

Personal maturity of students-future ecologists as a psychosocial phenomenon

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Abstract. Eco-friendly processes are sustainability, environmental economics, natural resource management, referring to guidelines and policies that claim no harm upon the environment or ecosystems. In this study we will focus to a large extent upon a personality maturity concept in the context of ecology and psychology of environmentally responsible behavior issues. The structure of personal maturity is described. The purpose of the study is to analyze aspects of personal growth during student years in terms of environmental education, namely the development of personal maturity, which is the fundamental condition for successful self-realization in the future. The methods of given study are theoretical analysis and empirical research of personal maturity of students-future ecologists. In the practical part of the work, an analysis of the results of an empirical study was carried out to identify the characteristics of personal maturity. The following methods are used in the empirical study: personal maturity test questionnaire Yu.Z. Gilbukh, M. Scher and J. Maddux. According to the test for determining the level of self-efficacy most of respondents had low estimates of interpersonal self-efficacy. Thus, in general personal maturity and perfectionism are interconnected: the higher the personal maturity, the lower the level of perfectionism of students.

1 Introduction

One of the main periods in a person's life is student age. During this period it is common to make plans for the future, as well as a choice in favor of a potential profession, develop and improve in this direction that forms a sense of adulthood and identity [1]. Their educational and professional achievements are significant, which contribute to the formation of confidence in their capabilities in future activities, and also confer the basis for successful self-realization.

The major aspects of personality growth during student years is the development of personal maturity, which is the fundamental condition for successful self-realization in the future [2].

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Studying at a university requires the ability to independently organize educational activities, which is a necessary condition for the successful acquisition of knowledge.

During the university training period, future ecologists' skills and ability to rationally organize mental activity are formed, the vocation for self-determination is realized, and a system of important personality qualities is established.

An important feature of personal development during this period is the formation of a personal construct of maturity, manifested in a sense of adulthood, readiness to function in the adult world, and self-determination through a reevaluation of the value system. During this age period, the level of formation of mental and social maturity is the basis for identifying personal maturity [3].

Students are distinguished by the highest educational level, the most active consumption of culture and a high level of cognitive motivation [4].

Representatives of the first approach consider personal maturity from the point of view of age periodization. Members of the second approach study personal maturity as a qualitative characteristic of an individual's development.

Clyde Sullivan, Grant Marguerite Q., Grant J. Douglas consider a basic core structure of personality. Personal maturity is the level of development of one's personal properties, abilities in the context of social interactions [5]. They described psychological development in terms of successive levels of integrations of: « separateness, nonself, differences, rules, conflict and response, continuity, self-consistency and relativity, movement, and change » [5, p. 373]. Each integration level should be considered in terms of « developmental aspects, general characteristics and problems of adults who have remained at specific levels, and character and problems of the delinquent integration at these level » [5, p.373].

K. A. Abulkhanova-Slavskaya also denies the age-based approach to personality maturity. One should pay attention to her statement regarding the relationship between personal maturity and his life. K. A. Abulkhanova-Slavskaya writes in the book "Life Strategy": "the age approach focuses primarily on comparing all ages, without taking into account the different lifestyles of individuals within each age. One can become a mature person at a fairly young age, but remain immature in old age" [6, p. 21]. Indeed, such a phenomenon and its examples in the modern world find a lot of confirmation of the scientist's opinion.

Representatives of different eras, social minorities, members of different professions put various content into the concept of maturity. Ones of our time, scientists say that they are characterized by a certain level of development of human consciousness, their assessments and judgments, regulation of actions, attitude to the surrounding reality, people in the process of inter-individual connections, regulated norms of behavior put forward by society to an adult. P. Jacobson writes that "personality maturity is social one that is expressed in how adequately persons understands their place in society, what is their attitude towards society and social institutions (moral norms, rights, social values), to their duties, work" [7, p. 41].

2 Materials and Methods

The purpose of the study is the theoretical analysis and empirical study of students-future ecologists' personal maturity.

The object of the study is the personal maturity of students-future ecologists.

The subject of the study is personal maturity as a factor of students' perfectionism.

