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OF THE DEVELOPMENT  
OF MODERN SCIENCE: THE EXPERIENCE  
OF COUNTRIES OF EUROPE  
AND PROSPECTS FOR UKRAINE**

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- Authors:** Sytnyk Volodymyr, Georgalina Olena, Miroshnyk Oleksandr, Paranjuk Volodymyr, Krainiukov Oleksii, Timchenko Valeriia, Krasko Anna, Andreieva Iana, Malanchuk Oleh, Khrystian Gennady, Toriyanik Inna, Nevmrgitsky Volodymyr, Vavilova Alyona, Kudrina Tatiana, Vintyuk Yuriy, Mospan Marina, Kovalchuk Victoria, Partyko Neonila, Savka Iryna, Filipova Olga, Bailiuk Nataliia, Harlytska Tetiana, Pikalova Anna, Tkachenko Viktor, Storozhenko Lina, Sheremeta Oksana, Kolisnikova Hanna, Tupitska Yevgenia, Horbyk Volodymyr, Marianenko Gennadiy, Berezianko Tamara, Kvasnitska Raisa, Starostenko Ganna, Sementsov Ruslan, Samorodov Borys, Tymbaliuk Svitlana, Shedyakov Vladimir
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The monograph considers the theoretical and practical aspects of the development of modern science, taking into account the experience of European countries and prospects of Ukraine. General issues of the engineering, medical, psychological, philological, economic sciences, history of art, social communications and so on are considered. The publication is designed for scientists, lecturers, postgraduate students, students, as well as for the general reader.

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# CHAPTER 5. PSYCHOLOGICAL SCIENCES

## THE TYPOLOGICAL APPROACH TO ACADEMIC PERFECTIONISM IN ADOLESCENTS

Vavilova Alyona<sup>1</sup>  
Kudrina Tatiana<sup>2</sup>

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**Abstract.** Psychological approaches to determining the types of perfectionism in adults and adolescents are considered in the article; the criteria underlying such typologies are analyzed. The psychological features of perfectionism in adolescence are described. The purpose of the research is to investigate the typology of academic perfectionism in adolescents, in the measure of destructive influence, level of academic success and emotional problems. In the study the following psychodiagnostic techniques were used: Questionnaire by A. A. Rean (diagnostic the motivational tendencies for success or avoiding failure), Children-Adolescents Perfectionism Scale by P. Hewitt and G. Flett (indicators of general perfectionism), Depression Beck Scale (adolescents version) and Multidimensional Anxiety Scale by E. E. Malkina. Also, for each student, the average level of academic achievement was determined (the average mark for all school subjects on a 12-point rating scale). The analysis of correlation between the level of general perfectionism in adolescents and the level of academic success, the degree of anxiety and depression manifestations, dominance of motivational tendencies for success or avoidance of failure is done. Using cluster analysis, the typology of perfectionism is developed in adolescence, which takes into account the following criteria: “avoiding failure – hope for success”; “high level of success – low level of success”; “no emotional

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<sup>1</sup> Postgraduate Student at Department of Psychodiagnostics and Clinical Psychology, Faculty of Psychology, Taras Shevchenko National University of Kyiv, Ukraine

<sup>2</sup> Candidate of Psychological Sciences,

Associate Professor at Department of Psychodiagnostics and Clinical Psychology, Faculty of Psychology, Taras Shevchenko National University of Kyiv, Ukraine

problems – high emotional problems”; “high level of perfectionism – low level of perfectionism”. It is established that the first type of perfectionism (successful anxiety and depression perfectionist) includes adolescents with a high level of perfectionism, equally expressed motivational tendencies for success and avoidance of failure, high level of academic achievement, high level of anxiety and depressive manifestations. The second type (successful constructive perfectionist) represents adolescents with an average level of perfectionism, a prevailing motivational tendency to success, a high level of academic achievement and average level of anxiety and depression. The third type of adolescents (unsuccessful anxiety-depressive perfectionist) have a high level of perfectionism, a motivational tendency to avoid failure, high level of anxious and depressive manifestations and low level of academic achievement. And, finally, the fourth type includes adolescents with a low level of perfectionism, equally expressed motivational tendencies for success or avoidance of failure, less expressed anxious and depressive manifestations and an average level of academic success.

