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CRITICAL THINKING AS A COGNITIVE PREREQUISITE FOR THE DEVELOPMENT OF EMOTIONAL INTELLIGENCE

The article examines the psychological impact of critical thinking on the development of emotional intelligence in students from a theoretical and methodological perspective. Based on the analysis of psychological-pedagogical and philosophical literature, the concepts of critical thinking, emotional intelligence, emotional information, intellectual processes, and cognitive flexibility are clarified, and their interrelationships are identified. The study substantiates the psychological mechanisms of critical thinking that influence the development of emotional intelligence and presents an integrated model of intellectual activity of the individual. The levels of critical thinking and emotional intelligence of students were determined in the study. To assess critical thinking, the "How Critically Capable Are You?" test by J. Kincher was used, and to assess emotional intelligence, N. Hall's "Emotional Intelligence Level Assessment" test was applied. In the experimental group, a program aimed at developing critical thinking through psychological-pedagogical training was implemented. The results of the experimental study showed that the methodology for developing critical thinking has a positive impact on the dynamics of emotional intelligence levels and demonstrated the effectiveness of the assessment tools. The study results showed an increase in both critical thinking and emotional intelligence levels, with a positive correlation between these indicators. The statistical data, obtained using Spearman's rank correlation coefficient (ρ), confirm the significance of the results. The conclusions of the study prove that the psychological mechanisms of critical thinking enhance students' academic motivation and their ability to consciously regulate emotions in interpersonal relationships.

Keywords: critical thinking, emotional intelligence, emotional information, intellectual process, cognitive flexibility.

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Сыни ойлау дағдылары эмоциялық интеллект дамуының когнитивтік алғышарты ретінде

Мақалада студенттердің эмоциялық интеллектін дамытудағы сыни ойлаудың психологиялық ықпалы теориялық және әдіснамалық тұрғыдан қарастырылады. Психологиялық-педагогикалық және философиялық әдебиеттерді талдау негізінде сыни ойлау, эмоциялық интеллект, эмоциялық ақпарат, интеллектуалдық үдеріс және когнитивтік икемділік ұғымдарының мазмұны нақтыланып, олардың өзара байланысы айқындалды. Зерттеу барысында эмоциялық интеллект дамуына әсер ететін сыни ойлаудың психологиялық механизмдерді негізделіп, тұлғаның интеллектуалдық әрекеттерінің кіріктелген моделі ұсынылды. Зерттеу барысында студенттердің сыни ойлау және эмоциялық интеллект деңгейі анықталды. Сыни ойлауды бағалау үшін Дж.Кинчердің «Сіз қаншалықты сыни қабілеттісіз?» тесті, ал эмоциялық интеллектін бағалау үшін Н. Холлдың «Эмоциялық интеллект деңгейін анықтау» тесті қолданылды. Эксперименттік топта психологиялық-педагогикалық тренинг арқылы сыни ойлауды дамытуға бағытталған бағдарлама жүзеге асырылды. Тәжірибелік-эксперимент нәтижелері сыни ойлау әрекетін қалыптастыру әдістемесінің эмоциялық интеллект деңгейінің динамикасына оң ықпал ететінін және бақылау-бағалау құралдарының тиімділігін көрсетті. Зерттеу нәтижелері сыни ойлау мен эмоциялық интеллект деңгейлерінің артқанын және екі көрсеткіштің арасында оң корреляциялық байланыс бар екенін көрсетті. Спирменнің рангілі корреляция коэффициенті (ρ) әдісі бойынша алынған статистикалық мәліметтер нәтижелердің маңызды екенін растайды. Зерттеу қорытындылары сыни ойлаудың психологиялық механизмдері студенттердің оқу мотивациясын арттырып, тұлғааралық қарым-қатынаста эмоцияларын саналы реттеу қабілетін дамытуға мүмкіндік беретінін дәлелдейді.

Түйін сөздер: сыни ойлау, эмоциялық интеллект, эмоциялық ақпарат, интеллектуалдық үдеріс, когнитивтік икемділік.

