

ORIGINAL ARTICLE

AFFECTIVE-COGNITIVE INDICATOR OF EMOTIONAL INTELLIGENCE FORMEDNESS IN HIGH SCHOOLERS WITH INTELLECTUAL DISABILITIES

DOI: 10.36740/WLek202202132

Olha O. Babiak¹, Ivan M. Okhrimenko², Natalia A. Lyakhova³, Andrii V. Lapin¹, Anna V. Zamsha¹, Kyrylo Yu. Parkhomenko⁴¹MYKOLA YARMACHENKO INSTITUTE OF SPECIAL EDUCATION AND PSYCHOLOGY OF THE NATIONAL ACADEMY OF EDUCATIONAL SCIENCES OF UKRAINE, KYIV, UKRAINE²NATIONAL ACADEMY OF INTERNAL AFFAIRS, KYIV, UKRAINE³POLTAVA STATE MEDICAL UNIVERSITY, POLTAVA, UKRAINE⁴KHARKIV MEDICAL ACADEMY OF POSTGRADUATE EDUCATION, KHARKIV, UKRAINE

ABSTRACT

The aim is to determine the peculiarities of the affective-cognitive indicator of emotional intelligence in high schoolers with intellectual disabilities.

Materials and methods: The study, which was conducted during 2019-2020, involved 76 high schoolers in the age of 14-17 who studied in the 7-9th grades in Kyiv schools (Ukraine) (45 high schoolers with intellectual disabilities and 31 high schoolers with normative development). The diagnosis of the high schoolers' ability to perceive, understand and identify emotions; to assimilate emotions in thoughts, to stimulate thought processes with the help of emotions was carried out. The Mayer-Salovey-Caruzo Emotional Intelligence Test, adapted for children with intellectual disabilities, was used.

Results: Insufficient formedness of the affective-cognitive indicator of emotional intelligence in high schoolers with intellectual disabilities has been determined: a decrease in the level of perception of emotions by expression; superficial perception of expressive features, vagueness of ideas about them; insufficient differentiation of the constituent elements of the emotional model; difficulties of orientation in a set of emotional signs of different modalities; lack of understanding of social emotions and the content of a moral act.

Conclusions: It has been proven that the low state of formedness of the affective-cognitive indicator of emotional intelligence results in significant difficulties that arise during interaction with each other, and this affects primarily the further socialization and integration into society.

KEY WORDS: emotional intelligence, emotionality, affective-cognitive indicator, intellectual disabilities

Wiad Lek. 2022;75(2):504-507

INTRODUCTION

New tasks of modern education reform in relation to the teaching and upbringing of high schoolers with special educational needs require the formation of the foundations of life competence of individuals with intellectual disabilities [1-6]. One of the key determinants of the success of social adaptation of persons in this category is the formedness level of their affective-cognitive indicator of emotional intelligence. The study of the affective-cognitive indicator is a new segment in the research of emotional intelligence of an individual with special educational needs. The importance of solving the problem of emotional development is stipulated by the growing number of children with intellectual disabilities, who are officially diagnosed with low levels of cognitive processes, behavioural disorders, maladaptation in the educational and social environment [7-14].

Determining the directions of formation of affective-cognitive indicator of emotional intelligence in high schoolers with intellectual disabilities makes it possible to outline the prerequisites for their becoming as individuals, their success-

ful inclusion in social life and ability to adapt to changing social environment.

In view of this, first of all it is necessary to characterize the concept of emotional intelligence, which is considered by scientists as ability, set of abilities, group of mental abilities, capability, regulator, indicator, factor, integral category, cognitive capability, psychological phenomenon, resource, cognitive-personal composition, etc. [15-18].

