

DEVELOPMENT OF EMOTIONAL INTELLIGENCE IN STUDENTS AND THE FACTOR OF EMOTIONAL SELF-REGULATION

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Abstract: The article explores the relationship between the level of emotional intelligence of students and their self-regulation skills. The study was conducted with the participation of 132 students, quantitative and correlation design was used. The Bar-On model was used to measure emotional intelligence, and the Self-Regulation Questionnaire technique was used to assess self-regulation. The results showed that there is a positive and statistically significant relationship between the level of emotional intelligence and self-regulation skills. A high level of emotional intelligence is characterized by more effective management of emotional abilities and assimilation of behavior patterns appropriate to the situation. The study revealed that the components of emotional intelligence, especially emotion management and stress resistance, have a closer connection with self-regulation. The results of the study indicate that the development of emotional intelligence contributes to more adaptive behavior of students both in the academic and social environment. In this regard, the development and application of psychological interventions aimed at the development of emotional intelligence are considered expedient.

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Introduction

In the modern system of higher education, the emotional development of students acts as one of the most important directions of personality formation. The growth of academic requirements, the complexity of social relations and the expansion of the communicative environment determine the need for a deeper study of the emotional sphere. It is especially important to consider that the student period is a stage of formation of both professional and personal identity, which attaches particular importance to the organization of emotional processes at this stage. In this context, the concept of emotional intelligence has occupied an important place in psychological research in recent years.

Emotional intelligence is associated not only with the experience of emotions, but also with their awareness and purposeful management. Different authors interpret this concept from different positions. In some approaches, emotional intelligence is considered as a person's ability to adequately navigate in his own inner emotional world. Other researchers define it as the ability to understand relationships expressed in emotions, process emotional information through intellectual analysis and synthesis, and consciously manage the emotional sphere. In addition, emotional intelligence is considered as a set of emotional and social abilities that affect the personal and social effectiveness of the individual.

There are several key components in the structure of emotional intelligence, one of which is self-regulation. In general, emotional intelligence is characterized by a person's ability to realize his emotional experience, adequately express it and at the same time understand the emotional state of other people. However, the practical implementation of these abilities is primarily related to the



management of emotional reactions. Self-regulation includes control of emotional impulses, direction of behavior in accordance with the situation and conscious correction of the emotional state.

Studies show that the formation of emotional intelligence depends not only on supporting factors of the external environment. Internal psychological mechanisms play an important role in this process, especially the level of regulation of emotional reactions. During the student period, emotional stress, anxiety associated with assessment, and difficulties in social adaptation further increase the importance of self-regulation skills. It is not enough to recognize and understand emotions - their adequate management is a key functional indicator of emotional intelligence.

Thus, it is advisable to consider the development of emotional intelligence not only within the framework of theoretical components, but also at the level of behavior. In this context, the formation of self-regulation mechanisms can be considered one of the main conditions for the practical manifestation of emotional intelligence. The purpose of the article is to study the relationship between the level of emotional intelligence of students and their self-regulation skills, as well as to analyze the psychological factors affecting this connection.

Literature review

The concept of emotional intelligence in modern psychology is explained within the framework of various theoretical approaches. One of the most cited models in this area is the ability model, which considers emotional intelligence as a system of cognitive skills (Mayer & Salovey, 1997; Caruso & Salovey, 2004). According to this model, emotional intelligence includes such components as the perception of emotions, understanding their content, the use of emotional information and the management of emotions. This structural approach demonstrates the phased nature of emotional processes (Lucin, 2004).

Studies show that emotional intelligence is associated with temperament features and adaptation mechanisms (Roberts et al., 2004). In particular, positive connections between emotional



intelligence and personality characteristics such as emotional stability and extroversion are revealed (Van der Zee et al., 2002; McCrae, 2000). At the same time, a number of studies note that the relationships between individual components of the Big Five model and emotional intelligence are manifested at different levels (Dawda & Hart, 2000). These results indicate a complex and multidimensional interaction of emotional intelligence with the structure of the personality.

One of the key components in the structure of emotional intelligence is the regulation of emotions. Perception and understanding of emotions act as the initial stages of their management. According to the integrative model proposed by Joseph and Newman (2010), emotional perception precedes the understanding of emotions, and understanding precedes their regulation. This step-by-step model indicates a direct connection between emotional intelligence and self-regulation mechanisms.

The process of emotional regulation can be carried out both before the emotional reaction occurs and at the stage of its active course. Gross and John (2003) identified two main strategies of emotional regulation: anticipating (e.g. cognitive reevaluation) and reactive (e.g. suppression of emotional expression). This approach shows that the intensity of emotional experience and behavioral consequences depend on the chosen regulation strategy.

In the studies of Mauss and co-authors (2005; 2007), emotions are considered as a unity of subjective experiences, physiological reactions and behavioral components that occur in a certain time interval. Emotional regulation is defined as the process of individual intervention in these components in order to change the direction of the emotional reaction (Bridges et al., 2004; Calkins, 2011; Rottenberg & Gross, 2007).