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Критическое мышление как когнитивная предпосылка развития эмоционального интеллекта

В статье рассматривается психологическое влияние критического мышления на развитие эмоционального интеллекта студентов с теоретической и методологической точки зрения. На основе анализа психолого-педагогической и философской литературы уточнены понятия критического мышления, эмоционального интеллекта, эмоциональной информации, интеллектуальных процессов и когнитивной гибкости, а также выявлены их взаимосвязи. В ходе исследования обоснованы психологические механизмы критического мышления, влияющие на развитие эмоционального интеллекта, и предложена интегрированная модель интеллектуальной деятельности личности. В исследовании был определен уровень критического мышления и эмоционального интеллекта студентов. Для оценки критического мышления использовался тест Дж. Кинчера «Насколько вы критически настроены?», а для оценки эмоционального интеллекта – тест Н. Холла «Оценка уровня эмоционального интеллекта». В экспериментальной группе была реализована программа, направленная на развитие критического мышления с использованием психолого-педагогического тренинга. Результаты экспериментально-практического исследования показали, что методика формирования критического мышления оказывает положительное влияние на динамику уровня эмоционального интеллекта, а также продемонстрировали эффективность контрольных и оценочных инструментов. Результаты исследования показали, что уровень критического мышления и эмоционального интеллекта повысился, а между этими показателями установлена положительная корреляционная связь. Статистические данные, полученные с использованием коэффициента ранговой корреляции Спирмена (ρ), подтверждают значимость результатов. Выводы исследования доказывают, что психологические механизмы критического мышления способствуют повышению учебной мотивации студентов и развитию их способности к осознанному регулированию эмоций в межличностных отношениях.

Ключевые слова: критическое мышление, эмоциональный интеллект, эмоциональная информация, интеллектуальный процесс, когнитивная гибкость.

Introduction

Current socio-cultural transformations, the intensification of information flows, and the growing demands for personal adaptability require a high level of development not only of an individual's cognitive capacities, but also of emotional self-regulation abilities. In this context, emotional intelligence is considered one of the leading resources that ensure effective social interaction, professional success, and psychological well-being of the individual.

Although the phenomenon of emotional intelligence has been widely studied in psychology, debates regarding its structural foundations and mechanisms of formation continue. In many studies, emotional intelligence is described as a set of the abilities that enable the recognition and the regulation of emotions, whereas in other approaches it is interpreted as a stable personality trait and a regulator of behavior. These differences further highlight the relevance of identifying the determinants of emotional intelligence.

In recent years, critical thinking has been recognized in the systems of education and professional training as a universal meta-competence associated with the ability to analyze information, evaluate ar-

guments, and make well-reasoned decisions. The development of critical thinking enhances an individual's reflexivity, enabling the comprehension of internal experience, the conscious interpretation of emotions, and the regulation of behavior. In this regard, critical thinking skills may be considered an important cognitive factor influencing the formation of emotional intelligence. However, the scientific literature more often analyzes the influence of emotional intelligence on thinking processes, whereas the role of critical thinking as a condition or determinant of emotional intelligence has not yet received sufficient empirical substantiation. This theoretical gap hinders a deeper understanding of the relationship between the cognitive and affective domains of personality. Moreover, although programs aimed at developing emotional intelligence are widely implemented in practical psychology and educational practice, the potential for the purposeful formation of critical thinking within their content has not been fully explored. Determining the contribution of critical thinking skills to the prediction of emotional intelligence may provide a basis for improving technologies of personal development and for constructing its psychological structure.

Thus, the study of critical thinking skills as a determinant of emotional intelligence is determined both by the theoretical needs of contemporary psychological science and by its applied objectives.

Literature review

In psychology, the nature of emotional intelligence is examined within various theoretical approaches. Representatives of the ability model describe emotional intelligence as a system of cognitive abilities that enable the recognition, understanding, and regulation of emotions (Mayer et al., 2016). In contrast, the trait emotional intelligence approach interprets emotional intelligence as a set of stable self-perceptions related to emotions and dispositional characteristics of personality (Petrides & Furnham, 2001). Studies demonstrate that emotional intelligence is closely associated with subjective well-being and life satisfaction (Mavroveli et al., 2007). Moreover, high emotional intelligence is characterized by well-developed abilities to differentiate, regulate, and adapt emotional responses (Hansenne & Bianchi, 2009), which indicates its functional relationship with reflective analysis and critical thinking.

