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PSYCHOLOGICAL MECHANISMS OF EMOTIONAL INTELLIGENCE DEVELOPMENT IN STUDENT YOUTH: AGE-RELATED FEATURES AND DEVELOPMENTAL PATHWAYS.

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Abstract. The student years represent a sensitive period for the development of emotional intelligence (EI), as young people face new academic, social, and professional demands while their identity and self-regulation are still being formed. This article analyzes the age-related psychological features of student youth and the mechanisms through which EI develops during this period. Based on a theoretical analysis of developmental psychology, emotion research, recent international reviews (2021–2026), and studies by Uzbek scholars, the article identifies four key psychological mechanisms of EI development: affect labeling and emotional awareness, reflective processing of emotional experience, the acquisition of adaptive emotion regulation strategies, and social learning through interaction with peers and mentors. The article also outlines psychological risk factors that may hinder EI development, including chronic academic stress, emotional avoidance, and the dominance of digital communication. On this basis, developmental pathways are proposed that link each mechanism to specific psychological and educational practices in the university environment, with attention to the conditions of higher education in Uzbekistan. The findings can be used by university psychologists, instructors, tutors, and curriculum designers to create targeted conditions for the emotional development of students.

Keywords: emotional intelligence, student youth, emerging adulthood, psychological mechanisms, emotion regulation, reflection, social learning, higher education in Uzbekistan.

1. Introduction

Interest in emotional intelligence has grown steadily since Salovey and Mayer (1990) introduced it as the ability to monitor one's own and others' emotions and to use this information to guide thinking and behavior. Mayer and Salovey (1997) later described EI as four interrelated abilities: perceiving, using, understanding, and managing emotions. Research among university students has linked EI with academic performance (MacCann et al., 2020) and with mental, social, and physical health (Extremera & Fernández-Berrocal, 2006), which makes it an important target of higher education.

Recent research confirms that interest in this topic continues to grow. A systematic review of 74 Scopus- and Web of Science-indexed studies by Martínez-Rodríguez and Ferreira (2025) showed that the number of publications on EI in university students increased markedly, with a peak in 2021 and 2022. The same review found that stress, motivation, social skills, and gender were the factors most frequently associated with EI in students, and it described emerging adulthood as a critical stage for EI development. Intervention research also supports the developmental view: in a quasi-experimental study of 300 university students, Caballero-García and Sánchez Ruiz (2025) found that a classroom-integrated emotional education program improved students' EI and happiness compared to a control

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group, while EI and life satisfaction together predicted a small but significant share of academic achievement.

The topic has also attracted increasing attention among Uzbek researchers. Umarov (2025) analyzed Russian and foreign approaches to defining EI and emphasized its special role in the personal development of university students. Sayitova and Yusupova (2025) examined the socio-psychological basis of students' EI, stressing that emotional abilities guided by intellect lead to greater efficiency in personal and professional activity. Rustamova (2025) described socio-psychological methods, such as trainings and scientific discussions, through which students develop emotional self-awareness, self-regulation, empathy, and social relationships. Aminova (2025) showed how interactive methods, a reflective approach, and situational trainings in pedagogical practice can develop emotional sensitivity, communication culture, and stress management skills in future primary school teachers. Turobova (2026), studying students at Jizzakh State Pedagogical University, argued that students with higher EI demonstrate greater stress resistance, learning effectiveness, and social adaptation.

Despite this growing body of work, most studies, both international and local, describe what EI predicts or list its components, rather than explaining how it develops. To design effective developmental work with students, it is necessary to understand the psychological mechanisms through which emotional abilities are formed and the age-specific features that make the student period favorable, or in some cases difficult, for this development.

The student age largely coincides with what Arnett (2000) termed emerging adulthood, a distinct stage between adolescence and adulthood characterized by identity exploration, instability, self-focus, and a feeling of being "in between." Erikson (1968) emphasized that this period is centered on identity formation and the capacity for intimacy, both of which require a mature understanding of one's own and others' emotions.

The purpose of this article is to analyze the age-related psychological features of student youth, to identify the main mechanisms of EI development during this period, and to propose developmental pathways that can be applied in the university environment, including the context of higher education in Uzbekistan.