### 1. Introduction

The present society demands from people successful achievements, correspondence to the highest ideals, which promotes the development of perfectionist tendencies. Striving for perfection begins to form in childhood and adolescence, especially in school, where the success is measured by degree of diligence and precision of doing tasks.

Perfectionism is an ambiguous phenomenon, about which there is no definite point of view about structural components, semantic content, forms of manifestation and typology. Perfectionism can have both positive and negative forms. In its positive manifestations perfectionism promotes the activity of human achievement, helps to develop various kinds of training or activity, to generate the highest scores and marks. Negative manifestations of perfectionism lead to neuroticism, emotional problems, difficulties in social adaptation, undervalued self-esteem, and may hinder successful achievement because of the fear of mistakes and failures in childhood and adolescence.

Therefore, the development of perfectionism typology in adolescents is an actual problem, that would determine which forms and manifestations of perfectionism are constructive and help self-realization of adolescents in adulthood; and which of them lead to the appearance of psychological

problems and reduce the level of emotional well-being of the personality. It can help to create effective prevention and correction psychological programs to eliminate destructive manifestations of perfectionism in adolescents and connected with them emotional problems.

## **2. Analyses of the previous studies**

A typological approach to the study of perfectionism was developed by such foreign scientists as N. Garanyan, E. Yeniklopov, A. Zolotarev, A. Kholmogorov, V. Parker, R. Slaine, R. Frost, D. Hamachek, P. Hewitt and G. Flett, J. Stobier and K. Otto, and others. The features of perfectionism in Ukrainian psychological science are studied by such psychologists as O. Kononenko, A. Proskurny, G. Chepurn, O. Loza, L. Danilevich, V. Pavlova.

Usually, within the typological approach, perfectionism is divided into two types – normal (constructive, healthy, adaptive) and pathological (destructive, neurotic, maladaptive). The first type of perfectionism was defined as a healthy pursuit of excellence, the search for alternative ways to achieve it, the ability to flexible setting goals and priorities in life. While the pathological type of perfectionism was defined as a fanatical desire for perfection, which is associated with many maladaptive personality manifestations.

One of the first authors, who identified two types of perfectionism, was D. Hamachek [11, p. 28-31], who described them as “normal” and “neurotic” perfectionism. The researcher defined “normal” perfectionism as the ability to set high standards in conjunction with flexibility, adaptability in different situations. According to studies by D. Hamachke, neurotic perfectionists are characterized by excessively inflated standards and unjustified criticism about mistakes. Russian scientists N. G. Garanyan, A. B. Kholmogorov and T. Y. Yudeeva [1, p. 19-45; 8, p. 75-81; 6, p. 54-56] also studied the structural components that allow to distinguish normal and pathological types of perfectionism. Researchers pointed to such traits of pathological perfectionism as too high standards, distorted social cognition, personalization (permanent orientation to the pole of the most successful), negative selection (concentration on failures and errors); polarized thinking, social anxiety, motivational tendencies of avoiding failure and procrastination. V. Yasnak and Yeoniklopov [9, p. 159-161] explained the main difference between pathological and normal types of perfectionism



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due to overpriced standards, combined with the tendency to overly critical assessments of the behavior.

People with destructive or pathological perfectionism are characterized by the following features:

- frustration from failure leads to depression, low self-esteem;
- unhealthy self-criticism, feelings of guilt do not allow to rejoice in achievements, perfectionist constantly remains dissatisfied with himself;
- maximalism, the principle of “everything or nothing” makes refusing many things, the fear of failure makes avoid situations where deficiencies can appear;
- excessive scrupulosity, attention to detail takes a lot of time;
- work, surrounding people who do not fit into fictitious standards, fall into the category of “unworthy”, which leads to the destruction of a career and personal life.