Synthesizing the theoretical perspectives outlined above, critical thinking skills may be considered an important determinant of emotional intelligence. This is because the processes of recognizing, understanding, and regulating emotions are based on cognitive activities such as reflection, analysis, and conscious evaluation. Consequently, critical thinking enhances the quality of emotional information processing and functions as a key psychological mechanism contributing to the effective formation of the structure of emotional intelligence.

In 2010, the 4C competencies (communication, collaboration, creativity, and critical thinking) proposed by the American Management Association emerged as an important direction in the modern global education system. In contemporary international educational frameworks, these skills are considered in connection with emotional intelligence. For instance, in the OECD *Learning Compass 2030* model, along with cognitive skills, socio-emotional competencies (such as empathy, collaboration, and self-regulation) are identified as key factors in the successful development of learners (OECD, 2020). At the same time, the CASEL social-emotional learning (SEL) framework demonstrates that components of emotional intelligence—such as self-awareness, emotion management, relationship building, and responsible decision-making—enhance the quality of communication and teamwork (CASEL, 2020).

From this perspective, the contemporary educational paradigm considers the cognitive and social development of the individual as an integrated system through the integration of the 4C skills with emotional intelligence. Therefore, the modern educational paradigm's integrated consideration of cognitive and socio-emotional competencies provides a basis for substantiating the determining role of critical thinking skills in the formation of emotional intelligence. By strengthening the individual's ability to analyze, evaluate, and consciously regulate emotional information, critical thinking forms the cognitive foundation for managing emotional reactions and may therefore be regarded as a key psychological and pedagogical determinant contributing to the development of the structure of emotional intelligence.

In psychological science, emotions play an important role in the regulation and direction of behavior. From this perspective, emotional intelligence represents a complex construct directly related to the social nature of human beings. Turkish researcher Betül Balkan Akan emphasizes the importance of communicative competencies in the formation and development of students' levels of emotional intelligence. According to the scholar, the internal psychological dimensions of personality associated with self-expression are closely linked with the structure of emotional intelligence and contribute to the conscious regulation of one's emotions and the establishment of effective social interaction. In this regard, emotional intelligence is manifested not only in the management of one's own emotional experiences but also in the ability to understand the feelings of others, interpret them accurately, and express one's thoughts clearly and constructively. These qualities not only ensure social adaptation but are also considered psychological factors that enhance the effectiveness of the critical thinking process, since rational thinking and emotional regulation operate in close interconnection (Betül, 2022).

In studies conducted by A. E. Aslan, social phobia is described as one of the significant psychological factors that hinder adolescents and young people from freely and openly expressing their thoughts and emotions. The author notes that social fear can reduce an individual's communicative activity and may lead to social isolation. At the same time, research findings demonstrate that the negative effects of social phobia can be reduced through the development of emotional intelligence components. In other words, the formation of skills related to recognizing emotions, managing them, and developing self-reflection increases personal confidence and improves the quality of social interaction. This phe-

nomenon is also directly related to critical thinking, as individuals are able to maintain the capacity for objective analysis of information and reasoned decision-making even under conditions of emotional pressure (Aslan, 2020).

According to the concept proposed by Paul and Elder, critical thinking is a complex cognitive process aimed at the conscious monitoring and improvement of one's thinking activity. The authors consider critical thinking as an interconnected system consisting of the stages of analysis, evaluation, and improvement. This type of thinking is self-regulating, disciplined, and reflective in nature, ensuring the intellectual independence of the individual. A critical thinker seeks to identify significant problems, collect reliable information, objectively evaluate it, and draw well-founded conclusions. In addition, the ability to consider alternative perspectives and to create an effective communicative environment is identified as an important outcome of critical thinking (Paul & Elder, 2013).

From a psychological perspective, critical thinking and emotional intelligence may be characterized as two complementary systems. Emotional intelligence ensures the individual's emotional stability and reduces the influence of emotional distortions in the thinking process, whereas critical thinking enables the rational analysis of emotional experience and supports conscious decision-making. The integration of these two psychological mechanisms forms the basis for effective functioning in the social environment, the establishment of constructive communication, and both professional and personal development. Therefore, in contemporary psychological research, the comprehensive examination of the relationship between critical thinking and emotional intelligence is considered to have significant scientific importance for understanding the patterns of cognitive and affective development of the individual.

