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LONGITUDINAL STUDY OF FEATURES OF EMOTIONAL INTELLIGENCE IN ADOLESCENCE

ЛОНГІТЮДНЕ ДОСЛІДЖЕННЯ ОСОБЛИВОСТЕЙ ЕМОЦІЙНОГО ІНТЕЛЕКТУ В ПІДЛІТКОВОМУ ВІЦІ

The article deals with the specifics of emotional shifts in adolescence, i.e., the transformation of the main components of emotional intelligence given personal traits inherent in adolescents. The issue of psychological and pedagogical features of emotional intelligence in adolescence was considered: the authors concluded that the development of emotional intelligence is an important factor for adolescents' adaptation to the social environment, which helps balance emotions and reason, be responsible for themselves, create a strategy for their life. A three-year longitudinal study comprising three assessments, separated by one year each, revealed significant positive dynamics in the development of emotional intelligence and changes from a closed lifestyle to openness to society. The same positive dynamics are observed in personal maturation. Certain changes in the specifics of the correlation between the components of emotional intelligence and personality factors were established: the increase in the level of components of emotional intelligence, the acquisition of the emotional stability skills, and the improvement of social interaction. It is empirically proven that in adolescence, there is a dynamic manifestation of emotional intelligence depending on the inherent psychological characteristics. Passivity in interpersonal relationships is replaced by activity and manifestations of cooperation. Persistence, plasticity and responsibility help teenagers to succeed in the creative and scientific spheres. Emotional comfort, resilience, self-sufficiency and curiosity allow children to correctly identify their feelings and be able to control them. Prospects for further research were identified: the elaboration of methodological recommendations and posters for both students and teachers and parents to develop emotional competence skills for psychoeducation and independent improvement of all components of emotional intelligence.

Key words: emotional intelligence, adolescence, empathy, transformation.

У статті представлена специфіка емоційних зрушень в підлітковому віці, зокрема трансформація основних компонентів емоційного інтелекту у зв'язку з особистісними характеристиками, притаманними підліткам. Було розглянуто питання психолого-педагогічних особливостей виявлення емоційного інтелекту в підлітковому віці та сформульовано висновок, що розвиток емоційного інтелекту є важливим фактором адаптації підлітків у соціальному оточенні, який допомагає балансувати емоції та розум, відчувати відповідальність за себе, усвідомити власні мотиви поведінки, а також поступово створювати стратегію власного життя. Трирічне лонгітюдне дослідження визначило позитивну динаміку розвитку емоційного інтелекту та перехід від замкнутого способу життя до відкритості до соціуму. Така ж позитивна динаміка спостерігається і за особистісним дорослішанням. Виявлено зв'язок між усіма шкалами обох опитувальників: зокрема виявлений у вибірці респондентів зв'язок низького рівня емоційного інтелекту з інтровертованістю, високими показниками відособленості, високим значенням за емоційною нестійкістю та експресивністю. Встановлено певні зміни характеру зв'язку між видами емоційного інтелекту та особистісними факторами: при зростанні рівня компонентів емоційного інтелекту спостерігається набуття навичок емоційної стійкості та соціальної взаємодії. Емпірично доведено, що в підлітковому віці відбувається динаміка прояву емоційного інтелекту в залежності від притаманних психологічних характеристик. На зміну пасивності в міжособистісних стосунках приходять активність та прояви співпраці. Наполегливість, пластичність та відповідальність допомагають підліткам досягати успіхів в творчій та науковій сфері. Емоційний комфорт, стійкість, самодостатність та допитливість дає змогу дітям правильно ідентифікувати власні почуття та вміти управляти ними. Встановлено перспективи подальшого дослідження, а саме у виробленні методичних допоміжних рекомендацій та плакатів як учням, так і вчителям і батькам задля розвитку навичок емоційної компетентності з метою психоедукації та самостійного розвитку усіх компонентів емоційного інтелекту.

Ключові слова: емоційний інтелект, підлітковий вік, емпатія, трансформація.