2. Methods

The study uses theoretical methods: analysis and synthesis of literature in developmental psychology, emotion science, and educational psychology; comparative analysis of approaches to emotional development; and conceptual generalization. Three groups of sources were analyzed: foundational works on EI and emotional development; recent international studies and systematic reviews published in 2021–2026 in peer-reviewed journals; and recent publications by Uzbek scholars on EI in students (2025–2026), which made it possible to relate international findings to the national educational context.

3. Results

3.1. Age-related psychological features of student youth relevant to EI

The analysis identified four features of student age that directly influence EI development. The first is the continued maturation of self-regulation. Research in developmental neuroscience indicates that the systems responsible for cognitive control continue to mature into early adulthood, while emotional and reward-related responses are already highly active (Steinberg, 2005). This imbalance means that students are capable of advanced emotional understanding but may still struggle to regulate strong emotions in stressful situations such as examinations, conflicts, or relationship difficulties.

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The second feature is intensive identity exploration (Arnett, 2000; Erikson, 1968). Students reflect on who they are, what they value, and which profession suits them. This process naturally involves emotional self-analysis and creates internal motivation to understand one's own feelings. Martínez-Rodríguez and Ferreira (2025) note that students with higher EI are more likely to explore and experiment with their identity, which in turn supports emotional growth.

The third feature is the expansion of the social world. Entering university brings new peer groups, often new living arrangements, and relationships with instructors that are more equal than at school. These conditions provide rich material for learning to understand and respond to other people's emotions. In the Uzbek context, Sayitova and Yusupova (2025) emphasize the socio-psychological nature of students' EI, which is formed through participation in the social life of the university community.

The fourth feature is increased academic and life stress. Students face heavy workloads, financial concerns, and uncertainty about employment. Stress was the factor most frequently linked to EI in the review by Martínez-Rodríguez and Ferreira (2025), where students with higher EI consistently reported lower stress. Stress can therefore either stimulate the development of coping skills or, if chronic and unsupported, block emotional growth.

3.2. Psychological mechanisms of EI development

Mechanism 1: Affect labeling and emotional awareness. EI begins with the ability to notice and name emotions. Experimental research has shown that putting feelings into words reduces the intensity of negative emotional responses (Lieberman et al., 2007). For students, developing a richer emotional vocabulary is therefore both a cognitive achievement and a regulatory tool. Caballero-García and Sánchez Ruiz (2025) found that emotional attention was the weakest EI dimension in their student sample, although it was the strongest EI predictor of academic achievement, which shows that training emotional awareness is both necessary and beneficial.

Mechanism 2: Reflective processing of emotional experience. Awareness alone is not sufficient; emotional experience must also be understood. Grant et al. (2002) distinguish between engagement in self-reflection and insight, noting that frequent self-analysis does not automatically lead to clarity about one's inner states. Reflection contributes to EI only when it results in insight into the causes and meaning of one's emotions. Expressive writing about emotional experiences supports this process (Pennebaker, 1997), and Aminova (2025) shows that a reflective approach in pedagogical practice helps future teachers develop emotional sensitivity.

Mechanism 3: Acquisition of adaptive emotion regulation strategies. According to Gross's (1998) process model, emotions can be regulated at different stages, from choosing situations to modifying responses. Habitual use of cognitive reappraisal is associated with more positive emotion and better interpersonal functioning, while habitual suppression is associated with less favorable outcomes (Gross & John, 2003). The review by Martínez-Rodríguez and Ferreira (2025) similarly reports that students with higher EI rely on reflection, planning, and evaluation, whereas those with lower EI tend toward avoidance, inhibition, and rumination. The student period is thus an important time for shifting from spontaneous or suppressive strategies to conscious and adaptive ones.

Mechanism 4: Social learning through interaction. According to social learning theory, people acquire behavior patterns by observing models (Bandura, 1977). Students learn emotional behavior by observing how instructors, mentors, and peers handle difficulties, express empathy, and resolve conflicts. Martínez-Rodríguez and Ferreira (2025) identify relationships with teaching staff and peer

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engagement among the academic factors associated with EI. Rustamova (2025) likewise stresses the role of trainings and group discussions in forming empathy and social relationships among Uzbek students.

3.3. Psychological risk factors

The analysis also identified factors that may hinder EI development. Chronic academic stress without adequate support may lead to exhaustion and emotional withdrawal. Emotional avoidance, the tendency to ignore or suppress unpleasant feelings, prevents the reflective processing needed for insight. The dominance of digital communication may reduce opportunities for reading facial expressions, tone of voice, and other nonverbal cues that are central to emotion perception. Finally, a learning environment focused solely on academic results, in which emotions are treated as irrelevant, gives students few opportunities to practice emotional skills.