Investigating the typology of pathological perfectionism, A. B. Holmogorov and N. G. Garanyan identify two forms: narcissistic and obsessive-compulsive. Narcissistic perfectionism is manifested in the dominance of the motivation to achieve perfection, receiving approval from others, the tendency to recognition, which is detrimental to all other motives. Obsessive-compulsive perfectionism has the following features: an idealized Self-image does not displace other motives; for such type of perfectionists not only the result is the main, but the process of activity, perfect realization of its activity [6, p. 54-56].

Psychologists J. Stoeber and K. Otto also studied the positive and negative dimensions of perfectionism. To the first dimension – positive – was an attributed perfectionist desire, high personal standards and the domination of Self-oriented perfectionism; while the negative dimension of perfectionism was associated with anxiety about mistakes, doubts in the actions, and the dominance of socially attributed perfectionism [12, p. 295]. On the basis of such differentiation, the authors proposed their own approach to the typology personalities with perfectionistic traits. Using a comparative analysis, J. Stoeber and K. Otto identified three groups of perfectionists [12, p. 295-286]:

- 1) healthy perfectionists (persons with high striving and low level of problems caused by the presence of features of perfectionism);
- 2) unhealthy perfectionists (persons with overestimation and high level of problems connected with perfectionism);

3) non-perfectionists (persons with low perfectionist aspirations).

The similar typology was offered by the Ukrainian researcher A. S. Proskurnia, who made an analysis the multifactorial structure of perfectionism and identified three main types, located on the continuum “Functional – Disfunctional Perfectionism” [7, p. 33-38]:

1) functional type (healthy personality, able to critically evaluate her/him abilities, set realistic goals and enjoy their achievement);

2) narcissistic type (prevailing motivation of achieving perfection, receiving approval and admiration from others, neglecting all other motives, transforming achievements and recognition of their main meaning of life);

3) obsessive-compulsive type (an idealized image displaces all the motives and interests of the personality; the perfectionist is interested not only in the result, but also in the activity; the achievement of the ideal in order to justify their own expectations).

Another Ukrainian researcher of the perfectionism phenomenon O.I. Kononenko suggests dividing two types of perfectionism: global and partial, which reflect the degree of immersion of personality in perfectionist attribution. According to the researcher's theory, global perfectionism consists of authentic, compensatory and neurotic; and partial – of interpersonal, addictive and external perfectionism [1, p. 201].

O. I. Kononenko says that global perfectionism covers all spheres of individual life. The author explains authentic perfectionism as “healthy perfectionism” and defines this concept as the ability of a personality to be congruent, authentic, to feel deep satisfaction from achievements, to increase self-esteem, ability to take into account resources and limitations. Compensatory perfectionism is understood as the desire to overcome real or imaginary imperfections because of the desire to be perfect in various spheres of life. The behavior of the neurotic perfectionist is inspired by fear of failure, which can be manifested in the form of procrastination and the inability to proceed with the case. Neurotic perfectionists are characterized by such feelings as permanent anxiety, shame, guilt, inability to get pleasure from work [1, p. 202-204].

O.I.Kononenko explains the partial perfectionism as the disproportionality of certain psychological properties of perfectionism in various spheres of personality. It follows that interpersonal partial perfectionism, first of all, is aimed at other people, involves overestimated requirements to them; additive perfectionism reflects the need for a person to meet the standards

and expectations of significant others, which can provoke a certain psychological dependence on them; external perfectionism – directed to the world and includes the belief that everything in the world should be precise, accurate, all problems should receive a correct and timely solution [1, p. 202-204].

Many typologies of perfectionism related to its connection with some kind of psychological characteristics or traits. For example, N. B. Lukina studied psychological features of the typology of perfectionism in students in the structure of the target orientation (based on the model of the target orientation of Y. Vasiliev) [4, p. 56]. The author studied three levels of goals for students:

- 1) egocentric (satisfaction of biological and material needs and mercantile-utilitarian motivation);
- 2) rational (satisfaction of social needs);
- 3) altruistic (satisfaction of mental needs for internal and creative motivation).

According to the correlation analysis, N.B. Lukina found that the Self-oriented type of perfectionism in the students is connected with the egocentric and rational levels of target orientation. Oriented to other perfectionism in students is associated with the altruistic level, the requirements of perfection to others from an altruistic position. Finally, the rational level of the target orientation of the personality is characterised of socially-prescribed perfectionists, because of it is aimed at satisfying social needs and prestige [4, p. 57-60].

