

Phototherapy as the tool of emotional identification development of adolescents

Olena Tyron¹, Ludmyla Dotsenko², Inna Kariaka²

¹Department of Linguistics, State University of Infrastructure and Technologies, Kyiv, Ukraine

²Department of Psychology, Kyiv National Linguistic University, Kyiv, Ukraine

Article Info

Article history:

Received Nov 18, 2023

Revised Feb 25, 2024

Accepted Mar 7, 2024

Keywords:

Adolescence
Emotional identification
alexithymia
Phototherapy
Suicidal behavior

ABSTRACT

The results of the empirical stage statistically proved that phototherapy is one of the effective tools of psycho-pedagogical assistance to adolescents who experience difficulties associated with emotional identification. We diagnosed the level of formation of this phenomenon within the sample of 240 respondents who are university and school students aged 17 to 20 years female and male. A number of psycho-diagnostic methods were used in the study: the method "Toron to alexithymia scale (TAS-26)" and the questionnaire "self-attitude." Summarizing the results, we state that most of the studied sample is in a state of emotional well-being but emotional discomfort occurs among some respondents with certain levels of propensity for alexithymia (22.5%). The research proves the positive impact of phototherapy on adolescents' emotional identification development through photographing and creating visual pictures or direct perception and interpretation of images.

This is an open access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



Corresponding Author:

Olena Tyron
Department of Linguistics, State University of Infrastructure and Technologies
04070 Kyrylivska 9, Kyiv, Ukraine
Email: tyronolena@gmail.com

1. INTRODUCTION

The target audience of this article is school and university psychologists–specialists who give psychological support to adolescents. Adolescence in itself is a psycho-emotionally difficult crisis phenomenon. Hormonal waves in combination with radical changes in social status, for which, along with rights and freedoms, the bundle of personal responsibility for one's life and one's choices is added, naturally cause a high level of anxiety, since these are unfamiliar and unknown terrains, and the young people don't have the experience of living an adult life. The lack of skills to deal with stress in a healthy way, it can be too difficult for them to cope with the difficulties of adolescence: rejection, mistakes, relationship breaks, problems in studies, and difficulties in the family [1], [2]. Suicidal behavior is the leading cause of death in adolescents in the world [3], [4]. Suicidal behavior in adolescents can be prevented by recognizing risk factors and protective factors originating from themselves and the surrounding environment. It is important to identify risk factors and protective factors for adolescents who demonstrate suicidal behavior [5]-[8]. Emotional identification development can protect from suicidal behavior among adolescents. The process of building and implementing the ideal life experience of a person is accompanied by difficulties in personal growth, which are determined by social factors. Increased emotional excitability and reactivity in young men, which are reflected in sudden changes in mood, irritability, anxiety and depression, is a manifestation of normal development. The combination of these indicators proves the presence in adolescence of a certain sensitivity in the development of the emotional-volitional sphere, in particular, the ability to reflect emotional

states through an actualized interest in one's own personality. This suggests that it is in this age period that there is a need to learn how to explain and independently regulate one's activities, to form the ability to adequately accept the expression of one's own emotions. Emotional competencies should be developed in two dimensions: identification and understanding [9].

Ignoring one's own initial emotions, giving greater importance to social standards over one's own needs leads to a violation of the emotional well-being of the individual and understanding of oneself. Adolescents are subject to widespread mental nonconformity and should be treated with great care in order to facilitate progression through crises [10], [11]. One of the structural elements and stages of the process of identification of emotional reactions and states is verbalization, which can occur under the conditions that perceptive experiences have been modified in internal experience. This says that, firstly, an emotion cannot be named without its understanding, analysis and classification; secondly, verbalization is a preliminary step on the way to understanding emotions; thirdly, emotion allows to categorize own achievements of emotional experience. However, self-categorization is not the same as understanding. After the stage of verbalization, there is a need to clarify and understand the cause-and-effect relationships of experiences (the basis for needs and values), opportunities for the search of foreign factors that affect the appearance of the ego, inhibit the discharge process or transform it. Consequently, it is possible to talk about the expediency of the application of psychotherapeutic receptions of a wide spectrum during corrections of the emotional-volitional sphere of adolescents. Teenagers are characterized by manifestations of alexithymia, a condition when they cannot identify and describe their emotions, cannot express them. They generally experience many communication difficulties: it is difficult for them to find an interlocutor, they are afraid of not responding to the group, they are afraid of seeming ridiculous. Alexithymia is characterized by difficulties in identifying and describing emotions, difficulty distinguishing between feelings and bodily sensations.

As a tool to avoid alexithymia and develop emotional identification, we propose to use phototherapy. It is rather new method in the psychologists' counseling process the essence of which is to process ready-made images or work with materials from adolescents' portfolio. Achievements of positive results of human personality development occur as a result of photography and creation of visual pictures, or direct perception and interpretation of images. Creative approaches to counseling help counselors to work with emotional sphere but photography in counseling has been demonstrated through several case studies; however, clear implications of how photography relates to the counseling process have not been well delineated [12].