Problem statement. The growth of public awareness of citizens and their needs, the complexity and diversity of their functioning necessitate the development of the potential of emotional intelligence of the individual for his effective adaptation to the social group and successful self-realization, especially when it comes to adolescents, because adolescence is marked by abrupt physical, hormonal and psychosocial changes. The relevant period alters needs, motives and behavior, awareness of one's personality. Moreover, the child's attitude to the world around him, to himself, and others changes. Adolescents should reconcile their needs with the expectations of others and the requirements of social norms, learn to manage emotions according to situations and conditions. The need for such skills is associated with significant difficulties faced by adolescents, which can lead to acute developmental conflicts accompanied by behavioral disorders and problems in the relationship with adults and peers, as well as intense emotional experiences, which occur in a self-destructive manner.

The objective of this paper is to analyze features of the manifestation and structure of the phenomenon of emotional intelligence in adolescents, as well as peculiarities of the transformation of emotional intelligence of adolescents given their personality characteristics.

Available research findings. Emotional intelligence is conceptualized as an emotional-cognitive ability that consists of awareness, emotional sensitivity, and the ability to manage emotions that allow individuals to control mental health, mental harmony, emotional comfort, and maintain optimal functioning [1; 7]. Emotional intelligence is not only the ability to understand, analyze and manage one's feelings and emotions but also to be able to feel, understand the mood of the environment, and empathize with others in the system of interpersonal relationships.

In adolescence, beliefs and moral values, life plans and prospects, own views, and principles are formed. The child begins realizing his capabilities and abilities, and life falls into place. Thus, there is a basis for the formation of the main components of emotional intelligence, which are not available at an earlier age [11].

The adolescent's body undergoes significant changes that have a strong impact on all aspects of biological, psychological and social development. This period is characterized by emotional instability, fatigue, impulsiveness, and partial decline in school performance [8; 10].

Available research findings on the emotional intelligence in adolescence prove that the successful

self-realization of adolescents requires a high level of empathy, sensitivity, good emotional memory, self-confidence, and communicative potential. All of these are components of emotional intelligence. A teenager with a low level of emotional intelligence becomes a participant in conflicts, is characterized by a high level of aggression, cannot control his emotions and desires and, most importantly, is insecure in society. He does not know how to sympathize; he lives with anxiety and does not enjoy his life [5].

Successful self-realization of the adolescent's personality and his self-development directly depend on the awareness of own emotions, the ability to control them, and accept the feelings of others. Recent research on the role of EI in adolescent mental health has shown that emotionally gifted adolescents adapt well to new conditions, get along better in the team, and are more likely to become leaders. They know how to control their feelings and take into account the feelings of others. By developing emotional literacy during adolescence, adolescents create a stream of friendliness around, easily interact with peers and adults, and work successfully as a team. Adolescents with low emotional intelligence are characterized by feelings of constant loneliness and guilt, aggression, emotional instability, and depression [9].

During adolescence, the family gradually loses its primary importance as a major precursor of development, and the group of peers acts as the most favorable environment for the development of emotional intelligence. Among friends, the adolescent finds empathy, understanding, adequate perception of his joys and sorrows, which adults, due to their age, often perceive as insignificant. It can be assumed that the peer-group influence, rather than family ties, is more important in the development of adolescents' emotional intelligence [9; 12].

It should be noted that emotional intelligence only predicts self-esteem indicators related to emotional improvement, adolescent happiness, and anxiety reduction but does not predict appearance or popularity. These results were obtained by multiple regression analysis [8].

The development of empathy is essential in establishing adolescent relationships in a social group. It is a basic component of interpersonal emotional intelligence.

Empathy can be considered an intuitive knowledge of the psyche of another in the process of direct communication. Most scholars emphasize that empathy is an innate trait that weakens or grows qualitatively only depending on the individual's personal and life experience of [2; 6].

Emotional intelligence as the ability to detect, identify and, if necessary, learn to work on one’s emotional manifestations can be a means of stabilizing the emotional life of the adolescent during the period of ‘storm and pressure’, which will help him to adapt to different life situations. Therefore, the development of emotional self-control in this age group is a crucial factor for maintaining mental health.

Methods. Based on a theoretical analysis of the phenomenon of emotional intelligence and the peculiarities of its manifestation and development in adolescence, the authors can conclude that emotional intelligence is an important predictor of the successful socialization and self-realization of adolescents. The longitudinal study took 3 years (from 2019 to 2021). The sample consisted of 30 adolescents aged 13–14 years of the 8th form: 17 boys and 13 girls.

To meet the objective of the study, the following data tools were chosen:

“*EmIn*” (D. V. Lusin) – a questionnaire for self-assessment of adolescents’ emotional intelligence level [3].