O. P. Necheporenko and M. V. Razin investigated the gender features of the connection between perfectionism and responsibility and developed a typology of perfectionists based on the analysis of such a connection. Using cluster analysis, the authors proposed two typologies of perfectionism (according to the peculiarities of responsibility) – for girls and boys (young people aged 20 to 24 were included in the sample). There were three types of perfectionism in boys [5, p. 19-22]:

- 1) “irresponsible perfectionist” (high indicators of perfectionism, but low indicators of responsibility, indicating the desire to avoid it);
- 2) “responsible non-perfectionist” (low indicators of perfectionism and expressed on the average level of responsibility);
- 3) “extra-responsive and demanding oneself” (high indicators of perfectionism and responsibility, excessive demands to themselves).

In the group of girls, the following types of perfectionism were identified:

- 1) “reasonably responsible perfectionist” (low level of perfectionism and average level of responsibility);
- 2) “irresponsible dissatisfied” (low indicators of responsibility with high demanding toward oneself and others);
- 3) “extra-responsive, demanding to him/herself” (the same type for both boys and girls, which manifests itself in high levels of perfectionism and demanding toward oneself) [5, p. 19-22].

All of the above-mentioned approaches to the typology of perfectionism concerned adult people. Studies relating to the psychological characteristics of perfectionism typologies in children and adolescents are significantly less than studies in the adult population. For example, P. Hewitt and G. Flett developed the Children and Adolescent Perfectionism Scale (CAPS), which proposed to selected two types of perfectionism: self-oriented (own personal standards) and socially prescribed (the desire to meet the requirements and expectations of others) [10, p. 637]. As noted by P. Hewitt and G. Flett, Self-oriented perfectionism is associated with elements of self-determination and ego-orientation, while socially prescribed perfectionism is associated with social expectations of others; socially prescribed perfectionism is associated with an external locus of control, while self-oriented perfectionism is associated with internal locus of control.

At the same time, P. Hewitt and G. Flett indicate two levels of perfectionism healthy and neurotic (destructive). According to the researchers, healthy perfectionism is generated by the constructive aspirations of personality to self-improvement and is manifested through the need for self-development and improvement of activity, as well as through satisfaction with the quality of work performed. At the same time, the person can recognize the existence of limits of their own productivity and produce a hierarchy of primary and secondary values in life. The authors emphasize that destructive (neurotic) perfectionism in children and adolescents correlates with suffering, suicide, anorexic tendencies, phobias in relation to the school and chronic failure [10, p. 635-642].

The Russian psychologist M. V. Larskyh researched dependence the level and typology of adolescents' perfectionism with the type of non-harmonic upbringing in the family. The results of the author's research demonstrated the existence of a significant correlation between the type of perfectionism (Self-oriented and socially prescribed) and certain types of

non-harmonic upbringing [3]. The research data indicated that Self-oriented perfectionism is connected with such features of upbringing as a high degree of satisfaction with the mental and emotional problems of adolescents and a high level of requirements and responsibilities. Perfectionism, others-oriented, is associated with the following types of non-harmonic upbringing: low requirements and responsibilities, insufficient requirements and prohibitions, which lead to a consumer attitude towards the world. Socially prescribed perfectionism positively correlates with the mother ignorance of the adolescent needs, the high level of requirements, prohibitions and severity of punishment, which cause the need to be perfect, to avoid disapproval of other people [3]. However, in our opinion, the indicated typologies of perfectionism in adolescents are somewhat limited and do not take into account the features of the actual situation of adolescents' age, the specifics of their social self-realization, achievable activity and emotional state.

### **3. The purpose of the research**

The purpose of the research is to investigate the typology of academic perfectionism in adolescents, in the measure of destructive influence, level of academic success and emotional problems.