3.4. Developmental pathways in the university environment

Linking each mechanism to concrete practices, four developmental pathways are proposed (Table

Table 1. Mechanisms of EI development and corresponding pathways in the university

Mechanism	Developmental pathway	Examples of practice
Affect labeling and emotional awareness	Expanding emotional vocabulary and attention to emotions	Brief emotional check-ins at the start of seminars; exercises on naming and differentiating emotions
Reflective processing	Moving from description of experience to insight	Reflective journals, expressive writing, feedback-based reflection after practical tasks
Adaptive emotion regulation	Replacing suppression and avoidance with reappraisal and planning	Training in cognitive reappraisal and stress management, especially before examinations and for first-year students
Social learning	Providing models of emotionally competent behavior	Tutoring and mentoring programs, cooperative learning, situational trainings, discussion of real interpersonal cases

The feasibility of these pathways is supported by evidence that EI can be improved through structured interventions (Kotsou et al., 2019) and, more recently, through emotional education integrated into regular university courses (Caballero-García & Sánchez Ruiz, 2025). In Uzbekistan, similar practices have been described in the form of trainings and discussions (Rustamova, 2025) and interactive and reflective technologies in pedagogical practice (Aminova, 2025).

4. Discussion

The analysis shows that the student period is a sensitive stage for EI development. Identity exploration, social expansion, and growing cognitive maturity create favorable conditions for emotional growth, while incomplete maturation of self-regulation (Steinberg, 2005) and high levels of stress make students vulnerable to maladaptive patterns such as suppression or avoidance. This dual

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nature of the student age is consistent with recent international findings that stress is the factor most frequently associated with students' EI (Martínez-Rodríguez & Ferreira, 2025).

The four mechanisms identified in this study are interconnected and form a developmental sequence. Naming emotions creates the basis for reflecting on them; reflection that leads to insight creates the basis for choosing appropriate regulation strategies; and successful regulation enables constructive social interaction, which in turn provides new emotional experiences for reflection. This sequence agrees with the cascading model of EI, in which emotion perception supports understanding, and understanding supports regulation (Joseph & Newman, 2010).

Comparing international and Uzbek research reveals both agreement and a gap. Uzbek scholars agree with international authors that EI is important for students' personal development, adaptation, and success (Sayitova & Yusupova, 2025; Turobova, 2026; Umarov, 2025), and they describe practical methods for its development (Aminova, 2025; Rustamova, 2025). However, most local publications are theoretical or descriptive and rarely explain the psychological mechanisms through which these methods work. The mechanism-based approach proposed in this article helps to fill this gap by showing why particular practices, such as reflective journals or situational trainings, are expected to foster specific EI components.

An important practical implication is that EI development in students should not rely solely on separate training courses. Since all four mechanisms operate in everyday academic life, the most sustainable approach is to integrate emotional development tasks into regular teaching, assessment, and mentoring. This view is supported by the positive results of the classroom-integrated program described by Caballero-García and Sánchez Ruiz (2025) and by the concern that the long-term effects of short, isolated interventions remain uncertain (Kotsou et al., 2019). In the context of Uzbekistan's higher education reforms, which emphasize students' personal development, the proposed pathways can be implemented within existing structures such as tutoring and mentoring systems, university psychological services, and seminar formats.

The study is theoretical and has limitations. The proposed mechanisms and pathways require empirical testing, including longitudinal research tracking EI development across the years of study and intervention studies evaluating specific practices with Uzbek students using validated, culturally adapted instruments.

5. Conclusion

The student years represent a sensitive period for the development of emotional intelligence, shaped by identity exploration, expansion of social relationships, ongoing maturation of self-regulation, and increased stress. EI in student youth develops through four interrelated psychological mechanisms: affect labeling and emotional awareness, reflective processing leading to insight, acquisition of adaptive emotion regulation strategies, and social learning through interaction with peers and mentors. Chronic stress, emotional avoidance, reduced face-to-face communication, and a purely results-oriented environment act as risk factors. Recent international evidence and the work of Uzbek scholars confirm that EI can be developed purposefully in the university setting. Universities can support this development by integrating practices that target each mechanism into everyday teaching and mentoring. Future research should empirically test the proposed mechanisms among Uzbek students and evaluate the effectiveness of the developmental pathways.

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