The following hypothesis is : we suppose that there is a relationship between personal personality and perfectionism in students-future ecologists.

The following research objectives are:

1. To conduct a theoretical analysis on the problem of students-future ecologists' personal maturity.

2. To make an empirical study and identify the relationship between personality maturity and perfectionism among students-future ecologists.

To test the hypotheses and solve research problems, the following groups of methods were used in the work:

a) theoretical analysis of scientific sources - analysis of psychological literature on the topic of research, systematization, generalization and synthesis of the scientific ideas contained in it.

b) empirical research using methods, qualitative analysis, descriptive methods, methods of mathematical statistics

The following methods are used in the empirical study:

1. Personal maturity test questionnaire Yu.Z. Gilbukh;

2. Test for determining the level of self-efficacy of M. Scheer and J. Maddux in adaptation of A. V. Boyarintseva.

3. Methods of descriptive and mathematical statistics.

The following concepts are the theoretical and methodological basis of the study: personality maturity theory (K.A. Abulkhanova-Slavskaya, P.M. Yakobson, S.D. Maksimenko, L.V. Potapchuk); phenomenon of perfectionism (F. Nietzsche, S. Freud, A. Adler, K. Horney, M. Holender, D. Barnes, G. Frost, W. Parkek, K. Adkins, L.A. Danilevich, N.G. Garyanyan, A.B. Kholmogorov, I. Gracheva, B.M. Teplov).

The fundamental theoretical basis for the study of personal maturity in our paper was the work of domestic scientists B.G. Ananyev, L.S. Vygotsky, V.V. Davydov, P.F. Kapterev, A.N. Leontyev, S.L. Rubinshteyn, D. B. Elkonin and others, as well as studies of foreign scientists A. Maslow, G. Allport, W. Frankl, Z. Freud, E. Fromm, E. Erikson and others. If previous scientists considered personal maturity from the perspective of physiology and human activity, then the representative of the next approach P. M. Yakobson considers personal maturity as a socio-historical phenomenon.

William A. Reiners, Derek S. Reiners, Jeffrey A. Lockwood consider traits of a good ecologist [8]. They study the relationship between environmental advocacy, values, and science [9].

Experimental base: the study was conducted at the Sevastopol State University of city of Sevastopol.

Sample: 2-3 year students of Sevastopol State University took part in the study. The empirical study involved 30 people (students - future ecologists) aged 19 to 21 years.

3 Results

3.1 A personal maturity as a stage of psychosocial development

Representatives of the psychoanalytic approach consider personality maturity as a person's desire to work, creating something useful and valuable, and the desire to love another person for their sake. K. Jung defines a person's desire to work towards the process of "individuation" maturity, when a person begins to realize their original and complete essence, purpose [10]. G. Allport was one of the first to consider an adult as a truly adult. And it highlights the following components [11].

One can also consider personal maturity as a stage of psychosocial development by E. Erikson. Where a person on one's way encounters a crisis and its resolution or non-resolution leads to a choice between maturity, health and regression; personal growth, self-determination and neurosis [12].

That is, a person who successfully resolves crises that provide development becomes more personally mature. Erikson identified the following qualities of a mature personality: individuality, independence, and distinctive character [12].

Ecologist is a person who believes that the environment and natural resources should be preserved and used in a sensible way. To become an ecologist, one needs: a desire to protect the environment (with a balanced approach to the issues); an inquisitive mind; to be patient, accurate and methodical in doing experiments; communication skills.

Ecologists generally “agree on the traits they would expect for a good tax accountant, physician or attorney. They would expect relevant skills, professional experience and ethical performance” [8, p.2]. To be a good Ecologist is influenced by “their individual perspectives as well as self-actualization. Furthermore, their perspectives are linked to their experiences, education, training and the nature of their particular practice of ecology” [8, p.2].

The concept of “self-actualization” correlates with personal maturity, i.e. with the development of the personal capabilities of each individual, self-improvement in the sphere of life, as well as the realization of their potential in the professional field - ecology. That is, the concept of a “personally mature individual” can be considered as “a person who has reached an effective level of functioning”. self-awareness of our own value systems will make us better scientists [13].