A number of researchers have focused their attention on the significance of photographs in the process of solving psychological situations, in which scientists consider the various effects of using photographs as methods of therapy and correction. Assessing photography as an instrument of activity, it is possible to argue about the versatility of ego vector actions. This product can serve as an indicator of the exteriorization of a person's internal peace, a "window" in the background of his psychological organization, on the one hand. On the other hand, photography acts as a tool for the study of the inner "I" from the outside, with its bodily manifestations, emotional reactions, characteristics of language, communication and activity. This suggests that there is a hidden peculiar stimulus in the photos, which creates conditions for the disclosure of actual needs and the enrichment of internal resources for the realization of aspirations, the maturation of willingness to act in a specific direction to achieve goals. At the same time, the person has the opportunity to understand that what seemed interesting, however, did not correspond to his real values. The individual rejects what is not important. The other researchers name phototherapy as a form of complementary and alternative therapy, photography has shown to be beneficial for individuals who express themselves more adequately with visual aids [13]. Furthermore, some researchers prove the role of photography to support counselor development fostering self-reflection, professional identity development, and multicultural awareness among counselors-in-training [14]. The researcher Shechtman [15] also studied the influence of phototherapy and stated a higher level of self-disclosure in the phototherapy group. Client-counselor alliance (emotional contact) tended to be higher in the group where phototherapy was implemented. The same idea proves Soyer [16] speaking about the increase therapeutic communication in the process of psychological counseling using this technique. One more idea how to use photos in counseling described by Ziller [17] is the auto-counseling process wherein the person recreates the self through images and discovers a non-social comparison concept of the self. Thus, we see different areas where phototherapy can be applied, working with children and adults, teaching future counselors and even working with problems of domestic violence [18]. School, college and university psychologists help students, families, educators, and members of the community understand and resolve the problems that students may face. Researchers stress that ensuring psychological well-being is an urgent task for educational institutions [19]. It should be noted that not all countries have psychologists working in educational institutions, so we popularize a simple technique of influencing the emotional sphere of students, which can be used by teachers in extracurricular activities or during the humanities classes.

2. METHOD

The sample of respondents consisted of 240 people aged 17 to 20 years, female and male, who are the schoolchildren of 5 schools and students of State University of Infrastructure and Technologies, Kyiv, Ukraine. The empirical research was being carried out during 2021-2023 years. According to the requirements of Ukrainian laws, the testings were conducted with the oral consent of the participants, voluntarily and anonymously. The participants were informed that the study is conducted in the interests of the educational institution. The research topic was approved as a grant-free scientific topic of the Department of Psychology, Social Sciences and the Humanities. Experimental research work went through the following stages: i) Definition of the purpose and objectives of experimental research; ii) Justification of the choice of research tools and organization of research aimed at the analyzing the emotion recognition methods [20]-[22]; iii) Ethical approval of the research; iv) Design of the program of phototherapy techniques; and v) Analysis of the obtained results, formulation of conclusions.

Psycho-diagnostic tools used in the study are: i) "Toronto alexithymia scale (TAS-26)"; ii) Questionnaire "self-attitude" by Stolin and Panteleiev [23]. The questionnaire of the self-attitude is constructed according to developed hierarchical model of structure of the self-attitude. The given version of a questionnaire allows to reveal three levels of the self-attitude: the global self-attitude; the self-attitude differentiated on self-esteem, auto-sympathy to self-interest and expectations; a level of specific actions (readiness to them) concerning the "I".

To investigate the value of the phototherapeutic method for the development of emotional identification of adolescents, we used the following techniques:

- Photo projection, which consists in the analysis of experiences and images of a person when interacting with photography [24].
- Photo-de facto-work with the fixation and description of the details of the image, where the peculiarities of the choice of facts, the reasons for endowing them with significance, the method of their characterization are considered.
- Photo-fantasy-work with the image is ordered by the creation of a series of interrelated images with a certain sequence of their actions in time, in which the client builds possible variants of the event regarding how the photo was taken and what happened after that or what happened to the subjects in the picture.
- The photo code is a form of technique that provides for the creation of concise "codes" for an image, describing its essence with the help of a word or phrase, a winged expression, an association with a certain character.
- The photo code is a form of technics, provides creation of laconic "codes" for the image, describing its essence by means of a word or phrases, a popular expression, association with the certain character.
- The photo biography that makes possible personal visual histories of the certain piece of human life.
 - i) "My life"—a way of the description of vital events by means of pictures;
 - ii) "Past-present-future"—the form of the technics, allowing integrating results of experience of the person to accept it, to analyze dynamics of personal variations during a life;
 - iii) "Photo diary", or "picture story"—the form of technics, which intended for the analysis of present short-term events, actual psycho-emotional conditions and their basis;
 - iv) "Photo quest" is a technics which main task consists in selection the image for an actual problem or experience so that the facts, events and consequences was possible to present through sequences of photos;
 - v) "Family album"—the form of technics in which the attention concentrates on the analysis of feelings at a type of the certain photo that, gives more information on the important subjects for a life [25], [26];
- A photograph which objective is actualization of feelings to, expression of self-attitude:
 - i) A self-portrait—the form of work which is based on creation and contemplation of images, their self-assessment and the analysis;
 - ii) A metaphorical self-portrait "Sides of my I" on the basis of associations with own person, for example, (If I was foodstuff/a thing/a genre of film ...);
 - iii) "Starring"—a type of technique based on experimenting with different images and styles within the framework of a photo task, which allows you to know yourself more deeply, get rid of the influence of fears or complexes;
 - iv) "Selfie"—the work is based on the processing of images taken without the intervention of the other party, and the analysis of those in which the person does not like himself (the correction is accompanied by questions like: "What memories, thoughts and feelings do you have when