Therefore, it should be noted that the main attention in the research of emotional intelligence was paid to the study of its psychological structure and relationships with other intrapersonal manifestations. Less studied are the issues of formation of the affective-cognitive indicator of emotional intelligence, namely: perception, recognition and understanding of one's own emotions, emotions of other people at different age stages of mental development of a personality. In addition, the available research does not provide a clear understanding of psychological conditions, peculiarities, factors, mechanisms of formation of affective-cognitive indicator of emotional intelligence in high schoolers with intellectual disabilities.

THE AIM

The aim of this study is to determine the peculiarities of the affective-cognitive indicator of emotional intelligence in high schoolers with intellectual disabilities.

MATERIALS AND METHODS

The vision of emotional intelligence as a set of abilities that form an affective-cognitive construct requires a certain specificity of the organization of the ascertaining study. Thus, in order to identify the formedness of affective-cognitive indicator of emotional intelligence of high schoolers with intellectual disabilities, we conducted the experimental research, which involved 76 high schoolers in the age of 14-17 who studied in the 7-9th grades in Kyiv schools (45 children with intellectual disabilities and 31 high schoolers with normative development). The study in comparative terms makes it possible to more thoroughly identify the specific peculiarities of the affective-cognitive indicator of emotional intelligence in high schoolers with intellectual disabilities. At the same time, the performance of diagnostic tasks by children with normative development serves as an indicator of the age norm.

The study of the formedness of affective-cognitive indicator of emotional intelligence in high schoolers with intellectual disabilities was carried out in several stages according to certain criteria, which allowed determining the levels of formedness of affective-cognitive indicator of emotional intelligence of high schoolers with intellectual disabilities. The first stage involves the diagnosis of the ability to perceive, understand and identify emotions. This stage involved the usage of MSCEIT v. 2.0 (The Mayer-Salovey-Caruzo Emotional Intelligence Test), adapted for children with intellectual disabilities; the second stage includes the diagnosis of the ability to assimilate emotions in thoughts, to stimulate thought processes with the help of emotions using the method of N. Hall [19].

We used the rank correlation coefficient according to the two-sided Student's t-test (for independent, unrelated samples) to compare the results of the study. The results were considered reliable at $p < 0.05$.

The study was performed in accordance with the requirements of the Code of Ethics of Scientists of Ukraine, approved by the Resolution of the General Meeting of the National Academy of Sciences of Ukraine (Protocol No. 2 of April 15, 2009). According to its provisions, the members of the scientific community are guided by the rules of ethical conduct and professional communication; respect the principles, values, norms, rules, and conditions of academic honesty in their activities. The preliminary consent to participate in the research was obtained from all respondents.

RESULTS

The peculiarities of the affective-cognitive indicator were studied in the course of the research i. e. the perception of expressive signs of emotions, types of perception of expres-

sion. To this end, the ability to adequately recognize and verbalize the emotional state presented in the schematic image was studied.

The quantitative and qualitative analysis of the results of the study revealed that high schoolers with intellectual disabilities (ID) have mostly medium and low levels of expression perception, the number of established expressive traits is much lower (62.5%) than in high schoolers with normative development (ND) (80%). The results of the study of the level of perception of expressive signs of emotions are presented in Table I.

The Student's t-test was used to assess the significance of differences between the levels of perception of expression found during the comparative analysis of the studied groups of high schoolers. Numerical values of the Student's t-test between the groups of children (ID and ND) are statistically significant: between the 7th grades high schoolers with ND and ID ($t = 3.63$ at $p \leq 0.05$); between the 9th grade high schoolers with ND and ID ($t = 3.23$ at $p \leq 0.05$), as well as in the groups of high schoolers: between the 7th grade high schoolers with ND and the 9th grade high schoolers with ND ($t = 3, 09$ at $p \leq 0.05$); between the 7th grade high schoolers and the 9th grade high schoolers with ID ($t = 2.05$ at $p \leq 0.05$).