In his pyramid, the “need for self-actualization” is the highest level of human needs, namely A. Maslow attributed to it: personal maturity, “psychological health,” “psychological maturity”, its high psychological culture, sufficient education and sociality [13].

For an ecologist, achieving self-actualization is to obtain the highest level of human needs – personal maturity.

L.A. Golovey associated the formation of personal maturity with overcoming crises at every stage of one’s life and, as a result, to the formation of such qualities as: self-acceptance and self-respect, independence, personal responsibility, resilience [14]. But the difference in her work was due to the fact that personal maturity is a criterion for the personality development of only an adult, namely: the ability to accept responsibility, the breadth of connections with the world, awareness, reflection, and the ability to build positive interpersonal relationships [15].

We agree with P.M. Hal’perin that the determination of the degree of maturity of an individual is established in the ratio of the assessment of his actions in the system of relations necessary in a given society, according to the indicators of how well a person copes with the activities intended for them [16].

According to D. A. Leontyev, the ability to take responsibility for one’s personal choice is the basis of personal maturity. He also introduces the concept of “self-determination,” which leads to the process of development [17].

By personal maturity B.G. Ananyev understood self-control and the acquisition of adequate reactions in various situations in a person’s life [3]. “It is characteristic of a mature personality not only to adapt to any environment, but also to actively shape this environment in accordance with one’s individuality” G. Ananyev [3, p. 71]. He called this environment “one’s own development environment,” and pointed out that personal maturity includes three components:

- 1) personal component, which includes: the value system, orientation, motives of the individual;

- 2) the reflexive component contains the achieved ego identity;

- 3) functional, that is, the ability to self-organize.

Depending on the development and fullness of each of these components, one can say about the degree of personal maturity of future ecologists.

The criteria for manifestations of personal maturity of students- future ecologists are: interpersonal activity, self-regulation, independence, creativity, intellectuality, interpersonal constructive activity, communication, tolerance, morality, responsibility, ego identity, self-acceptance, self-actualization [15].

Having gone through the path of self-knowledge, a person develop one's own system of values, goals and beliefs by means of ego-identity, which determine mature forms of personal self-regulation, the presence of internal self-reliance and provide a sense of meaning and direction in life.

3.2 A phenomenon of personal maturity as a desire to achieve the highest results

The phenomenon of personal maturity is a complex multidimensional phenomenon. All formed components can obtain various levels of formation in their development.

In the philosophical encyclopedia, perfection is the highest standard, showing the relationship between goals and the results of a person's efforts. In Ethics the concept of perfection are considered through the concept of a moral ideal. In the process of formation of readiness for professional activities of ecologists, a significant role is played by perfectionist attitudes, expressed in self-improvement, constant personal development and self-actualization. Achievement of motivation is considered as "the desire to compete with oneself (self-excellence) in achieving higher results", the technique of success and failure, the ability to effectively plan goals [18]. Professionally important personal qualities are an important element in the combination of motivation achievement and perfectionistic attitudes. Reflection, in turn, acts as a mediator in the transition of perfectionism from the desire to achieve the highest results to the development of professional qualities of the individual, as a result of assessing one's own mental states, actions and self-knowledge.

Transformations of the intellectual system are carried out under the influence of numerous factors. One of them is professional and educational activity, which determines the high level of the intellect [1].

It should be noted that in the sphere of interpersonal interaction during the student period, two polar directions appear, among which, firstly, the expansion of the area of communication with other people and the increase in the number of interpersonal contacts, and secondly, the increasing desire for individualization [19].

The changes that occur at this age stage, namely the formation of person's ideological positions, focus on the future, as well as their achievement of values of creative abilities [20], which determine the desire for self-realization in professional and interpersonal spheres, can contribute to perfectionist tendencies as formation a form of students-future ecologists' personal maturity.