- contemplating the photo?” , “What do you/your friend/sister/mother like in these pictures?”, “What are the strengths of these photos?” ,“ What should you do to accept and love yourself?”;
- v) “Wish Map” is a variation of a photo collage that highlights the desired ideal of oneself and the way one organizes one’s life; Allowing and stimulating abstract transformations, the technique evokes a sense of freedom and inspiration, ability and readiness for the necessary changes, the embodiment of dreams;
 - vi) A photo clinic is a type of technique used to release tension and relaxation, passively solve psychological problems according to the principle of “flow” of states, and refuse arbitrary concentration;
 - vii) A slide show is a way of visual meditation, the essence of which is the perception of a series of successive photographs;
 - viii) Spontaneous photography is the creation of photographs in the absence of a specific purpose, logic, theme;
 - ix) “Personal portfolio” is a category of technique that embodies the formation of collections that have a positive, encouraging, harmonizing effect.

3. RESULTS AND DISCUSSION

Emotional identification simply means accurately identifying and labeling the emotion you are experiencing in any given moment. It is an important part of emotional intelligence and can be helpful in improving your emotional awareness and regulation. It turns out that being able to identify your emotions is foundational for being able to calm down and tune down the intensity of your emotions. For this reason, emotional identification is often the first step in regulating our emotions. When we identify and label our emotions, we are bringing awareness to what we are feeling, which can help us understand what we are experiencing. People with alexithymia cannot label their emotions. “Toronto Alexithymia Scale (TAS-26)” showed that 37.5% of 240 respondents had no difficulty understanding and verbalizing their own emotions.

However, as you can see in Table 1, 40% of the participants have certain problems with the identification of emotions. It means that 40% of respondents have difficulties with naming emotions, a negative attitude towards their appearance, and generalizations of their experiences connected with a state of fatigue, tension, boredom and “emptiness”, a manifestation of insensitivity to thoughts, poverty of the vocabulary of experiences.

These manifestations determine: an increased level of personal conflict, both in one's own aspirations and in communication with other people; low self-esteem; empathy difficulties; shifting responsibility to others; difficulties with adaptation to the social environment; anxiety; hysteria; physical aggression; body discomfort. In accordance with this, the respondent's data activity is chaotic, diffuse in nature and quickly emotionally saturated, which manifests itself in overeating, smoking, and drinking alcohol. These manifestations lead to difficulties in establishing communication, interactions associated with the separation of feelings, detachment. In addition, building life prospects, they are guided by general ideas about what is better (more profitable, “right”) instead of “I want”.

Table 1. Levels of manifestation of alexithymia among interviewed adolescents

| Low level (%) | Middle level (%) | Above middle level (%) | High level (%) |
|---------------|------------------|------------------------|----------------|
| 37.5 | 22.5 | 17.5 | 22.5 |

The identified indicators of alexithymia among adolescents who were the recipients of our research are the result of a number of factors that collectively affect their emotional identification. That is why there was a need to study their interaction. Within the empirical part of our research, we used the questionnaire “self-Attitude” by Stolin and Panteleiev [23] with the purpose to reveal the level of formation of such factors of alexithymia as self-understanding, self-blaming, self-regulation, self-acceptance, auto-sympathy and self-respect. The results are given in Figure 1.

The generalized indicators state the fact that among the identified factors the auto-sympathy has a high level of formation while the self-confidence has the lowest level of formation. This suggests that despite self-love, adolescents have internal conflicts in the “I”-image. Further interpretation of the received results shows that the level of self-respect of the research participants is opposite proportional to their tendency to alexithymia. We attribute this to the fact that self-respect presupposes a person’s desire to know himself, to find a source of his own energy, to realize his own abilities, verbalize his desires and intentions. Moreover, self-respect prevents the consolidation of traumatic experiences and contributes to their release.