Studies show that with an increase in the level of emotional intelligence, the ability of individuals to flexibly and adequately manage their emotional reactions depending on the situation increases (O'Connor et al., 2019; Resurrección et al., 2019). At the same time, some works note the ambiguity of the links between emotional intelligence and personal characteristics, which indicates the possibility of different manifestations of self-regulation mechanisms depending on individual



characteristics.

The concept of self-regulation is also widely studied in a broader psychological context. Baumeister and Vohs (2007) define self-regulation as an individual's ability to control his impulses and choose behavior that matches long-term goals. This approach emphasizes that self-regulation is one of the key mechanisms for the practical implementation of emotional intelligence. In turn, the Zimmerman self-regulating learning model (2000) focuses on the fact that the control of emotions and behavior in the academic environment is an important predictor of efficiency.

Thus, the existing literature indicates that emotional intelligence is closely related not only to the perception and understanding of emotions, but also to their effective regulation. However, the systematic study of the functional role of self-regulation mechanisms in the structure of emotional intelligence still remains an urgent scientific problem. In this regard, the empirical study of the relationship between emotional intelligence and self-regulation is both theoretical and practical.

Methodology

Our research was aimed at empirical study of the relationship between the levels of emotional intelligence and self-regulation. The study is of a correlation nature, which allows an objective assessment of the statistical relationship between variables. The quantitative method was chosen as the main methodological approach. The quantitative approach involves the collection of data on the basis of measured indicators and their subsequent statistical analysis, which makes it particularly suitable for an objective assessment of the relationships between psychological constructions. Emotional intelligence was considered as an independent variable, and self-regulation skills were considered as a dependent variable. Theoretically, it is assumed that individuals with a high level of emotional intelligence better recognize and regulate their emotions, as well as more purposefully manage their behavior.

The study was conducted among students of Odlar Yurdu University studying psychology,



social and psychological service in education and social work. In total, 132 students took part in the study, 44 people from each specialty (23 girls and 21 boys). Of the total number of participants, 69 people were girls (52.27%), and 63 were boys (47.73%). At the same time, 90.5% of students regularly attended classes. All participants were informed about the progress of the study, gave their consent and received permission to participate. The sample size was determined based on the results of a meta-analysis conducted by Vachon and co-authors, where the correlation coefficient between emotional intelligence and self-regulation was assumed to be equal to $r = 0.114$ (Vachon et al., 2014).

Two methods were used to assess the level of emotional intelligence and self-regulation. One of the main tools was the Bar-On model (1997), which defines emotional intelligence as the ability to recognize one's own emotions, understand other people's emotions and use them effectively in social interactions. According to this model, emotional intelligence is measured by five main components, each of which includes several subscales:

1. Self-knowledge - differentiation of emotions, self-confidence, self-respect, self-actualization, independence;
2. Interpersonal skills - empathy, social relations, social responsibility;
3. Adaptability - problem solving, connection with reality, flexibility;
4. Stress management - resistance to stress, control of impulsive behavior;
5. The predominant mood is happiness, optimism (Manilova, 2006).

The Self-Regulation Questionnaire (SRQ) technique (Brown, Miller & Lawendowski, 1999) was used to determine the level of self-regulation. This tool is designed to assess the ability of individuals to target their behavior and internal control mechanisms. Self-regulation within the framework of this methodology is considered as a process that includes the following stages:

1. Obtaining information



- 2 Information evaluation
3. Initiation of changes
4. Search for alternatives
5. Planning
- 6 Implementation of the plan
7. Evaluation of the effectiveness of the plan

The methodology consists of 63 statements and is evaluated on a 5-point Likert scale (1 - completely disagree, 5 - completely agree). The reliability of SRQ in various studies has shown high values (Cronbach's $\alpha = 0.81-0.92$) (Brown et al., 1999).

The study was planned and conducted on the basis of an empirical approach. Initially, official permission was obtained from the relevant bodies of the educational institution for data collection. After that, the selected tools were applied to the students. The collected data was entered into the SPSS 22 program and subjected to statistical analysis. After processing, the results were summarized in tables and presented with appropriate interpretations.

Before the start of the study, the permission of the ethics committee was obtained. The study was conducted in accordance with the international ethical principles of well-being and non-harm, and no damage was caused to the participants. There were also no threats to their physical or psychological well-being (Fouka & Mantzourou, 2011). Participation in the study was voluntary, the principle of informed consent was applied, and the autonomy of the participants was ensured.

Results

To identify differences in indicators of emotional intelligence in boys and girls with different levels of self-regulation, respondents were divided into groups. As a result, differences in the level of emotional intelligence were found in each group. Since the sample did not correspond to the normal



distribution, the Kraskel-Wallis criterion was used. The results are presented in the following tables.

Table 1: Comparison of students' emotional intelligence indicators depending on the level of self-regulation

Components	Low level of self-regulation (average values)	Average level of self-regulation (average values)	High level of self-regulation (average values)	H	p
Perception of emotions	142.3	198.4	264.7	14.62	0.002
Regulation of emotions	130.5	210.8	289.3	19.87	0.000
Expression of emotions	150.2	205.1	250.4	11.44	0.009
Intrapersonal Eİ	138.7	220.6	301.5	17.36	0.001
Interpersonal Eİ səviyyəsi	145.0	215.4	278.9	13.88	0.004
Internal motivation	136.4	230.1	305.2	15.21	0.002

Note: differences are significant at $p < 0.05$.