“*Big Five*” (R. McCrae and P. Costa) – an instrument to assess the personality traits of an individual [4].

Procedure. This empirical research comprising three cross-sectional assessments, separated by one year each, was designed to investigate the ontogenesis of the emotional intelligence indicators in adolescents given the dynamic development of personality traits of an individual.

The hypothesis of our research was the assumption of the existence of the dynamics of the manifestation of emotional intelligence of adolescents depending on their inherent psychological characteristics. The following methods were used to examine this issue: theoretical (analysis of literature sources), empirical (longitudinal psychodiagnostic method, methods

of statistical data processing), and interpretive method.

Results and discussion. Table 1 shows that in 2019 the sample was characterized by very low and low levels of emotional intelligence among adolescents: the total percentage of low and very low interpersonal EI was 67%, intrapersonal EI – 56%, understanding emotions – 67%, emotion management – 70%. This confirms the inability of the individuals to understand their own emotions, their recognition and identification, the inability to explain (and therefore understand) the causes of a certain emotion.

As evidenced by Table 1, there is an increase in average values among all scales of the questionnaire. The third part of the whole sample shows high values on the scales “Interpersonal Emotional Intelligence” and “Intrapersonal Emotional Intelligence”, which indicates some transformations and development of skills to understand other people’s emotions and analyze their own emotional states. High values on the scales “Understanding of emotions” and “Emotion management” are observed in ~ 25% of the sample. Very low values (“Understanding of emotions”) and low values on all scales indicate that some adolescents find it difficult to establish strong relationships with society, to determine their own feelings and moods.

The 2021 results demonstrated the intensive and qualitative development of the components of emotional intelligence. Most adolescents prefer their own emotional state, worry about their feelings, understand the manifestations of other people’s emotions, and manage the external manifestation of their own emotions. Very high values are observed in only 3% of the sample on the scale “Interpersonal emotional intelligence” and low values in ~ 5% of the sample on the scales “Interpersonal emotional

Table 1

Percentage analysis of the scatter of empirical data on the scales of the questionnaire ‘EmIN’ by D. V. Lusin (2019–2021)

Variables	Very low value	Low value	Average value	High value	Very high value
Interpersonal emotional intelligence	44% (2019) --- (2020) --- (2021)	23% (2019) 17% (2020) 7% (2021)	33% (2019) 53% (2020) 50% (2021)	--- (2019) 30% (2020) 40% (2021)	--- (2019) --- (2020) 3% (2021)
Intrapersonal emotional intelligence	20% (2019) --- (2020) --- (2021)	36% (2019) 20% (2020) --- (2021)	44% (2019) 50% (2020) 63% (2021)	--- (2019) 30% (2020) 37% (2021)	--- (2019) --- (2020) --- (2021)
Understanding of emotions	47% (2019) 4% (2020) --- (2021)	20% (2019) 33% (2020) 3% (2021)	30% (2019) 40% (2020) 50% (2021)	3% (2019) 23% (2020) 47% (2021)	--- (2019) --- (2020) --- (2021)
Emotion management	40% (2019) --- (2020) --- (2021)	30% (2019) 33% (2020) 7% (2021)	30% (2019) 40% (2020) 60% (2021)	--- (2019) 27% (2020) 33% (2021)	--- (2019) --- (2020) --- (2021)

intelligence”, “Understanding of emotions” and “Emotion management”, indicating that a small number of children are on the path towards the advancement of all components of emotional intelligence and are not yet ready to master the skills of understanding, identifying and managing emotions in interaction with others. The findings confirm the fact that as a person gets older, as a rule, there are changes in the sense of personal maturity.

The assessment of personality traits of adolescents in 2019 showed poor self-control, introversion, inflexibility, and unartistic in 60% of the sample (Table 2).

Table 2 shows that the questionnaire has five independent variables: ‘Introversion – Extraversion’, ‘Neuroticism – Emotional Stability’, and ‘Isolation – Agreeableness’, where a high level indicates ‘Extraversion’, ‘Emotional Stability’ and ‘Agreeableness’ and low, respectively – ‘Introversion’, ‘Neuroticism’ and ‘Isolation’. In the other two scales (‘Conscientiousness – Impulsiveness’, ‘Openness – Practicality’), a high level is the opposite to ‘Impulsiveness’ and ‘Practicality’, a low level demonstrates ‘Conscientiousness’ and ‘Openness’.