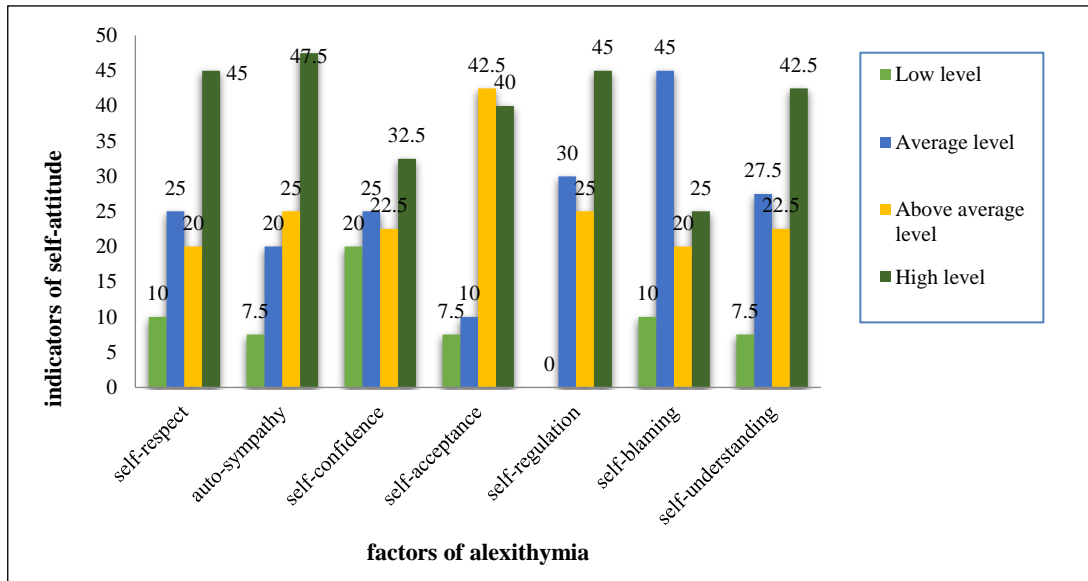


Figure 1. The results of testing 240 participants of the research

In addition, there is a tendency to increase the level of alexithymia at low and medium rates of auto-sympathy and vice versa—a decrease in the percentage of “risk groups” is manifested with manifestations of benevolence towards one's own “I” at levels above average and high. This suggests that a person with this quality perceives the situation according to the father's directive model. Consequently, emotions, before they have time to manifest themselves, suffer from reactive personal opposition, negative attitudes towards themselves.

The previously mentioned interpretation allows us to speak about existence of antonymous poles of the given phenomena of the certain dependence. Non-confident adolescent hardly resists to the requirements of the reality. Rationalization of a choice from the outside and replacement extra of consciousness that leads to loss of feeling of self-value, and, consequently, leveling of other values is inherent in it. Thus, the confidence of acts as the guarantor of protection of adolescents from the conflict of interests, in fact they trust themselves, know the dignity and are not afraid to rely on themselves in case of defeat.

A pronounced tendency to disrupt the process of determining and expressing emotions is present at a low level of self-acceptance and consists in accepting one's shortcomings while maintaining the independence of the self-image from the pole of actual emotions. Therefore, the young individual is able to realize that the experience of any emotions is the norm that does not affect his family, professional and other roles. So, under

certain conditions, adolescents who are prone to anxiety fall into a vicious circle, in the process of which there is a fixation on the problem, where the young individual operates with conjectures and ideas, increases anxiety and blocks the differentiation of signals and understanding the expediency of ways of manifesting experiences.

Self-blame is an ambivalent factor in promoting the alexithymia tendency. Thus, a high level of alexithymia is manifested in respondents with a low level of self-blame. And adolescents with a high level of self-blame also have an active development of emotional identification disorders and its insignificant manifestation. This is due to the typicality of youthful maximalism, which has increased self-criticism, which acts as a means of motivating top-level achievements and stimulating responsibility for improvement. Self-criticism has a sharply negative connotation and can lead to destabilization of the emotional identification of the young individual's personality.

Among the respondents, persons with a low level of self-regulation were identified, which indicates that they are really at the stage of formation of emotional maturity. Based on the available data, we note that self-realization does not have a significant impact on the formation of alexithymia. However, self-regulation is a kind of tool for its prevention. In this regard, we assume that in this case, self-regulation is presented as a link in the internal aspect of emotional intelligence, which is closely related to reflection, abstraction from the state and is not useful in supporting concentration in stressful situations and the formation of a positive realistic attitude to performance.

The final trace element of our analysis is the causal relationship between alexithymia and self-understanding of the subjects. In quantitative data, a certain pattern is clearly presented, where the severity of manifestations of alexithymia increases with the severity of indicators of self-understanding, and the average level of self-comprehension is defined as “borderline”. Already at the level of above-average self-understanding, the depth of emotional recognition disorders is qualitatively reduced.

3.1. Implementation of the phototherapy tool

The results of the conducted diagnostics make it necessary to find ways to solve the problem of emotional identification of young people. Since the need for self-awareness and modeling of life perspectives is intensifying among young people, taking into account the available experience, one of the effective methods of developing emotional identification, in our opinion, is phototherapy.

In accordance with this, we have developed a psycho-correctional program for the development of emotional identification of young men by means of phototherapy. The goal of the program is to develop the ability to emotionally identify and level the intrapersonal factors of inhibition of the process of its effective implementation by means of phototherapy. The task of the psycho-correctional program is aimed at: promoting the analysis of the sensual sphere of young men; molding emotional literacy skills; actualization of the value aspects of the experiences of young men; harmonization of personal attitude towards oneself. The main methods and forms of work during the classes are: interactive mini-lectures, role-playing games, practical exercises, resource exercises to activate attention, phototherapy, homework. The program is designed for 8 lessons lasting 1.5-2 hours 2 times a week.

In order to prove the effectiveness of the psycho-correctional program implemented by us for the development of emotional identification of young men by means of phototherapy, a control section of the level of development of emotional identification of the participants in the experimental group was carried out. Participants in the primary diagnosis who had low rates of emotional identification were involved in the latter. Thus, according to the “Toronto alexithymia scale (TAS-26)”, a positive trend was revealed in reducing the level of alexithymia and developing the ability to understand and verbalize emotions. We results are presented in Table 2.