Thus, the perception of expressive signs of emotions in high schoolers with intellectual disabilities is at a lower level of development, compared with the age norm. The high schoolers with ID are completely unable to perceive, recognize and understand their own emotions and the emotions of other people, they explain one emotion through another (difficulties at the stage of categorization are primarily related to the underdevelopment of mental activity, memory and imagination); lack of self-awareness and awareness of another person (indicating a low level of value of another person for adolescents with ID).

In contrast to the high schoolers with intellectual disabilities, the children with normative development correctly interpreted the meaning of the emotional pictogram focusing on their emotional experience; they could explain the presence of those signs of expression that indicated the emotion. There was a statistically significant difference in groups between the 7th grade high schoolers: between the pre-schoolers with ND and the high schoolers with ID ($t = 4.19$ at $p \leq 0.05$). The same was seen in the groups between the 9th grade high schoolers: between the children with ND and ID ($t = 2.79$ at $p \leq 0.05$); there was also a significant difference in the groups between the 7th grade high schoolers with ND and the 9th grade high schoolers with ND ($t = 1.57$ at $p \leq 0.05$).

Analysing the level of understanding of the expressive signs of high schoolers' emotions, significant differences were revealed in this indicator between the children with ND and high schoolers with ID. Three levels were identified based on the analysis of the content of understanding of emotions by high schoolers with ID: high, medium and low (Table II).

There was a statistically significant difference in the groups between the 7th grade high schoolers with ND and the 9th grade high schoolers with ND ($t = 1.32$, $p \leq 0.05$).

Table I. Comparison of the levels of expression perception in the high schoolers with ND and ID, %

Grade	The level of expressive traits perception					
	High schoolers with normative development			High schoolers with intellectual disabilities		
	High level	Medium level	Low Level	High level	Medium level	Low level
7th grade	27	51.5	21.2 %	10	46.7	43.3
9th grade	47	41.2	11.8	11.1	61.1	27.3

Table II. Comparison of the levels of understanding of expressive signs of emotions in the high schoolers with ID and ND, %

Grade	The level of understanding of expressive signs of emotions					
	High schoolers with normative development			High schoolers with intellectual disabilities		
	High level	Medium level	Low Level	High level	Medium level	Low level
7th grade	37.3	55.4	7.3	10.7	46.4	42.9
9th grade	39.5	58.8	1.8	13.6	54.6	31.8

Table III. Comparison of the levels of emotional identification in the high schoolers with ID and ND, %

Grade	The level of emotional identification					
	High schoolers with normative development			High schoolers with intellectual disabilities		
	High level	Medium level	Low Level	High level	Medium level	Low level
7th grade	37.3	61.5	1.2	17.8	39.3	42.9
9th grade	39.5	59.8	0.7	13.6	59.1	27.3

The peculiarities of emotional identification, the peculiarities of correlation of emotion expressive signs were studied in the course of performing experimental tasks. The analysis of experimental data showed that the establishment of the emotion identification was common to all categories of children. At the same time, the high schoolers with ND independently organized activities, and the high schoolers with ID did not begin to perform tasks due to the narrowing of the scope of their perception. The results of the study of the levels of identification of emotions in the high schoolers with ID and ND are presented in Table III.

In our opinion, the causes of difficulties in identifying emotions can be justified by the peculiarities of the mechanisms of identification of emotions in high schoolers with intellectual disabilities, they do not have adequate terms to describe the emotions of another person, children are able to identify an emotion based on only one source of information i. e. the situation in which the character found himself or his facial expression. On the other hand, the identification of emotions is influenced by the shortcomings of intellectual functions, as well as the conditions in which the high schoolers with ID live and are brought up.

The method of mathematical statistics revealed a significant difference in the groups between the 7th grade high schoolers: between the high schoolers with ND and ID ($t = 1.63$ at $p \leq 0.05$). A significant difference was revealed in the groups of the 9th grade high schoolers, in particular between the high schoolers with ND and ID ($t = 2.67$ at $p \leq 0.05$). There was a significant difference between the groups of the 7th grade high schoolers with ND and the 9th grade high schoolers with ND ($t = 2.44$ at $p \leq 0.05$), between the 7th grade and the 9th grade high schoolers with ID ($t = 2.44$ at $p \leq 0.05$).