4 Discussion

In order to test the hypothesis to diagnose the developmental features of the components of personal maturity, we used the following methodology: "Test-questionnaire of personal maturity Yu.Z. Gilbuk», allows to determine the level of personal maturity. This methodology was included in the experimental study on the basis that the components of maturity considered by this author correspond to the key elements that we identified in the process of theoretical analysis: achievement motivation, attitude towards one's self, life attitude and the ability to psychological intimacy with another person. The methods of mathematical statistics are used in the empirical study as well.

One should characterize the above mentioned research methods.

1. The method of Yu. Z. Gilbukh [21] is aimed at diagnosing five aspects of personal maturity: achievement motivation (focus on significant life goals, the desire for self-realization, independence, initiative); attitude towards “Myself” concept (confidence in one’s capabilities, satisfaction with character, abilities); a sense of public duty (patriotism, collectivism, a sense of professional responsibility); life attitude (emotional balance, sanity); abilities for psychological intimacy with other people (kindness, empathy, listening skills, need for spiritual intimacy) [21].

The questionnaire consists of 33 questions (for example, “In relation to trust in people, I adhere to the principle that ...”, “My attitude towards the world as a whole is that ...”), each of which contains 7 answer options. The subject needs to choose one option that is most suitable. Answers are graded according to the key. Each scale has its own levels of maturity in numerical terms. The overall level is assessed by the sum of points on all scales [21].

The following level assessments of personal maturity have been set based on theoretical considerations and some empirical data: (+99) – (+75) – very high level; (+74) – (+50) – high; (+49) – (+25) – satisfactory; less (+25) – unsatisfactory.

2. Test for determining the level of self-efficacy of M. Scheer and J. Maddux in adaptation of A. V. Boyarintseva. The purpose of the self-efficacy test is to diagnose the level of self-efficacy in the field of subject activity and in the field of interpersonal communication [22].

Processing and interpretation of results: The sum of the scores of the first 17 statements shows the level of self-efficacy in the field of subject activity, and from the 18th to the 23rd statement - in the field of interpersonal communication.

Points are calculated after changing the sign to the opposite before the marked number in the statements: 2, 4, 5, 6, 7, 10, 11, 12, 16, 17, 18, 20, 21, 22. The average values of the level of self-efficacy are located in the range from -7 to +53 points, and in the field of communication - in the range from +7 to +15. Thus, indicators that are above the specified limits indicate either an underestimation of potential in a particular area of life, or an overestimation [22].

The empirical study was conducted from 2022 to 2023 in Sevastopol State University. A diagnostic study of personal maturity in students was carried out using the methods described above. The obtained results of the method of Yu. Z. Gilbukh are clearly presented in Figure 1 (in percent). A sample is 2nd-3rd year students (30 people) took part in the pedagogical experiment.

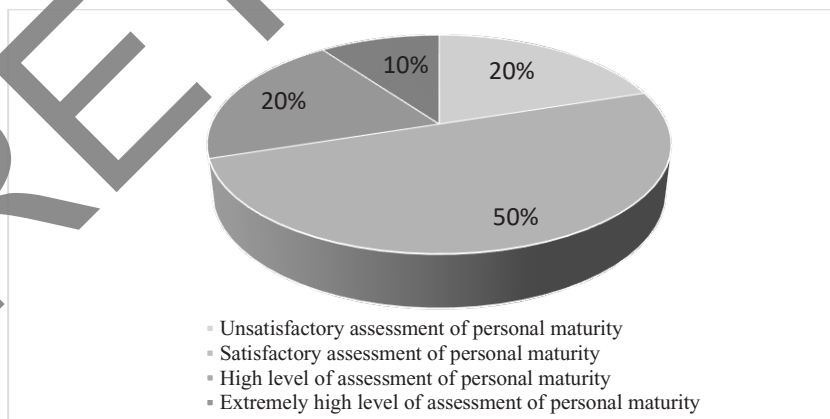


Fig. 1. The results of the method of Yu. Z. Gilbukh

Based on the results obtained, we can conclude that when diagnosing personal maturity using the Yu.Z. Gilbukh questionnaire, it was revealed that 20% of the sample (6 people)

was characterized by an unsatisfactory assessment of personal maturity. These students are dissatisfied with their abilities, skills, and knowledge.