Materials and methodology

According to researchers, a high level of emotional intelligence and critical thinking ability positively influences an individual's capacity for effective self-presentation and the establishment of productive communication in social interaction. The development of critical thinking skills enables constructive decision-making through the systematic analysis of problems arising in interpersonal relationships. At the same time, the important role of emotional intelligence is evident in the foundation of these cognitive processes, since the conscious understanding, regulation, and control of

emotions strengthen analytical thinking and create conditions for the deliberate selection of behavioral strategies.

In contemporary society, an individual's personal and professional success largely depends on the ability to regulate emotions and behavior, as well as to objectively assess situations and make reasoned decisions (Taşhyan, 2015). Although the abilities to evaluate and manage emotions begin to develop within the family environment (Ismen, 2004), their further development takes place within the educational context. The educational process contributes to qualitative changes in emotional intelligence by enhancing an individual's reflexivity, analytical abilities, and reasoning skills.

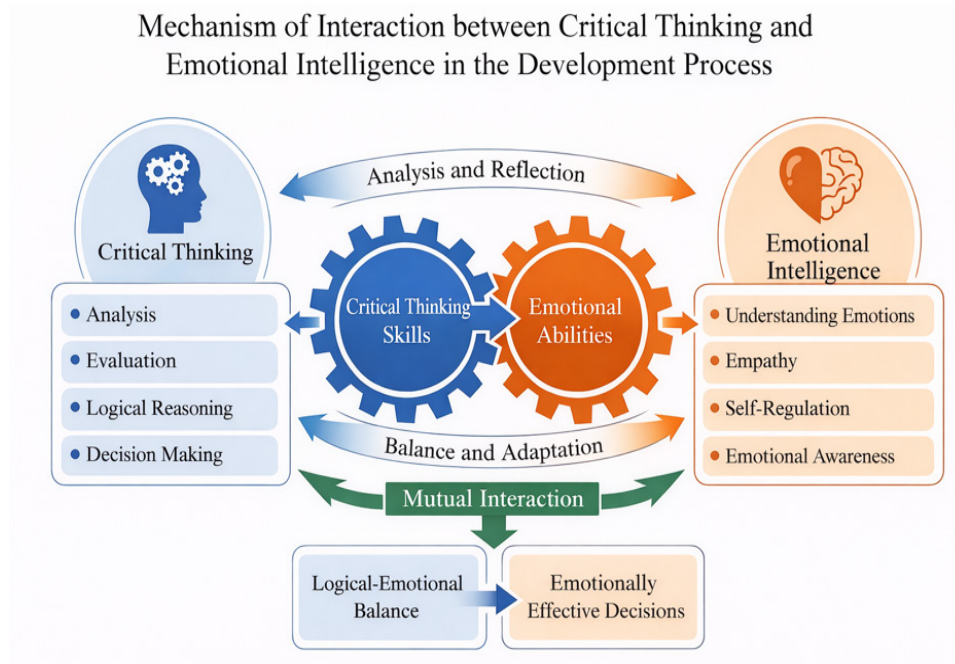
One of the common difficulties experienced by students is the inability to understand their internal state and express it effectively. Therefore, research pays particular attention to the self-expression aspect of communication (Tepeköylü-Öztürk & Soytürk, 2019; Korkut-Owen & Bugay, 2014). However, there is a need to examine this phenomenon not only through emotional abilities but also through the cognitive mechanisms that support them. From this perspective, critical thinking elevates emotional intelligence to a conscious level by enabling individuals to analyze information, compare arguments, identify cause-and-effect relationships, and engage in reflection.

Thus, critical thinking skills may be considered an important determinant contributing to the formation of emotional intelligence. An analysis of the relationship between critical thinking and emotional intelligence from the perspective of contemporary psychological theories allows for the systematization of their scientific and practical foundations. These theoretical concepts make it possible to identify the structural and substantive components of critical thinking in the development of emotional intelligence. On this basis, the structure of critical thinking and its mechanism of interaction within the process of emotional intelligence formation are presented in Figure 1.