DISCUSSION

The theoretical basis of our theoretical and experimental research was the position that increased emotional competence improves psychological and physiological well-being, which is a necessary condition for socialization and integration into society [6, 20-27]. In support of the position of scientists, our study showed that high schoolers with intellectual disabilities are characterised by insufficiently developed emotional competence, in contrast to high schoolers with normative development.

Our study is also a supplement to the conclusions made by Chetveryk-Burchak [28] that the mechanisms of emotional intelligence, which are based on a positive or negative attitude towards the object, the focus on the object or away from it and the modality of emotion affect the life-sustaining activities of the individual.

At the same time, our results complement the scientific research by Megías, Gutiérrez-Cobo, Fernández-Berrocal, Cabello, & Gómez-Leal [12] in terms of the fact that emotional intelligence is associated with perceptual, cognitive processes, as well as their physiological characteristics. It should be noted that the high schoolers with intellectual disabilities have mostly low and medium levels of perception, understanding of expressive signs and arbitrary expression of emotions of different modalities, which affects the formation of their personality and successful inclusion in social life and ability to adapt to changing social environment.

CONCLUSIONS

The analysis of the psychological literature showed gaps in the study of emotional intelligence in high schoolers with

intellectual disabilities. This became the basis of our experimental study. Thus, it was found that the high schoolers with intellectual disabilities are characterised by insufficiently formed affective-cognitive indicator of emotional intelligence; the low state of this indicator formedness results in significant difficulties that arise during interaction with each other.

The results of our study give the right to ascertain the existing problems in the personal development and emotional intelligence of high schoolers with intellectual disabilities. They feel unprotected, have emotional anxiety and are therefore highly dependent on their surroundings. The presence of deep originality of emotional and volitional development largely determines the low level of affective-cognitive indicator formedness, being one of the reasons for low social activity and low level of social adaptation of children in this category. This situation encourages the delineation of areas of correctional work on the formation of affective-cognitive indicator of emotional intelligence of adolescents.

We consider it promising to study the levels of emotional intelligence formedness in high schoolers with intellectual disabilities of middle and senior school age in secondary schools in comparison with their healthy peers.