50% of the sample (15 people) had a satisfactory assessment of personal maturity. They are characterized by satisfaction with their personal qualities, but sometimes they behave disrespectfully towards others. This group of students always tries to achieve their goal, and if they fail, they can easily change it.

A high level of personal maturity is characteristic of 6 students (20%) and very high or extremely high for 3 students, which is 10% of the entire sample. This suggests that such students quite often act as initiators and have adequate self-esteem. Such people, as a rule, are professionally responsible and interested in socio-political activities. In difficult situations, they do not give in to emotions, unlike students with a satisfactory level of personal maturity.

We can present the results of the test for determining the level of self-efficacy of M. Scheer and J. Maddux in the figure 2.

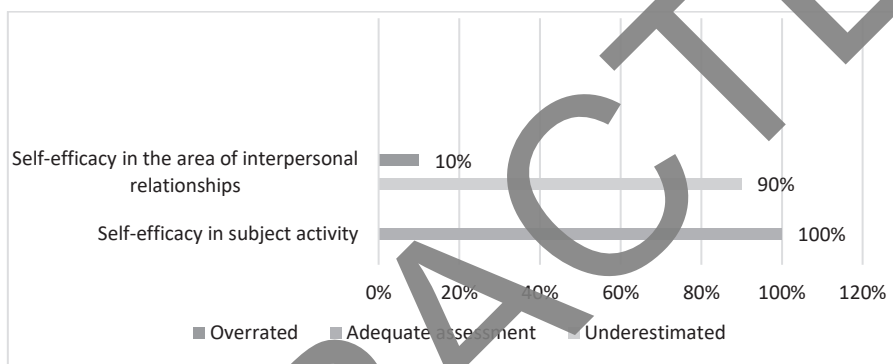


Fig. 2. Diagnostic results using the method of determining the level of self-efficacy of M. Scheer and J. Maddux (in percent)

Based on the results obtained, we can conclude that for all students (30 people), the self-efficacy indicator for subject activity is within the average range. These subjects evaluate the results of their activities situationally, and they also see certain shortcomings in their activities and their results.

Most of respondents had low estimates of interpersonal self-efficacy (21 students). They assess themselves as people with a low level of communication, incapable of communication, with a narrow circle of contacts, and undeveloped communication skills.

10% (3 people) believe that they achieve high efficiency in communication, they are always friendly, sociable, they have a wide circle of contacts, and all communication and communication skills are well developed. This indicates that these students have the confidence that they have a sufficiently high communicative potential and experience, which allows them to have various means of communication and effectively implement them.

Thus, we can conclude that the majority (80%) of students have already developed personal maturity. They are independent and strive to achieve high results in activities that are important to them. The rest (20%) of the subjects have an unsatisfactory level of personal maturity.

5 Conclusions

In order to summarize, it should be emphasized that the conducted empirical study was aimed at a diagnostic study of future ecologists' personal maturity and perfectionism among. To study the level of personal maturity among students, a diagnosis was carried out using the method of Yu. Z. Gilbukh, aimed at diagnosing five aspects; it was revealed that among students, 20% of the sample (6 people) was characterized by an unsatisfactory assessment of personal maturity. 50% of the sample (15 people) had a satisfactory assessment of personal maturity. They are characterized by satisfaction with personal qualities, but sometimes they behave disrespectfully towards others. A high level of personal maturity is characteristic of 6 students (20%) and very high or extremely high for 3 students, which is 10% of the entire sample.

Thus, in the course of the empirical study, it was revealed that personal maturity and perfectionism are interconnected; the higher the personal maturity, the lower the level of students' perfectionism, which confirms the hypothesis put forward at the beginning of the work.