### **4. Research results**

We conducted a study aimed at building a typology of perfectionism in adolescents. Adolescents aged 12 to 18 (96 people, including 50 boys and 46 girls) were included in the sample of the study (Table 1). At the first stage of the study, the following psychodiagnostic techniques were suggested to adolescents: Questionnaire by A. A. Rean (diagnostic the motivational tendencies for success or avoiding failure), Children-Adolescents Perfectionism Scale by P. Hewitt and G. Flett (indicators of general perfectionism), Depression Beck Scale (adolescents version) and Multidimensional Anxiety Scale by E. E. Malkina. Also, for each student, the average level of academic achievement was determined (the average mark for all school subjects on a 12-point rating scale).

Questionnaire by A.A. Rean aims at identifying motivational tendencies to success and avoid failure (Table 2). This method was chosen to determine the domination in one of the motivational tendencies, which may affect the level of neuroticism and emotional problems in personality. Such

Table 1

**Gender-age characteristics of the sample**

Age	Gender	
	Boys (n)	Girls (n)
12	8	9
13	10	6
14	9	7
15	5	5
16	5	6
17	7	7
18	6	6

motivational tendencies are especially evident in educational activities. Given the predominance of the motivational tendency to achieve success, it is supposed to achieve something constructive and positive. Self-confidence and self-reliance, responsibility, initiative and activity are characteristic for such researchers with a focus on success. Investigated, motivated to avoid failures, usually characterized by increased anxiety, low self-confidence, trying to avoid responsible tasks. Thus, the Questionnaire by A. A. Rean is an instrument that allows us to identify the correlation between the domination of a certain motivational tendency and destructive manifestations of perfectionism.

Multidimensional Anxiety Scale by E. E. Malkina is a clinically tested questionnaire, aimed at structural diagnostics of anxiety disorders in children and adolescents. This clinical questionnaire was chosen among other methods for diagnosing anxiety in adolescents, because it allows to consider anxiety as a multidimensional phenomenon that contains not only affective components. The great benefit of the method of multi-dimensional assessment of child anxiety for our study is that it covers the maximum possible range of situations in which anxiety can be actualized (Table 2). Among these situations are presented situations of achievement, relevant for the manifestation of perfectionist personality traits. The questionnaire includes the most informative parameters for assessing the emotional and behavioral disturbances of the anxiety spectrum of adolescents, corresponding to 10 scales of the method: "General anxiety", «Anxiety in relationships with peers», «Anxiety associated with the assessment of others», «Anxiety in relationships with teachers», "Anxiety in relationships with parents", "Anxiety related to learning success", "Anxiety in situations

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of self-expression”, “Anxiety in situations of knowledge testing”, “Reducing mental activity caused by anxiety”, “Increased vegetative reactivity caused by anxiety”. This questionnaire allows to carry out a psychological analysis of the level of anxiety in connection with the personality characteristics of the adolescent; assessment of the peculiarities of psychophysiological and psycho-vegetative anxiety in the adolescent; assessment of anxiety connection with the school studying.

Also, in order to detect the connection between destructive perfectionism and disorders of the emotional spectrum in adolescents, the Beck Depression Scale was used. These questionnaire includes 21 categories of symptoms and complaints, which are ranked in terms of severity. Beck Depression Scale is presented in two variants: adult and adolescents. The last one is relevant for the purposes of our study. The results of the questionnaire allow diagnosing various degrees of depression: satisfactory emotional state, mild depression, moderate depression and severe depression. The Beck Depression Scale contains two subscales that reflect the various parameters of depressive manifestations: cognitive-affective subscale and subscale of somatic manifestations of depression. Also, this technique allows to evaluate 21 symptoms of depression: mood, pessimism, feeling of insensitivity, dissatisfaction, feelings of guilt, a sense of future punishment, an aversion to yourself, the idea of self-excuse, suicidal thoughts, tears, irritability, social connections, indecision, body image, loss of ability to work, sleep disturbance, fatigue, loss of appetite, weight loss, body sensation, loss of libido.