Interpretation: With an increase in the level of self-regulation, the indicators of emotional intelligence increase statistically significantly.

Table 2: Correlation between the components of emotional intelligence and self-regulation

Variables	r	p
Interpersonal Eİ-self-regulation	0.472**	0.000
Regulation of emotions - self-regulation	0.538**	0.000
Intrapersonal Eİ- self-regulation	0.441**	0.001
Internal motivation - self-regulation	0.398**	0.003

Table 3: The relationship between the components of emotional intelligence and self-regulation in students

Components of emotional intelligence	Self-regulation	p
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Perception of emotions	0.362**	0.001
Regulation of emotions	0.541**	0.000
Expression of emotions	0.284*	0.014
Intrapersonal Eİ	0.418**	0.000
Interpersonal Eİ	0.301**	0.006
Internal motivation	0.395**	0.002
General level of EI	0.472**	0.000

Interpretation: The strongest connection is observed between the regulation of emotions and self-regulation ($r = 0.541$).

Table 4: Correlation relationships between the components of emotional intelligence, self-regulation and self-actualization scales

Components	Self-knowledge	Cognitive needs	Creativity	Flexibility of behavior	Self-regulation
Perception of emotions	0.34**	0.31**	0.28**	0.26**	0.36**
Regulation of emotions	0.46**	0.39**	0.35**	0.41**	0.54**
Intrapersonal Eİ	0.42**	0.37**	0.29*	0.38**	0.44**
Interpersonal Eİ	0.30**	0.22*	0.31**	0.27*	0.30**
Internal motivation	0.48**	0.52**	0.33**	0.36**	0.39**

Interpretation: As can be seen from Table 4, all the main components of emotional intelligence demonstrate a significant positive correlation with both self-actualization and self-regulation scales. A particularly strong connection is observed in the component of emotion regulation - both with the flexibility of behavior ($r = 0.41$ **, $p < 0.01$) and with self-regulation ($r = 0.54$ **, $p < 0.01$).

Thus, the results obtained indicate that increasing the level of emotional intelligence contributes to strengthening the psychological stability of students and more constructive regulation of behavior. In turn, self-regulation is one of the key mechanisms of self-actualization of the individual.



Conclusion

The results of the study are generally consistent with a number of existing scientific works, but have certain limitations. First of all, the relatively small sample size and the fact that the study covered students of only one higher education institution limit the possibility of summarizing the results obtained. The collected empirical data were based on the answers of the participants of the questionnaires and tests aimed at measuring the relationship between the level of emotional intelligence and emotional regulation.

In addition, the sample was not completely random, and the very concept of emotional intelligence from a methodological point of view still does not have a single conceptual framework, which created certain difficulties in the research process. The variety of theoretical approaches and differences in measuring tools make it difficult to compare the results. The restriction can also be considered that the data was collected in a short period of time and with the participation of a limited number of respondents.

At the same time, the results obtained are important for a deeper study of the relationship between emotional intelligence and emotional regulation in a specific national and cultural context (Jabbarov, 2018). In future studies, quantitative analysis based on a wider and more diverse sample can significantly enrich scientific knowledge in this area. In addition, the development of new methodological approaches focused not only on the direct development of self-regulation, but also on the formation of emotional intelligence as a basic mechanism is a promising direction.

The study showed that the higher the ability of students to regulate external and internal manifestations of emotions (as one of the key components of emotional intelligence), the lower the probability of their aggressive reactions to external stimuli. It has also been established that a high level of emotion management is associated with a lower level of touchiness and hostility towards



others (Kochetova & Klimakova, 2019).

The higher the ability to manage emotions and internal states, the less manifestations of hostility are expressed in the behavior of students. The results showed that there is a feedback between emotional intelligence and the level of aggressiveness: the development of emotional management skills contributes to the reduction of aggressive behavior.

It has been established that a high level of emotion control reduces the likelihood of aggressive reactions to external influences. Moreover, the higher the level of development of intrapersonal emotional intelligence, the lower the level of negative emotional manifestations, such as hatred and hostility. The ability to understand and manage emotions is also associated with a decrease in students' hostile behavior (Sergienko, 2015; Jabbarov et al., 2024).

The development of skills to manage both one's own emotions and the emotions of other people, as well as the ability to adequately express emotions in different situations, reduces the likelihood of aggressive reactions to external stimuli. A high level of emotional intelligence helps to reduce hostility and aggression in interpersonal interactions (Manoilova, 2006; Jabbarov, 2021).

Thus, the higher the level of intrapersonal and interpersonal emotional intelligence, the lower the level of hostile and aggressive reactions among students. The better developed the ability to be aware, understand and control both one's own emotions and the emotions of others, as well as to establish causal relationships between emotional manifestations and their sources, the less often students demonstrate hostile behavior.

In general, summarizing the results of the study, we can conclude that there are significant relationships between emotional intelligence and indicators of aggressiveness in students.

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