Table 2. Results of the control cut of the level of the development of alexithymia

| Levels of alexithymia manifestation | Number of respondents (%) | |
|-------------------------------------|---------------------------|--------------------------|
| | Correction group | |
| | Before correction program | After correction program |
| Low | 25 | 0 |
| Above middle | 75 | 0 |
| Middle | 0 | 100 |

The results obtained indicate that after the correctional program, the number recipients with high and above middle levels of alexithymia decreased and the proportion of adolescents with an average level of alexithymia increased. The recipients became more aware of the theoretical aspect of emotional experiences, realized the value of emotions as a phenomenon, overcame internal barriers in expressing feelings and learned to interpret their own emotional signals, process them. Positive dynamics was also observed after the control section on the self-attitude questionnaire of Stolin and Panteleiev [23]. Comparative data before and after implementation of phototherapeutic correction program are given in Figures 2 and 3.

Visualization of the obtained results state the most obvious shifts in the scales of self-confidence and self-understanding, since an increase in the level of their manifestation was noticed in all respondents, which was revealed in the growth of the subjective harmony of their components of the self-concept. Adolescents became more confident, showed the ability to take responsibility for their own lives and not being afraid of the future. Regarding auto-sympathy and self-regulation, an increase in indicators was also recorded, high levels of their manifestation, found as a result of preliminary diagnosis, remained unchanged. Adolescents positively assessed themselves, reduced the level of manifestation of negative attitudes towards their own personality due to reflection and the creation of new stereotypes of thinking and activity.

There was also a dynamic change in self-acceptance (as the degree of its manifestation increased, but there was no increase from above average to high in some participants in the correctional program) and self-esteem (there was no increase in the average level in the proportion of boys). Obviously, self-esteem and self-acceptance are also influenced by other constructs that have not been the subject of correction, for example, the level of claims, the degree of self-realization of the individual, and the like. However, at this stage, all participants in the correctional program are able to maintain a sense of self-worth in the manifestation of a wide range of emotions.

Self-blame has undergone minimal influence, although productive tendencies of corrective work are manifested. As already noted, increased self-criticism is typical for adolescence and is associated with the need to achieve the heights of personal and professional development. The program for the development of emotional identification contributed to an increase in the overall level of emotional literacy, which, in turn, leads to the facilitation of intimate and personal communication, harmonization of the personal development of young men, an increase in proactivity, determination and initiative in building a life plan.

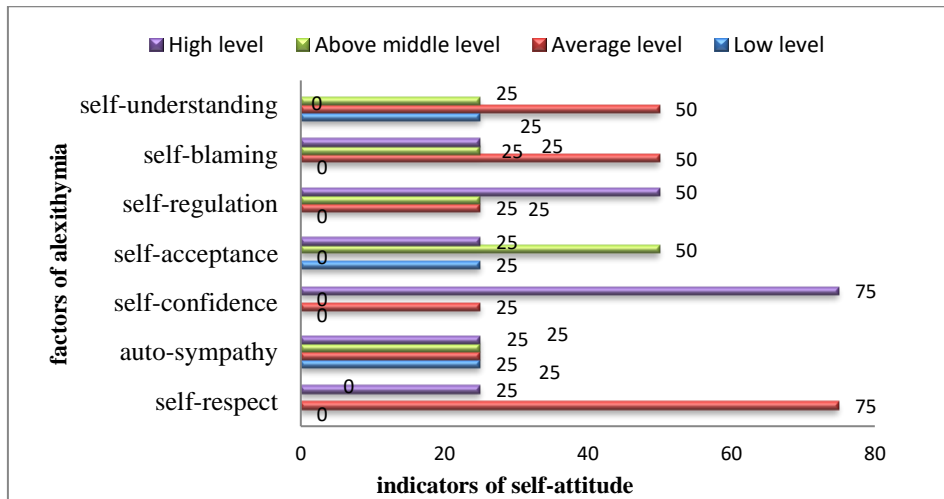


Figure 2. Indicators of self-attitude of participants of correction group before the work in the phototherapy program

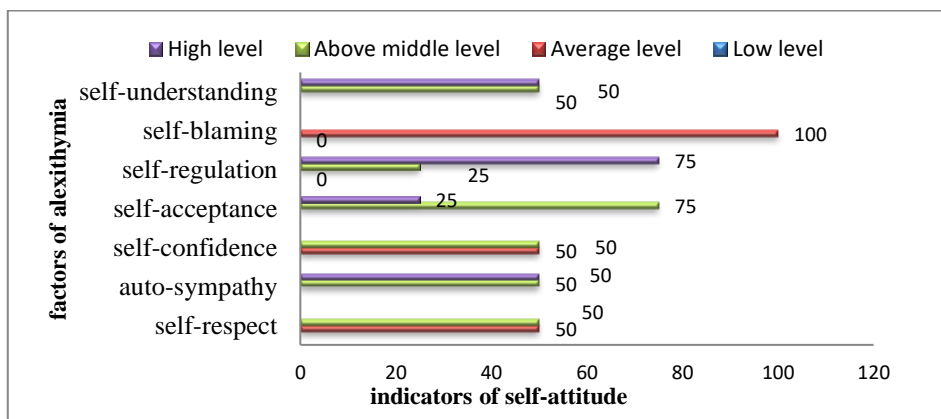


Figure 3. Indicators of self-attitude of participants of correction group after the work in the phototherapy program

Comparative indicators of the dynamics of the development of emotional identification of recipients before and after the introduction of the psycho-correction program are shown in Figure 4. The received results are statistically confirmed by means of Student’s t-test: temp=4.8 at critical values tcr=2.57 ($p \leq 0.05$) and tcr=4.03 ($p \leq 0.01$), that testifies, that temp gets in a zone of the importance as temp < tcr ($p \leq 0,01$), that confirms efficiency of application of phototherapy working with the problems of emotional identification at young age.