Child-Adolescents Perfectionism Scale by P. Hewitt and G. Flett has a prognostic value in the analysis of the effects of the features of perfectionism. Researchers P. Hewitt and G. Flett concluded, that perfectionism is a stable personality trait that can be manifested in children aged 7 years and older and can be diagnosed with a valid and reliable psychodiagnostic toolkit – the Child-Adolescents Perfectionism Scale. This questionnaire was adapted from a sample of Ukrainian adolescents. The original questionnaire The Child and Adolescent Perfectionism Scale (CAPS) consists of 22 questions, which are divided into two indicators: “Self-oriented perfectionism” and “Socially prescribed perfectionism”.

The next stage of the study was to analyse the correlation communication between perfectionism, academic achievement, anxiety, depression and motivation of achievement.

**Methods of research and their indicators**

№	Psychodiagnostic techniques	Indicators
1.	Questionnaire by A.A. Rean	Motivational tendencies to success Motivational tendencies to success and avoid failure
2.	Children-Adolescents Perfectionism Scale (CAPS) by P. Hewitt and G. Flett	General perfectionism Self-oriented perfectionism Socially prescribed perfectionism
3.	Depression Beck Scale	Depression Cognitive-affective manifestations Somatic manifestations
4.	Multidimensional Anxiety Scale by E. E. Malkina	General anxiety Anxiety in relationships with peers Anxiety associated with the assessment of others Anxiety in relationships with teachers Anxiety in relationships with parents Anxiety related to learning success Anxiety in situations of self-expression Anxiety in situations of knowledge testing Reducing mental activity caused by anxiety Increased vegetative reactivity caused by anxiety

On the basis of the analysis of the correlation analysis, we received a matrix of connection between adolescent perfectionism and anxiety and depression manifestations. Correlation analysis has demonstrated the presence of a statistically significant correlation between perfectionism in adolescents and the general level of anxiety: the correlation is 0,586, the level of statistical significance  $\text{sig} \leq 0,001$ ; and the existence of a reliable connection between adolescent perfectionism and depressive manifestations: the correlation is 0,568 and the statistical significance  $\text{sig} \leq 0,001$  (Table 3, Table 4).

Excessive expectations for children and adolescents with a high level of perfectionism can produce low self-esteem, loneliness and depression. Depressive symptoms may occur because of irrational beliefs and excessive demands on themselves, characteristic of perfectionists. Adolescents with a high level of perfectionism are imposing excessively high demands to themselves and others; they are more prone to emotional and physical



Table 3

**Correlation indicators  
between the level of perfectionism and depression in adolescents**

<b>Depression</b>	<b>Correlation indicators</b>	<b>Perfectionism</b>
General depression	Pearson correlation coefficient	0,568
	Level of statistical significance	0,000
Cognitive-affective manifestations	Pearson correlation coefficient	0,543
	Level of statistical significance	0,000
Somatic manifestations	Pearson correlation coefficient	0,529
	Level of statistical significance	0,002

Table 4

**Correlation indicators  
between the level of perfectionism and anxiety in adolescents**

<b>Anxiety</b>	<b>Correlation indicators</b>	<b>Perfectionism</b>
General anxiety	Pearson correlation coefficient	0,586
	Level of statistical significance	0,000
Anxiety in relationships with teacher	Pearson correlation coefficient	0,541
	Level of statistical significance	0,000
Anxiety related to learning success	Pearson correlation coefficient	0,674
	Level of statistical significance	0,000
Anxiety in situations of knowledge testing	Pearson correlation coefficient	0,575
	Level of statistical significance	0,000
Reducing mental activity caused by anxiety	Pearson correlation coefficient	0,569
	Level of statistical significance	0,000
Increased vegetative reactivity caused by anxiety	Pearson correlation coefficient	0,558
	Level of statistical significance	0,000

disorder, have less flexibility, have very narrow and stereotyped attitudes toward life.

According to the results of the study of adolescents, it was found that general perfectionism has a close relationship with the following components of anxiety, as (Table 4):

- “Anxiety in relationships with teachers” (the correlation is 0,541);
- “Anxiety related to learning success” (the correlation is 0,674);
- “Anxiety in situations of knowledge testing” (the correlation is 0,575);
- “Reducing mental activity caused by anxiety” (the correlation is 0,569);

– “Increased vegetative reactivity caused by anxiety” (the correlation is 0,558).