In the proposed model, critical thinking and emotional intelligence are considered as a psychological system that develops in interrelation. The structural foundation of the model consists of two main blocks: critical thinking skills and emotional abilities. The components of critical thinking are manifested through cognitive processes such as analysis, evaluation, logical reasoning, and decision-making. Emotional intelligence, in turn, includes affective-personal characteristics such as understanding emotions, empathy, self-regulation, and emotional awareness.

Figure 1
Model of Interaction between Critical Thinking and Emotional Intelligence

The name of the picture



Note: Compiled by the author

The model demonstrates that the interaction between these two systems is realized through the processes of analysis and reflection, as well as balance and adaptation. In other words, the integration of cognitive and emotional processes forms the individual's logical-emotional balance, which ultimately provides the basis for making emotionally effective decisions. Thus, the proposed model reveals the structural logic of the interaction between critical thinking and emotional intelligence, showing that they function as an integrated system that ensures the cognitive and emotional development of the individual. Therefore, in subsequent stages of the research, this model will be used as a theoretical foundation for the development of a specialized program aimed at fostering critical thinking and emotional intelligence, followed by its practical implementation and empirical testing.

In psychological science, critical thinking is regarded as a complex cognitive phenomenon closely related to the processes of monitoring, analyzing, and evaluating an individual's intellectual activity. It represents an important direction that contributes to the development of students' thinking activity, the conscious organization of cognitive activity, and the improvement of the quality of information

processing. Through critical thinking, individuals not only receive information mechanically but also learn to analyze, compare, and draw evidence-based conclusions.

Canadian researcher Ralph H. Johnson characterizes critical thinking as a specific form of intellectual activity that allows individuals to consciously evaluate the viewpoints and behavioral patterns presented to them. According to the scholar, critical thinking is an intellectual process that contributes to making reasoned decisions in a particular situation (Johnson, R. H., 2000:48). This definition highlights the leading role of critical thinking in solving problems and questions, as well as the importance of rational reasoning.

According to D. Kluster, critical thinking represents a type of thinking based on the conscious processing of information. He associates critical thinking with an individual's ability to express personal opinions, evaluate information, and engage in reflective reasoning when addressing social issues. Accordingly, critical thinking is characterized as an independent form of thinking with individual characteristics, reflecting a person's capacity to form and justify their own viewpoint (Kluster, 2002:25).

J.A. Braus and D. Wood consider critical thinking as a rational and reflective thinking process aimed at solving problems. In their view, an individual who thinks critically strives to understand their inner “self” while also being able to perceive the perspectives of others in a logical and objective manner (Braus, J. A., & Wood, D., 1993:97). From this perspective, critical thinking appears not only as a cognitive process but also as a psychological mechanism that supports interpersonal understanding and social cognition.

In her work *Psychology of Critical Thinking*, D. Halpern defines critical thinking as directed thinking characterized by logical structure, goal orientation, and the use of specific cognitive strategies and skills. According to the scholar, the effective use of critical thinking requires the systematic development of certain psychological qualities in students.

First, readiness for planning plays an important role. Although the spontaneous emergence of ideas is a natural phenomenon, organizing them and incorporating them into a logical structure is an indicator of the reliability of thinking.

Second, flexibility is considered an important component of critical thinking. If a student is not open to accepting the ideas of others, the possibility of generating new ideas becomes limited. The reception and analysis of diverse information contribute to the emergence of flexible reasoning.

Third, persistence is particularly important in solving complex tasks. Continuing cognitive activity despite difficulties contributes to intellectual development and improved learning outcomes.

Fourth, readiness to correct mistakes is a key characteristic of a critically thinking individual. Such a person acknowledges the shortcomings of their decisions and strives to improve them, which in turn contributes to better academic performance.

Fifth, conscious awareness—namely the ability to monitor oneself and regulate reasoning during the thinking process—serves as an important psychological mechanism.

Sixth, the ability to seek mutually beneficial solutions reflects the social dimension of critical thinking. When decisions are supported by others, their practical significance increases; otherwise, they may remain at the level of theoretical reasoning (Halpern, 2014).