The limitation of the research lies in the fact that we did not make any gender selection of recipients’ tests, but some researchers mention the facts of gender differences in emotional sphere. Thus, Lennarz *et al.* [22] suggest that gender differences exist between the intensity of negative emotions and emotional strategies. The other issue for the discussion is individual acceptance of phototherapy. It was noticed during the research that an exception for this type of psycho-correction is persons with an increased tendency “to get stuck”.

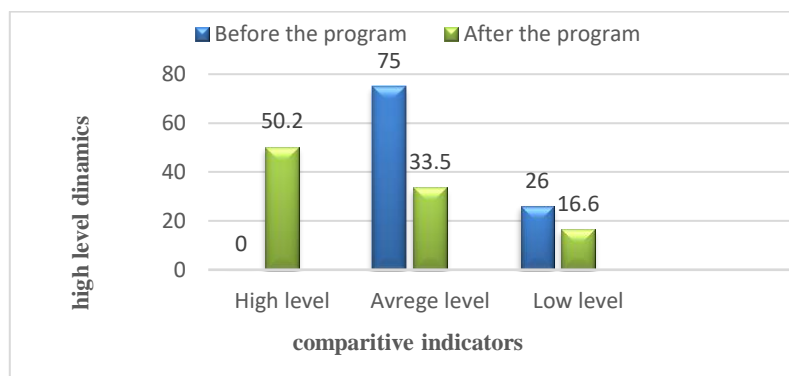


Figure 4. Comparative indicators of the dynamics of the development of emotional identification

3.2. Practical recommendation to school and university psychologists

Theoretical psychological research can be applied in the education of adolescents through the implementation of strategies that influence their emotional development and help educators design learning activities that take into account the self-consciousness and emotional intensity typical of this stage of development. Here are some practical recommendations for implementation:

- i) With an increase in the level of emotional identification, along with the development of reflection, it is necessary to provide adolescents with tools for expressing identified experiences, namely: to expand the lexical range for emotive categories, to demonstrate practical techniques for constructive expression of emotions to prevent the “boomerang effect” in direct communication; contribute to reducing the level of conformity and stimulate the formation of independence.
- ii) Individuals with a sufficient level of formation of emotional identification in the process of building a life project may be covered by fears of change and uncertainty, a new model of life. To prevent the leveling of the results of psychological assistance for young individuals, the possibility of stable feedback is important.
- iii) Actually, for young individuals with a low and medium level of development of emotional identification, we recommend keeping a diary, regularly recording the states that they experience, analyzing their character, the intensity of the manifestation of emotions and feelings; causes, subjects that could influence them; features of one's own behavior in specific life situations. Carrying out this technique, the individual learns to name his experiences, analyzes the ratio of the objective and subjective, “draws up” goals for development. In addition, there is a release of tension, the development of internal speech, which contributes to the effective exteriorization of thoughts in communication.
- iv) A variant of the method from the perspective of phototherapy is blogging on social networks, if the young person is ready for potential unconstructive criticism.
- v) To maintain a sufficient and high level of emotional identification, meditative techniques for creating random photos and using slideshows are useful, which allow to reduce the influence of extraneous factors and listen to internal body and emotional signals. It is necessary to ask yourself the question more often: “What do I want?”, “What do I need?”, “Why?”, “How will I feel when I achieve this?”, “What can I do for this right now?” They help to maintain control over automatic thoughts and impulsive reactions, separate personal emotional boundaries and protect their independence. You can also create your own mood board or wish map. This will stimulate vigorous activity and put things in order in thoughts.

The further development of our research will be of practical importance for the international community of educators. We plan to draw attention to the fact that in different countries there are different approaches to the caring for the psychological state of adolescents [27], and some techniques of providing psychological help are more popular, some are less popular, but they are all effective, therefore, it would be appropriate to make a cultural comparative analysis. Learning from others and not shying away from the local techniques is our approach to the further research.

4. CONCLUSION

The results of the research showed that the majority of the studied sample is in a state of emotional well-being. Anyway, emotional discomfort occurred among 40% of respondents with certain levels of propensity for alexithymia. Those adolescents had difficulties in naming emotions, indicating false and true

experiences, conditional classification of emotions, understanding the connection between emotions and their causes. Based on the received data, we note, that self-realization does not have a significant impact on the formation of alexithymia. The respondents with a low level of self-blame manifest a high level of alexithymia. The empirical study proved that manifestations of alexithymia increase with the severity of indicators of self-understanding. The inability of the adolescents to control the desire for pleasures and impressions, the expression of negative emotions, emotional intimacy and empathy, frustration towards self-actualization of the personality were registered as side effects of emotional identification disorders.