REFERENCES

- Babiak O. O., Batasheva N. I. Korektsiia rozvytku emotsiinoi sfery u ditei iz zatrymkoiu psykhnichnoho rozvytku. [Correction of the development of the emotional sphere in children with mental retardation]. *Osoblyva dytyna: navchannia i vykhovannia*. 2020; 1: 14-21. (in Ukrainian).
- Bucich M., MacCann C. Emotional intelligence research in Australia: Past contributions and future directions. *Australian Journal of Psychology*. 2019; 71: 59-67. doi: <https://doi.org/10.1111/ajpy.12231>.
- Ciarrochi J. V. On being tense yet tolerant: The paradoxical effects of trait anxiety and aversive mood on intergroup judgments. *Group Dynamics: Theory, research and Practice*. 1999; 3: 227-238.
- Guastello D. D., Guastello S. J. Androgyny, gender role behavior, and emotional intelligence among college students and their parents. *Sex Roles: A Journal of Research*. 2003; 49(11): 663-673.
- Zhamardiy V., Shkola O., Okhrimenko I. et al. Checking of the methodical system efficiency of fitness technologies application in students' physical education. *Wiad Lek*. 2020; 73(2): 332-341. [https://doi: 10.36740/WLek202002125](https://doi.org/10.36740/WLek202002125).
- Zeidner M., Matthews G., Roberts R. D., McCann C. Development of emotional intelligence: Towards a multi-level investment model. *Human Development*. 2003; 46: 69-96.
- Bratel O., Kostyuk M., Bratel S., Okhrimenko I., Filonenko V. Short-Term memory training of students during foreign language learning. *Universal Journal of Educational Research*. 2020; 8(4): 1596-1604. doi: [10.13189/ujer.2020.080453](https://doi.org/10.13189/ujer.2020.080453).
- Chebotařova O.V., Hladchenko I. V. Uchni pochatkovykh klasiv iz porushenniamy intelektualnoho rozvytku: navchannia ta rozvytok [Scientists of cob classes due to the deterioration of intellectual development: new development and development]. *Kharkiv: Vydavnytstvo Ranok*; 2020, 130 p. (in Ukrainian).
- Evans D. The search hypothesis of emotions. *British Journal for the Philosophy of Science*. 2002; 53(4): 497-509.
- Griban G., Yavorska T., Tkachenko P. et al. Motor activity as the basis of a healthy lifestyle of student youth. *Wiad Lek*; 2020; 73(6): 1199-1206. doi: [10.36740/WLek202006123](https://doi.org/10.36740/WLek202006123).
- Mayer J. D., Salovey P., Caruso D. R. Emotional intelligence: Theory, findings, and implications. *Psychological Inquiry*. 2004; 15(3): 197-215.
- Megías A., Gutiérrez-Cobo M. J., Fernández-Berrocal P., Cabello R., Gómez-Leal R. Performance on emotional tasks engaging cognitive control depends on emotional intelligence abilities: an ERP study. *Scientific Reports*. 2017; 7(1): 16446. <http://dx.doi.org/10.1038/s41598-017-16657-y282>.
- Miakushko O. I. Kohnityvnyi pidkhdid do formuvannia navchalno-piznavalnykh kompetentnosti u ditei z porushenniamy intelektualnoho rozvytku [Cognitive approach to the formation of educational and cognitive competencies in children with intellectual disabilities]. *Teoriia i praktyka spetsialnoi pedahohiky ta psykhologii*. 2018; 10: 42-47 (in Ukrainian).
- Russell J. A. Core affect and the psychological construction of emotion. *Psychological review*. 2003; 110(1): 145.
- Ivanova Ye. O. Psykholohichni umovy rozvytku emotsiinoho intelektu pidlitkiv [Psychological conditions for the development of emotional intelligence of adolescents]. *Ukrainskyi psykholohichnyi zhurnal*. 2017; 2: 23-36. Retrieved from http://nbuv.gov.ua/UJRN/ukpsj_2017_2_4. (in Ukrainian).
- Mannapova K. R. Spetsyfika emotsiinoho intelektu pidlitkiv z nepovnykh simei [The specifics of the emotional intelligence of adolescents from single-parent families]. *Visnyk Kharkivskoho natsionalnoho pedahohichnoho universytetu imeni H. S. Skovorody*. 2012; 42(1): 169-179. Retrieved from http://nbuv.gov.ua/UJRN/VKhnpu_psykhol_2012_42%281%29_20. (in Ukrainian).
- Virna Zh. P., Brahina K. I. Emotsiinyi intelekt u smyslovomu lokusi profesionalizatsii osobystosti. [Emotional intelligence in the semantic locus of professionalization of personality]. *Problemy suchasnoi psykhologii*. 2015; 2 (8): 38-43. (in Ukrainian).
- Opanasiuk I. V. Psykhodiahnostryka rozvytku emotsiinoho intelektu osobystosti v starshomu shkilmomu vitsi [Psychodiagnostics of the development of emotional intelligence of the individual in high school age]. *Visnyk Dnipropetrovskoho universytetu*. 2015; 21: 94-103. Retrieved from http://nbuv.gov.ua/UJRN/vdups_2015_21_13. (in Ukrainian).
- Halyan I. M. Psykhodiahnostryka [Psychodiagnostics]. *Kyiv: Akademvydav*; 2011, 464 p. (in Ukrainian).
- Babiak O. O. Problema emotsiinoho intelektu v psykholohichnyi nauksi. [The problem of emotional intelligence in psychological science]. *Osvita osib z osoblyvymy potrebamy : shliakhy rozbudovy*. 2020; 16: 21-32. (in Ukrainian).
- Okhrimenko I., Lyhun N., Pryimak V., Korol Ya., Myroshnychenko M. Negative factors of management activities of the security and defence sector representatives and directions of their overcoming. *Wiad Lek*. 2021; 74 (4): 891-895. doi: [10.36740/WLek202104115](https://doi.org/10.36740/WLek202104115)
- Bloshchynskiy I., Griban G., Okhrimenko I. et al. Formation of psychophysical readiness of cadets for future professional activity. *The Open Sports Sciences Journal*. 2021; 14: 1-8. doi: [10.2174/1875399X02114010001](https://doi.org/10.2174/1875399X02114010001).
- Okhrimenko I., Pasko O., Prudka L. et al. The influence of modern sports technologies on health and professional activity of law enforcement officers. *Wiad Lek*. 2021; 74 (6): 1365-1371. doi: [10.36740/WLek202106115](https://doi.org/10.36740/WLek202106115).
- Nélis D., Kotsou I., Quoidbach J. et al. Increasing emotional competence improves psychological and physical well-being, social relationships, and employability. *Emotion*. 2011; 11(2): 354-366. doi: [10.1037/a002155](https://doi.org/10.1037/a002155).