Thus, in psychological literature, critical thinking is described as a multidimensional phenomenon that ensures the unity of cognitive, personal, and social components. By developing cognitive flexibility, reflexivity, and the ability to make conscious decisions, it contributes to improving the effectiveness of the learning process.

Salovey and Mayer proposed a four-branch component model of emotional intelligence known as the “ability model,” which includes the following components: perceiving emotions, integrating emotions, understanding emotions, and managing emotions (Mayer & Salovey, 1997).

The trait model of emotional intelligence was proposed by Petrides and Furnham (2000). This model demonstrates the distinction between the concepts of ability and trait. According to the definition provided by Petrides and Furnham (Petrides, K. V., & Furnham, A., 2003), “trait emotional intelligence is a constellation of emotion-related self-perceptions and personality dispositions assessed through self-report.”

Results and discussion

The psychological structure describing the relationship between critical thinking and emotional intelligence made it possible to interpret the mechanisms of the formation and development of emotional intelligence from a new scientific perspective through the analysis of students’ critical thinking characteristics. Therefore, taking into account the possible correspondence between the propensity for critical thinking and emotional intelligence, which is considered an emotional–personal characteristic of the individual, the following research hypotheses are proposed:

Critical thinking contributes significantly to the development of emotional intelligence, since the ability to rationally analyze and evaluate situations promotes a deeper understanding of one’s own emotions, their conscious regulation, and the effective management of emotional reactions in various situations. From a psychological perspective, this phenomenon can be explained through the interaction of cognitive and affective processes, in which critical thinking facilitates the formation of stable and adaptive mechanisms of emotional perception.

Emotional intelligence, in turn, influences indicators of critical thinking, because individuals with a high level of emotional abilities can accurately recognize their own emotions as well as the emotional states of others. This reduces emotional distortions and subjectivity in the decision-making process. As a result, the capacity for objective and comprehensive analysis of information increases, thereby strengthening the quality of critical thinking. Emotional self-regulation and empathy enhance cognitive flexibility, reasoned judgment, and the ability to effectively evaluate complex situations, which is confirmed by contemporary research in cognitive and social psychology.

Total 72 respondents participated in the experimental study: 35 respondents in the experimental group and 37 respondents in the control group. According to the results of the diagnostic stage of the experiment, the levels of participants' understanding of emotional intelligence in the context of the independent development of criti-

cal thinking were distributed as follows. In the experimental and control groups, the high level constituted 8% and 14%, respectively; the medium level accounted for 57% and 47%, and the low level accounted for 35% and 39%. Thus, the levels of students in both groups were approximately similar.

Table 1

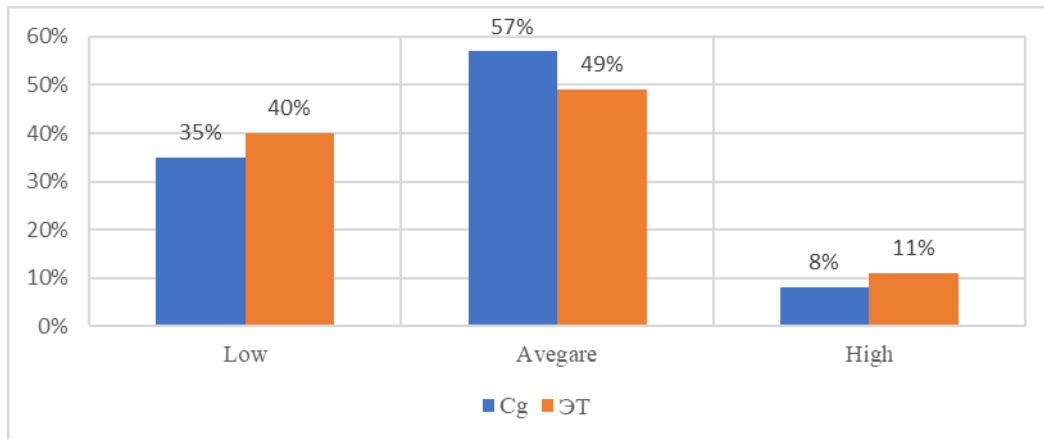
General results of the initial measurement of emotional intelligence

level \ group	Control group (n=37)		Experimental group (n=35)	
	Number	Percentage	Number	Percentage
Low	13	35 %	14	40 %
Average	21	57 %	17	49 %
High	3	8 %	4	11 %

Note: Compiled by the author

Figure 2

Initial manifestation of emotional intelligence



Note: Compiled by the author

Based on the results of the conducted research, it can be observed that there is a need to develop students' emotional intelligence through the enhancement of their critical thinking.