The research proves that when a school or higher institution psychologist works with adolescents who have the problems of emotional identification, it is advisable to use phototherapy as a psychotherapeutic training method. Research has shown statistically meaningful dynamics of progress of emotional identification of adolescents by means of phototherapy because it provokes the reaction of unfulfilled needs, unmanifested emotions, unconstructive ideas about oneself and others. The results obtained indicate that after the correctional program, the number recipients with high and above middle levels of alexithymia decreased and the proportion of adolescents with an average level of alexithymia increased. The recipients became more aware of the theoretical aspect of emotional experiences, realized the value of emotions as a phenomenon, overcame internal barriers in expressing feelings and learned to interpret their own emotional signals, process them. By resorting to the use of photo and video materials, the psychologist will relieve tension, exteriorize conflicts hidden in the subconscious, and achieve a resourceful state. Besides, photography contributes to the enrichment of the creative potential of young individuals, which acts as a trigger for the development of cognitive regulation, due to which the dynamisms acquired in the process of correctional work are consolidated.




REFERENCES

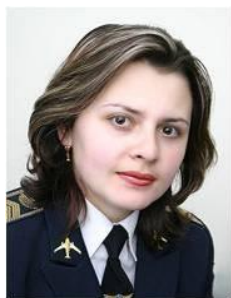
- [1] J. Renaud, M. T. Berlim, A. McGirr, M. Tousignant, and G. Turecki, "Current psychiatric morbidity, aggression/impulsivity, and personality dimensions in child and adolescent suicide: A case-control study," *Journal of Affective Disorders*, vol. 105, no. 1–3, pp. 221–228, Jan. 2008, doi: 10.1016/j.jad.2007.05.013.
- [2] D. A. Silva N and M. B. Valdivia, "Estudio comparativo de dos escalas de depresión en relación al intento de suicidio en adolescentes no consultantes," *Revista chilena de neuro-psiquiatría*, vol. 51, no. 1, pp. 10–15, Mar. 2013, doi: 10.4067/S0717-92272013000100002.
- [3] D. Silva, B. Vicente, E. Arévalo, R. Dapelo, and C. Soto, "Intento de suicidio y factores de riesgo en una muestra de adolescentes escolarizados de Chile," *Revista de Psicopatología y Psicología Clínica*, vol. 22, no. 1, p. 33, Apr. 2017, doi: 10.5944/rppc.vol.22.num.1.2017.16170.
- [4] L. Salvo G and A. Castro S, "Soledad, impulsividad, consumo de alcohol y su relación con suicidalidad en adolescentes," *Revista médica de Chile*, vol. 141, no. 4, pp. 428–434, Apr. 2013, doi: 10.4067/S0034-98872013000400002.
- [5] N. A. L. Ati, M. D. Paraswati, and H. D. Windarwati, "What are the risk factors and protective factors of suicidal behavior in adolescents? A systematic review," *Journal of Child and Adolescent Psychiatric Nursing*, vol. 34, no. 1, pp. 7–18, Feb. 2021, doi: 10.1111/jcap.12295.
- [6] D. A. Ross *et al.*, "Adolescent Well-Being: A Definition and Conceptual Framework," *Journal of Adolescent Health*, vol. 67, no. 4, pp. 472–476, Oct. 2020, doi: 10.1016/j.jadohealth.2020.06.042.
- [7] S. Halliday, A. Taylor, D. Turnbull, and T. Gregory, "The relationship between early adolescent cyberbullying victimization and later emotional wellbeing and academic achievement," *Psychology in the Schools*, vol. 60, no. 12, pp. 5281–5301, Dec. 2023, doi: 10.1002/pits.23032.
- [8] K. Yavna, Y. Sinelnichenko, T. Zhuravel, W. Yule, and M. Rosenthal, "Teaching Recovery Techniques (TRT) to Ukrainian children and adolescents to self-manage post-traumatic stress disorder (PTSD) symptoms following the Russian invasion of Ukraine in 2022 – The first 7 months," *Journal of Affective Disorders*, vol. 351, pp. 243–249, Apr. 2024, doi: 10.1016/j.jad.2024.01.206.
- [9] R. Hadchiti, E. Frenette, M. Dussault, A.-A. Deschênes, and E. Poirel, "Processus d'élaboration et de validation d'un questionnaire portant sur le développement des compétences émotionnelles lors du mentorat," *European Review of Applied Psychology*, vol. 71, no. 4, p. 100651, Jul. 2021, doi: 10.1016/j.erap.2021.100651.
- [10] Z. A. Manindjo, V. Anindhita, and F. A. Abidin, "Parental psychological control, autonomy frustration, and psychological well-being among boarding school adolescents," *Journal of Education and Learning (EduLearn)*, vol. 17, no. 2, pp. 262–270, May 2023, doi: 10.11591/edulearn.v17i2.20734.
- [11] T.-V. Giang, V.-S. Huynh, T.-T. Do, and M.-H. Mai, "Factors affecting the social and emotional health of adolescents: A cross-sectional study in Vietnam," *Heliyon*, vol. 9, no. 3, p. e14717, Mar. 2023, doi: 10.1016/j.heliyon.2023.e14717.
- [12] J. Ginicola, Misty M., Smith, C. & Trzaska, "Using photography in counseling: Images of healing," *The international journal of the image*, vol. 2, no. 2, pp. 29–44, 2012.
- [13] R. Stevens and E. H. Spears, "Incorporating Photography as a Therapeutic Tool in Counseling," *Journal of Creativity in Mental Health*, vol. 4, no. 1, pp. 3–16, Mar. 2009, doi: 10.1080/15401380802708767.
- [14] M. K. Schmidt, J. L. Murdock Bishop, and K. Becker, "Using Photography to Enhance Development of Self, Professional Identity, and Multicultural Awareness," *Journal of Creativity in Mental Health*, vol. 14, no. 1, pp. 105–114, Jan. 2019, doi: 10.1080/15401383.2018.1534630.
- [15] Z. Shechtman and I. Tsegahun, "Phototherapy to enhance self-disclosure and client–therapist alliance in an intake interview with Ethiopian immigrants to Israel," *Psychotherapy Research*, vol. 14, no. 3, pp. 367–377, Sep. 2004, doi: 10.1093/ptr/kph030.
- [16] M. Kılı Soyler, "Visual Literacy, Psychological Counseling and Phototherapy: A Model Application," *TED EĞİTİM VE BİLİM*, pp. 231–240, Oct. 2015, doi: 10.15390/EB.2015.2798.
- [17] R. C. Ziller, "Self-counseling through re-authored photo-self-narratives," *Counselling Psychology Quarterly*, vol. 13, no. 3, pp. 265–278, Sep. 2000, doi: 10.1080/095150700300091884.