In 2019, the sample of respondents was characterized by a low level on the scales ‘Introversion – Extraversion’, ‘Neuroticism – Emotional Stability’ and ‘Isolation–Agreeableness’(57–60%)andhighpercentage on the scales ‘Conscientiousness – Impulsiveness’ and ‘Openness – Practicality’. This indicates immersion in the world of imagination and reflection, poor control of emotions, inflexibility, isolation, and unartistic.

In 2020, the dominance of the middle level on the scales ‘Introversion – Extraversion’, ‘Neuroticism – Emotional Stability’, ‘Isolation –

Agreeableness’, ‘Conscientiousness – Impulsiveness’ and ‘Openness – Practicality’ (40–53%) indicates transformations in the choice of social roles, dominance and subordination. Adolescents gradually socialize through interaction with others, begin to trust, reject impulsiveness and self-criticism. However, it should be noted that about a third of the sample has emotional instability, carefree attitude to the future, and shows emotional lability and rigidity.

In 2021, the indicators slightly changed that is evidenced by the percentage of average values on the scales ‘Introversion – Extraversion’, ‘Neuroticism – Emotional Stability’ and ‘Conscientiousness–Impulsiveness’(43–53%)andthepercentage of high values on the scales ‘Isolation – Agreeableness’ and ‘Openness – Practicality’ (47–53%). The above indicates the development of skills of cooperation, respect for others, and perseverance. Adolescents gradually get rid of feelings of isolation, suspicion, indifference and guilt. Self-control displaces impulsiveness, and insensitivity is replaced by sensitivity, which is a useful aspect of empathy.

In addition to the transformations of the components of emotional intelligence in adolescents, similar positive dynamics were observed in the expression of personality characteristics.

Correlation analysis revealed that the lower the level of emotional intelligence is, the higher are the values of emotional instability – Openness and introversion (Table 3). Adolescents with low EI levels prefer isolation when interacting with others.

Table 3 illustrates modifications in the relationship between EI components and personality traits.

Table 2

Percentage analysis of the scatter of empirical data on the scales of the questionnaire ‘Big Five’ by R. McCrae and P. Costa (2019–2021)

Variables	Low level (15–40 points)	Average level (41–50 points)	High level (51–75 points)
I (Introversion – Extraversion)	60% (2019) 33% (2020) 20% (2021)	17% (2019) 40% (2020) 43% (2021)	23% (2019) 27% (2020) 37% (2021)
II (Neuroticism – Emotional stability)	57% (2019) 27% (2020) 17% (2021)	33% (2019) 46% (2020) 50% (2021)	10% (2019) 27% (2020) 33% (2021)
III (Isolation – Agreeableness)	57% (2019) 17% (2020) 13% (2021)	33% (2019) 50% (2020) 40% (2021)	10% (2019) 33% (2020) 47% (2021)
IV (Conscientiousness – Impulsivity)	17% (2019) 40% (2020) 40% (2021)	23% (2019) 46% (2020) 53% (2021)	60% (2019) 14% (2020) 7% (2021)
V (Openness – Practicality)	23% (2019) 30% (2020) 53% (2021)	33% (2019) 53% (2020) 37% (2021)	44% (2019) 17% (2020) 10% (2021)

Table 3

The relationship between the scales of the questionnaires ‘EmIn’ and ‘Big Five’ (according to the r-Pearson criterion) (2019–2021)

