express his/her experiences, accepting them.

Between the groups of subjects with high and low levels of EI, there are differences in such personal dispositions as coping strategies “distraction”, “aggression” and Machiavellianism, which are more characteristic of subjects with a low level of EI; copings “worn-out record”, “self-blame” and general emotionality, the manifestations of which prevail in respondents with a high level of EI. However, although higher indicators of aggressiveness and Machiavellianism are more characteristic of subjects with a low level of EI, these personal dispositions have little dependence on the level of formation of the latter. While the coping “jamming record”, general emotionality, “self-blame” and lower level of “distraction” prevail in subjects with a high level of EI, however, the magnitude of the effect size here is medium, indicating a significant influence of EI on these personal dispositions.

It has also been proven that certain personal dispositions affect EI with different intensity: 23.9% of the variation in EI is explained by the level of emotionality, 21.2% by the level of Machiavellianism, 18.5% by coping with a “worn-out record”, 10.2% by the level of self-blame etc. However, the influence of these indicators on EI is low.

Conclusions

The phenomenon of EI continues to be largely more heuristic than scientifically based, therefore it needs serious theoretical-methodological and empirical verification, especially taking into account the fact that its components still remain decisive in various, not always agreed authorial concepts of EI in its interpretation and justification are interconnected, which quite logically leads to the appearance of doubt in the perception and interpretation of this concept as a whole (which should be a sign of the scientific nature of the concept), on the one hand, on the other is a tendency to understand it as a complex structure, which implies the dominant development of some of its components with much less - others (perhaps – at their expense).
The EI of the subjects is developed at sufficient (mainly medium (methodology of K. Barchard) and high (methodology of N. Hall) levels.

The choice of the author's method of diagnosing EI, which involves a subjective understanding of this phenomenon and its components, affects the further analysis of the relationship between EI indicators and the personal characteristics of the subjects. Thus, mainly positive correlations of EI indicators with the emotionality of the individual, his/her feeling of happiness, components of vitality, the use of the coping strategy “self-approval” (N. Hall’s methodology), the coping strategies “self-blame”, “control over the situation”, “worn-out record” were found (methodology by K. Barchard), allow us to assume that respondents with developed EI are emotional, satisfied with life, possess vitality and tend to use mainly these coping strategies when overcoming stressful situations in life.

Research subjects with high EI, in contrast to respondents with low EI, who use the coping strategies of “distraction” or “aggression” and are characterized by manifestations of Machiavellianism, more often use the coping strategies “worn-out record” and “self-blame” and are more emotional, however, these personal characteristics depend little on the level of formation in the studied EI and its components.

Acknowledgment

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References


Emotional Intelligence in the Context of Personal Dispositions Development of …
Halyna CHUYKO, et al.