The closest connection is between perfectionism and anxiety related to learning success and anxiety in situations of knowledge testing (the correlation is above the average. Adolescents with a high level of perfectionism are worried about the need to succeed. Educational activity is the leading activity in which adolescents can demonstrate their own activity. Perfectionists are over-inflated goals, react very painfully to errors and failures, which increases the level of anxiety associated with learning success.

The results of our study show a close connection between perfectionist features and the peculiarities of psychophysiological responses of adolescents in stressful situations (reduced mental activity and increased autonomic reactivity due to anxiety). Such a connection is explained the constant presence of perfectionists in a state of stress, the need to achieve the highest results, to meet the expectations of others, which leads to asthenia, exhaustion, reduction of adaptive resources of the organism, the presence of psycho-vegetative reactions.

Anxiety in relationships with teachers in adolescents with a high level of perfectionism is explained by the identification of teachers with those who evaluate the performance and quality of educational activities. Thus, each situation of interaction with the teacher carries a reflection of the manifestation of achievement and its evaluation by significant adults. The constant expectation of a teacher's negative assessment increases the feeling of anxiety and dissatisfaction and leads to destructive consequences.

It can be stated that with an increase the level of destructive perfectionism in adolescents, their level of anxiety increases. The same tendency is observed in the analysis of the connection between depressive manifestations and perfectionism.

The analyses of last studies and publications show connection between perfectionism and motivation of achievement. Motivation of achievement is one of the central components of perfectionism. The Russian researcher T. Ju. Judeeva, studying perfectionism like a factor of depressive disorders, said, that motivation of avoiding failure is over than motivation to achieve success in persons with high level of perfectionism [8, p. 57]. In our study we did not find right strong correlation between perfectionism and motivation of avoiding failure or achieve success. It allows us to decide, that this two motivation tendencies can be manifested in different ways in different groups

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of perfectionists in adolescents within our sample. We used other statistical procedure – a hierarchical cluster analysis – that helps to divide different types of perfectionism in adolescents, which include dominance one of two motivation tendencies: to avoid failure or to achieve success. According to the cluster analyses between adolescents-perfectionists there are the groups with dominance motivation of achievement success, the groups with dominance motivation of avoiding failure, the group with the uncertain motivational orientation towards success or avoidance of failure, and the group with equally expressed motivational tendencies for success and avoidance of failure.

The results of the study showed low indicators of connection between perfectionism and academic achievement (at the level 0,38 with statistically significant results). In further analysis, it was found that the linear direct correlation between the level of perfectionism and the level of academic success is only to the average level of expression of perfectionism. For higher indicators of perfectionism, a plateau was observed on the basis of academic achievement. Therefore, a hierarchical cluster analysis was used that included the indicators of perfectionism, motivational tendencies for success or avoidance of failure, emotional manifestations and academic achievement, which allows to select four clusters (groups) of subjects (Table 5).

Table 5

### Types of adolescents-perfectionists, selected using cluster analysis

Clusters (groups) of adolescents		Perfectionism	Academic achievement	Motivation tendencies	Anxiety	Depressive manifestations
1	Mean	91,6	10,4	11,3	71,5	5,9
	N	25	25	25	25	25
2	Mean	72,3	9,2	15,1	37,2	3,0
	N	28	28	28	28	28
3	Mean	98,6	5,8	9,2	89,4	7,1
	N	17	17	17	17	17
4	Mean	47,0	7,1	12,4	29,1	2,7
	N	26	26	26	26	26
Indicator of the statistical significance of the intergroup comparison by the Fisher criterion		0,015	0,010	0,018	0,020	0,020

The received indicators are significant and statistically reliable for Fisher's criterion, because of the significance level  $\text{sig} < 0,05$ , indicating the reliability of the data.