During the formative stage of the experiment, training sessions, structured debates, psychological trainings, and interactive exercise games were systematically implemented within the framework of the "Psychological Development Program Based on the Interaction of Critical Thinking and Emotional Intelligence." This program was developed on the basis of the "Critical Thinking and Emotional Intelligence Interaction Model" and aimed at developing

adolescents' cognitive-reflective activity, emotional self-regulation skills, and interpersonal empathic interaction.

In addition, in order to develop the components of emotional intelligence (recognition, understanding, management, and reflection of emotions), a set of developmental activities was organized and implemented in practice. These included essay writing, preparation of scientific and educational presentations, and the design of cognitive tasks.

To assess the aspects of critical thinking, J. Kincher's "How Critical Are You?" test was used, while N. Hall's Emotional Intelligence Test

was applied to measure the level of emotional intelligence. The results of the mathematical statistical analysis were tested for significance using Spearman's rank correlation coefficient (ρ) and are presented in the following table.

Table 2

Results according to Spearman's rank correlation coefficient

Indicators of Emotional intelligence	Indicators of critical thinking				
	Problem solving	Distinguishing fact from opinion	Determining the connection	Determining the evidence	Critical thinking skill
Emotional awareness	-0,030	0,064	-0,094	0,050	0,212
Emotional regulation	0,172	0,021	0,371	0,255	0,172
Self motivation	0,259	0,066	-0,197	0,392	0,368
Empathy	0,240	0,308	0,168	-0,392	0,140
Recognizing others' emotions	0,305	0,211	0,107	-0,083	0,211

Note: Compiled by the author

During the study, Spearman's rank correlation coefficient was used to identify relationships between the indicators of emotional intelligence and critical thinking measures. This method allows the identification of monotonic relationships between indicators and enables the assessment of the interdependence between variables. The results of the correlation analysis demonstrated the presence of both positive and negative relationships of varying strength between certain components of the emotional intelligence structure and specific critical thinking skills.

Weak relationships were observed between emotional awareness and several indicators of critical thinking: problem solving ($r = -0.030$), distinguishing fact from opinion ($r = 0.064$), identifying logical relationships ($r = -0.094$), and identifying arguments ($r = 0.050$). The low values of these coefficients indicate that the statistical relationship between these components and critical thinking skills is relatively weak. However, the positive relationship with the overall critical thinking skill ($r = 0.212$) suggests that emotional awareness may indirectly contribute to the development of critical thinking.

The indicator emotion management demonstrated positive correlations with several critical thinking parameters: problem solving ($r = 0.172$), identifying relationships ($r = 0.371$), and identifying arguments ($r = 0.255$). In particular, the correlation close to a moderate level with identifying logical relationships suggests that individuals who are able to regulate their emotions effectively may better understand logical connections between pieces of information.

As a result, the correlation matrix presented in Table 2 was constructed. The following relationships were identified between the components of the structure of critical thinking and the components of the structure of emotional intelligence.

This indicates that emotional self-regulation influences the quality of cognitive analysis.

The component self-motivation showed relatively pronounced relationships with critical thinking indicators, including problem solving ($r = 0.259$), identifying arguments ($r = 0.392$), and overall critical thinking skill ($r = 0.368$). These results suggest that the higher the level of self-motivation, the stronger the ability to analyze arguments and draw well-reasoned conclusions. These findings confirm that the motivational component is an important factor in the active engagement of critical thinking.