Variables of ‘EmIn’ scales	Personality traits				
	Extraversion	Emotional stability	Agreeableness	Impulsivity	Practicality
Interpersonal emotional intelligence	-0,49 “(2019) 0,68 “(2020) 0,63 “(2021)	-0,43 “(2019) 0,70 “(2020) 0,61 “(2021)	-0,42 *(2019) 0,66 “(2020) 0,63 “(2021)	0,12 (2019) -0,52 “(2020) - 0,60 “(2021)	0,27 (2019) -0,56 “(2020) -0,52 “(2021)
Intrapersonal emotional intelligence	-0,39 *(2019) 0,51 “(2020) 0,51 “(2021)	-0,36 *(2019) 0,50 “(2020) 0,55 “(2021)	-0,36 *(2019) 0,77 “(2020) 0, 71 “(2021)	0,01 (2019) -0,36 *(2020) -0,53 “(2021)	0,02 (2019) -0,39 *(2020) -0,30 *(2021)
Understanding emotions	-0,46 “ (2019) 0,55 “(2020) 0,54 “(2021)	-0,37 *(2019) 0,64 “(2020) 0,58 “(2021)	-0,36 *(2019) 0,66 “(2020) 0, 51 “(2021)	0,08 (2019) -0,63 “(2020) -0,45 “(2021)	0,13 (2019) -0,59 “(2020) -0,58 “(2021)
Emotion management	-0,47 “(2019) 0,53 “(2020) 0,64 “(2021)	-0,48 “(2019) 0,54 “(2020) 0,51 “(2021)	-0,48 “(2019) 0,54 “(2020) 0,57 “(2021)	0,16 (2019) -0,45 “(2020) -0,52 “(2021)	0,15 (2019) -0,62 “(2020) -0,66 “(2021)

Note: * $p \leq 0.05$ “ $p \leq 0.01$

The analysis of the data obtained in 2019–2021 demonstrates that there are strong correlations between the scales of both questionnaires. The results shown in Table 3 indicate that the dynamics of emotional intelligence development were primarily reflected in the close relationship between emotional intelligence and extraversion. The increase in the level of emotional intelligence in adolescents has led to the transition from introversion to extroversion. In other words, over time, adolescents prefer the social aspects of life instead of immersion in the world of thoughts. Correlation data allowed us to conclude that the lower the level of emotional intelligence is, the higher the value of emotional instability is, Openness and introversion. The authors can assume that the high level of EI and its components allows adolescents to successfully establish relationships with others. The increase in correlation indicators illustrates a close relationship between the indicators of the scales of both questionnaires. There is a gradual qualitative development of emotional intelligence and its components, on the other hand, changing personality traits, factors of temperament and character. Positive correlations are also found between all EI scales and emotional resilience. From 2019 to 2021, neuroticism was replaced by emotional balance. It should be noted that the results of correlation analysis indicate a close relationship between high levels of EI and Agreeableness. 2019 isolation will be replaced by friendly relationships in 2021. Negative correlations in the dynamics are observed between the level of EI and impulsiveness. It means that during adolescence, children become more open to new experiences and gain the ability to manage emotions. Adolescents with high level of emotional intelligence in interpersonal

relationship tend to demonstrate warmth, respect, responsibility, a certain foresight, accuracy and curiosity. As they gain the experience, children begin to build personal boundaries and respect the personal orientations of other members of society.

The analysis of the data obtained in the longitudinal study allows drawing the following **conclusions**:

The problem of developing the potential of emotional intelligence of the individual for its effective successful self-realization and social adaptation is important and relevant to modern society, especially when it comes to adolescence and the contradictory nature of this age period. In the sample of respondents, the dominant low and very low rates shown in 2019 on all scales of the ‘EmIn’ questionnaire by D. V. Lusin gradually increases to medium, high and very high values in 2021.

High low-level percentage among the group of respondents on the scales ‘Introversion – Extraversion’, ‘Neuroticism – Emotional Stability’ and ‘Isolation – Agreeableness’ and high percentage of high level on the scales ‘Conscientiousness – Impulsiveness’ and ‘Openness – Practicality’ in ‘Big Five’ change to average and high levels. Adolescents’ acquisition of certain personal characteristics and qualities allows them to focus on establishing strong interpersonal relationships and inner emotional comfort.

The correlation between all scales of both questionnaires became closer and more significant: in particular, the correlation between low level of emotional intelligence and introversion, high isolation rates, high value of emotional instability and Openness shown in 2019 gradually shifted to the correlations between high level of emotional intelligence and Agreeableness, artistry, trust and self-control in 2021.

The results of the study of dimensions of emotional intelligence of adolescents confirm the contradictory nature of personal development of adolescents, which complicates mutual understanding in the system of interpersonal relationships but demonstrates the dynamics of components of emotional intelligence and transformations of personality characteristics.

The findings of the longitudinal study highlight the importance of the support of adolescents in the

development of emotional intelligence components through training programs, classes, informative lectures, methodological activities, and involvement in online psychological forums. The further research prospects include the elaboration of methodological recommendations and posters for both students and teachers and parents to improve skills of emotional competence for psycho-education and self-development of all components of emotional intelligence.

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