- [18] D. López-Ruiz and M. D. López-Martínez, "Fototerapia como narrativa visual: Aplicación en violencia de género," *Estudios sobre el Mensaje Periodístico*, vol. 25, no. 1, pp. 317–334, Mar. 2019, doi: 10.5209/ESMP.63731.
- [19] H. Mukhlis *et al.*, "A current study of psychological well-being in educational institutions: A systematic literature review," *Journal of Education and Learning (EduLearn)*, vol. 18, no. 2, pp. 382–390, 2024, doi: 10.11591/edulearn.v18i2.21136.
- [20] M. Imani and G. A. Montazer, "A survey of emotion recognition methods with emphasis on E-Learning environments," *Journal of Network and Computer Applications*, vol. 147, p. 102423, Dec. 2019, doi: 10.1016/j.jnca.2019.102423.
- [21] C. Rieffe, P. Oosterveld, A. C. Miers, M. Meerum Terwogt, and V. Ly, "Emotion awareness and internalising symptoms in children and adolescents: The Emotion Awareness Questionnaire revised," *Personality and Individual Differences*, vol. 45, no. 8, pp. 756–761, Dec. 2008, doi: 10.1016/j.paid.2008.08.001.
- [22] H. K. Lennarz, T. Hollenstein, A. Lichtwarck-Aschoff, E. Kuntsche, and I. Granic, "Emotion regulation in action: Use, selection, and success of emotion regulation in adolescents' daily lives," *International Journal of Behavioral Development*, vol. 43, no. 1, pp. 1–11, Jan. 2019, doi: 10.1177/0165025418755540.
- [23] "Test questineer of self-attitude" (Stolin, Panteleiv) - Online Test Pad. Accessed: Apr. 4, 2022. [Online]. Available: <https://onlinetestpad.com/ru/test/17-test>
- [24] J. Weiser, "PhotoTherapy techniques in counselling and therapy -- using ordinary snapshots and photo-interactions to help clients heal their lives," *The Canadian Art Therapy Association Journal*, vol. 17, no. 2, pp. 23–53, 2004, doi: 10.1080/08322473.2004.11432263
- [25] K. L. Star and J. A. Cox, "The Use of Phototherapy in Couples and Family Counseling," *Journal of Creativity in Mental Health*, vol. 3, no. 4, pp. 373–382, Dec. 2008, doi: 10.1080/15401380802527472.
- [26] V. Motamedi, "Family environment on emotional, social, and academic adaptation of adolescents: A study of middle school students," *Journal of Education and Learning (EduLearn)*, vol. 14, no. 4, pp. 550–557, Nov. 2020, doi: 10.11591/edulearn.v14i4.16629.
- [27] L. Bosakova, Z. Dankulincova Veselska, and D. Filakovska Bobakova, "How to improve the system of care for adolescents with emotional and behavioural problems from the perspective of care providers: a concept mapping approach," *Health Research Policy and Systems*, vol. 22, no. 1, p. 9, Jan. 2024, doi: 10.1186/s12961-023-01096-1.

BIOGRAPHIES OF AUTHORS






Olena Tyron    Associate Professor, PHD in educational psychology, the author of more than 50 scientific articles and manuals. Spheres of scientific interest are psycholinguistics, methods of teaching English, cultural and communicative theories. Member of APA (American psychological association), IMLA (International Maritime Lecturers Association) and TESOL Ukraine (Teaching English for Speakers of Other Languages). Teach psychological subjects in English and ESP for future seafarers. Take part in international projects of State University of Infrastructure and Technologies, Kyiv, Ukraine. She can be contacted at email: tyronolena@gmail.com.



Ludmyla Dotsenko    Associate Professor, PHD in practical psychology. The author of about 50 scientific articles and manuals. The member of the board of editors of the scientific journal "Visnik of National avio university". Worked in international scientific project "Tempus Elite". Work as a lecturer of psychology and a counsellor. Spheres of scientific interest are social psychology, cultural and communicative theories, therapeutic counselling. She can be contacted at email: dotsen@i.ua.



Inna Kariaka    Associate Professor, PHD in educational psychology. The author of more than 40 scientific articles. Spheres of scientific interest are school and preschool psychology, psychological counselling of adolescents. Worked as the Head of children musical school, and now is a lecturer of different subjects in psychology at Kyiv National Linguistic University of Infrastructure and a counsellor. She can be contacted at email: in@ukr.net.