25. Okhrimenko I., Pavlyk O., Tomenko O. et al. Dynamics of indicators of cadets' physical development and functional status during pentathlon. *International Journal of Human Movement and Sports Sciences*. 2021; 9(4): 814-823. doi: 10.13189/saj.2021.090428.
26. Okhrimenko I., Hrebeniuk M., Borovyk M. et al. Sport classes as effective means for psychophysical health improvement of representatives of the security and defense sector. *Wiad. Lek.* 2021; 74(5): 1142-1146. doi: 10.36740/WLek202105118.
27. Griban G., Kuznietsova O., Tkachenko P. et al. Formation of the students' volitional qualities in the process of physical education. *International Journal of Human Movement and Sports Sciences*. 2020; 8(6): 505-517. doi: 10.13189/saj.2020.080625.
28. Chetveryk-Burchak A. H. Mekhanizmy zv'yazku rivniv sformovanosti emotsiynoho intelektu z uspishnistyu zhyttyediyal'nosti osobystosti [Mechanisms of connection of levels of formation of emotional intelligence with success of vital activity of the person]. *Aktual'ni problemy psikhologiyi*. 2011; 10(19): 592-602. (in Ukrainian).

The topic and content of the article correspond to the provisions of priority areas of research of Mykola Yarmachenko Institute of Special Pedagogy and Psychology of the National Academy of Pedagogical Sciences of Ukraine for 2020-2023 under "Psychological and pedagogical principles of correctional and developmental education of children with cognitive impairment" scientific paper (state registration number 0118U003347).

ORCID and contibutionship

Olha O. Babiak: 0000-0001-6337-1202^{A,E}

Ivan M. Okhrimenko: 0000-0002-8813-5107^{B,F}

Natalia A. Lyakhova: 0000-0003-0503-9935^{A,C}

Andrii V. Lapin: 0000-0003-1717-7892^{B,D}

Anna V. Zamsha: 0000-0002-8843-035X^{E,F}

Kyrylo Yu. Parkhomenko: 0000-0002-0004-2417^{B,F}

Conflict of interest

The Authors declare no conflict of interest.

CORRESPONDING AUTHOR

Ivan M. Okhrimenko

National Academy of Internal Affairs, Kyiv, Ukraine

tel: +380679903905

e-mail: ivango-07@ukr.net

Received: 14.08.2021

Accepted: 28.12.2021

A – Work concept and design, **B** – Data collection and analysis, **C** – Responsibility for statistical analysis, **D** – Writing the article, **E** – Critical review, **F** – Final approval of the article