Although empathy demonstrated positive correlations with several critical thinking components – problem solving ($r = 0.240$), distinguishing fact from opinion ($r = 0.308$), and identifying relationships ($r = 0.168$) – some contradictory results were also observed. In particular, a negative correlation was recorded with identifying arguments ($r = -0.392$). This may indicate that individuals with high levels of empathy may, in certain situations, rely more on emotional factors and pay less attention to the strict analysis of logical arguments.

Regarding the indicator recognition of others' emotions, positive correlations were found with problem solving ($r = 0.305$), distinguishing fact from opinion ($r = 0.211$), and overall critical thinking skill ($r = 0.211$). These results suggest that as students' socio-perceptual abilities develop, their capacity for analyzing situations and making decisions also improves.

In conclusion, Spearman's correlation analysis demonstrated that certain components of emotional intelligence are related to critical thinking skills to a certain extent. In particular, self-motivation, emotion management, and recognition of others' emotions showed positive relationships with the cognitive components of critical thinking. At the same time, the presence of negative correlations with certain indicators of empathy highlights the complex interaction between emotional and cognitive mechanisms. Overall, the results indicate that the development of emotional intelligence is one of the

important psychological prerequisites for the effectiveness of critical thinking.

By identifying the main criteria of this process, its diagnostic indicators, as well as the methodological tools and approaches applied, a model of a student personality was defined—characterized by a high level of emotional intelligence, developed self-reflection, and mature conscious thinking abilities. Figure 3 below illustrates the process of the development of emotional intelligence levels through the psychological characteristics of students' critical thinking.

Figure 3

A student whose emotional intelligence has been developed through critical thinking

The name of the picture



Note: Compiled by the author

In the presented model, the close interrelationship between the components of critical thinking and the dimensions of emotional intelligence is considered as a comprehensive system of student per-

sonality development. Critical thinking skills—such as information analysis, logical reasoning, reflection, observation, and the evaluation of information reliability—contribute to the development of key di-

mensions of emotional intelligence, including self-awareness, emotion regulation, empathy, motivation, and social skills.

As a result of the interaction between these cognitive and emotional processes, the student develops as an individual capable of consciously processing information, effectively managing emotions, communicating efficiently, and engaging in reflective thinking. Thus, the integration of the components of critical thinking and the dimensions of emotional intelligence forms the psychological foundation for the development of the student model.

Conclusion

The main objective of the study was to provide a theoretical and empirical justification for the role of critical thinking skills as a cognitive prerequisite in the process of forming students' emotional intelligence. In accordance with this objective, a theoretical analysis of psychological and pedagogical literature was conducted to clarify the content, structure, and psychological characteristics of the relationship between the concepts of "critical thinking" and "emotional intelligence." In order to specify the methodological basis of the research, a model describing the structure of critical thinking and its mechanism of interaction within the process of emotional intelligence formation was developed.

In the empirical part of the study, J.Kincher's "How Critical Are You?" test was used to determine the level of students' critical thinking, while N. Hall's "Emotional Intelligence Level Assessment" test was applied to evaluate the level of emotional intelligence. In addition, a psychological and pedagogical training program aimed at the purpose-

ful development of critical thinking was implemented in the experimental group. Spearman's rank correlation coefficient (ρ) was used for the statistical analysis of the obtained data.

The research results demonstrated the presence of a positive and statistically significant relationship between students' critical thinking skills and their emotional intelligence indicators. In particular, the development of critical thinking was associated with improved abilities to recognize emotions, analyze them, consciously process emotional information, regulate emotions behaviorally, and effectively apply them in interpersonal interactions. After the psychological and pedagogical training conducted with the experimental group, qualitative improvements were observed not only in the components of critical thinking but also in the indicators of emotional intelligence. These findings confirm that the purposeful development of critical thinking can serve as an effective psychological condition for the formation of students' emotional intelligence.

The scientific results obtained may be applied within the higher education system, particularly in the development and implementation of psychological and pedagogical programs aimed at enhancing students' emotional competence, reflective culture, and the effectiveness of interpersonal communication. In the future, further research in this area could be expanded by examining its relationship with students' professional training, emotional stability, academic achievement, and social adaptation. From this perspective, psychological intervention technologies aimed at developing critical thinking may be regarded as scientifically grounded and practically effective tools for fostering emotional intelligence.

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