References

1. O. Golovko, A. Mikhaylova, V. Ley, E3S Web of Conferences, **389**, 08008 (2023).
2. O. Kruchina, A. Mikhaylova, E3S Web of Conferences, **110**, 02004 (2019).
3. B. G. Ananiev, Man as an object of knowledge, St. Petersburg: Peter, 288, (2010).
4. N. P. Andryushkova, News of Irkutsk State University. Series Psychology. **4**, 3-10 (2022).
5. C. Sullivan, G. Q. Marguerite, G. J. Douglas. *The Development of Interpersonal Maturity: Applications to Delinquency*. Psychiatry Interpersonal & Biological Processes. 373-385 <https://doi.org/10.1080/00332747.1957.11023102> (2016)
6. K. A. Abulkhanova-Slavskaya, Life strategy. M.: Mysl, 299 p. (1991).
7. P. M. Jakobson, Psychological Journal, **4**, 141–149 (1981).
8. A. W. Reiners, D. S. Reiners, A. Jeffrey, Ecosphere. **4**, 7, 1-22 (2013) <https://doi.org/10.1890/ES13-00025.1>
9. D. S. Reiners, W. A. Reiners, A. Jeffrey, Ecological Applications. Lockwood. **23**, 5, 1226-1242 (2013). <https://doi.org/10.1890/12-1695.1>
10. K. G. Jung Psychological types. Minsk: "Harvest", 528 p. (2017).
11. A. Bem, Personality Theories: Development, Growth, and Diversity. Oxon: Routledge. 414 p. (2016).
12. E. H. Erikson, J. M. Erikson, The Life Cycle Completed: Extended Version. W. W. Norton, 112–113 (1998).
13. A. H. Maslow. Motivation and Personality, 3rd Edition. Ed. By R. Frager, J. Fadiman, Cynthia McReynolds, Ruth Cox: Longman. 336 p. (1987).
14. L. A. Golovey Psychological maturity of the individual, Ed. L.A. Golovey. St. Petersburg: Skifia-print, St. Petersburg State University, 240 p. (2014).
15. S. Mirontseva, A. Mikhaylova, A. Grischuk, Tolerance and Emotional Intelligence Indicators as Transportation Specialist Requirements. Lecture Notes in Networks and Systems. **706**, LNNS, 496–504 https://doi.org/10.1007/978-3-031-36960-5_56 (2023).
16. P. Ya. Gal'perin, Experience in studying the formation of mental actions. Moscow University Psychology Bulletin, **4**, 3–20. (2017).

17. D. A. Leontiev, Personal maturity as a mediator of personal growth. Cultural-historical psychology of development: materials from the first readings in memory of L.S. Vygotsky. M., 154–161 (2001).
18. Ye. S. Vitulyova, K. N. Kadyrzhan, S. B. Kabdushev, A. S. Bakirov, M. V. Kostsova, A. V. Grishina, I. E. Sileimenov, *Aromatherapeutic correction of psychoemotional state as a means of promoting an ecological worldview*. XV International Scientific Conference “INTERAGROMASH 2022”. Springer, 1145-1152. (2023).
19. A. G. Mikhaylova, Kültürlerarası Duyarlılığın Etnokültürel Etkileşimdeki Rolü, Cilt 3, Sayı 1: Uluslararası Etnopedagoji Dergisi Yayınlanmıştır: 61-75, (2023)
20. S. Mirontseva, A. Mikhaylova, A. Grischuk. *Tolerance and Emotional Intelligence Indicators as Transportation Specialist Requirements*. In: Zokirjonighi, K.S., Muratov, A., Ignateva, S. (eds) *Fundamental and Applied Scientific Research in the Development of Agriculture in the Far East (AFE-2022)*. AFE 2023 Lecture Notes in Networks and Systems, 2023. **Vol 706**. Springer, Cham. https://doi.org/10.1007/978-3-031-36960-5_56 (2023).
21. Personal maturity test questionnaire by Yu.Z. Gilbukh. Retrieved from <https://studfile.net/preview/1905229/> (data of access 22.09.2023)
22. Test for determining the level of self-efficacy of M. Scheer and J. Maddux in adaptation of A. V. Boyarintseva. Retrieved from <https://hrportal.ru/tool/diagnostika-samoeffektivnosti-metodika-madduksa-i-sheera> (data of access 22.09.2023)