The first type: high level of perfectionism (91,6 points), equally expressed motivational tendencies for success and avoidance of failure (10,3 points), high anxiety and depressive manifestations (71,5 and 5,9 points) and high level of academic success (10,4 points). This cluster included 25 subjects. We named this type “successful anxiety-depressive perfectionist” (Picture 1). Such adolescents demonstrate a high level of perfectionist attitudes, strive to be the best in everything and set high goals for academic achievement and usually achieve them. However, such achievements lead to a permanent state of stress, fear not to meet the highest standards, which leads to an increase anxiety and a decrease mood (in this context, such manifestations are understood as “emotional problems”).

The second type: average level of perfectionism (72,3 points), dominant motivational tendency to achieve success (15,1 points), average level of anxiety and depression (37,2 and 3,0 points respectively) and high level of academic success (9,2 points). This type of study can be described as “successful constructive perfectionists”. 28 adolescents which belong to this cluster have an average level of perfectionism, are able to adequately understand their advantages and opportunities, can set high goals without focusing on errors and failures. Therefore, they successfully realize their potential in school, usually choosing to study a certain profile that matches their interests or abilities (such as humanitarian or natural or mathematical), does not strive to be better always and in everything. This determines the low expression of anxiety and depressive manifestations and indicates a high level of emotional well-being of such adolescents (Picture 1).

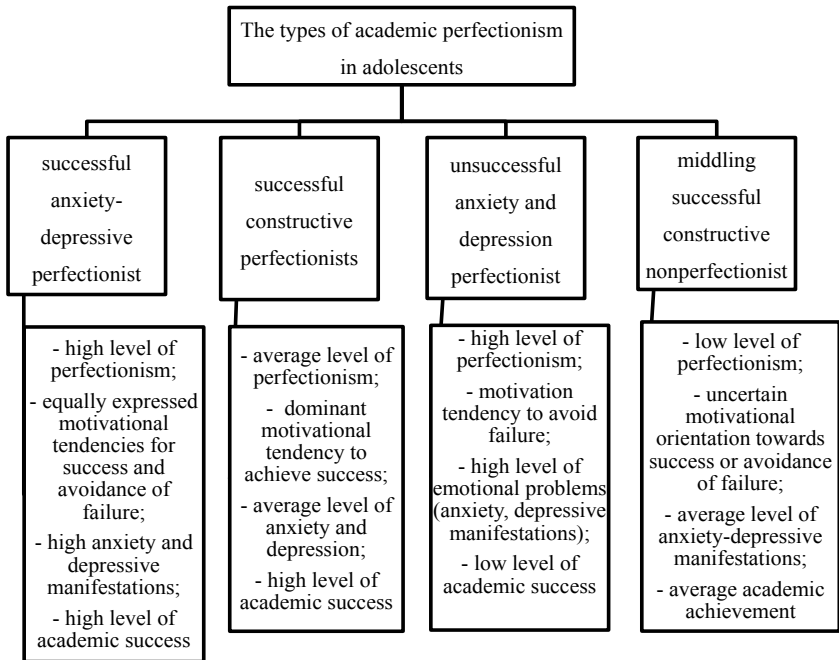
The third type: high level of perfectionism (98,6 points), motivation tendency to avoid failure (9,2 points), high level of emotional problems (anxiety – 89,4 points, depressive manifestations – 7,1 points), and a low level of academic success (5,8 points). This is the least numerous type of study (17 adolescents), which was called “unsuccessful anxiety and depression perfectionist”. The representatives of this type have excessive demands on themselves, strive to achieve only the best results and are afraid to make a mistake. This leads to procrastination, avoidance strategies, and reflects on a low level of academic achievement. Failure to match one's own ideal image causes a decrease in self-esteem, shame and guilt, which

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manifest them in the form of high anxiety and depressive manifestations (Picture 1).

Fourth type: low level of perfectionism (47,0 points), uncertain motivational orientation towards success or avoidance of failure (12,4 points), average level of anxiety-depressive manifestations (29,1 points and 2,7 points respectively) and average academic achievement (7,1 points). Representatives of this type we called “middling successful constructive nonperfectionist”. Such adolescents are little worried about the achievements and the need to do tasks perfectly. They do not set high goals, so do not pay attention for mistakes and low achievements. Therefore, they feel confident enough and have no emotional problems in the form of anxiety or depressive manifestations (Picture 1).

According to the results of our study, the desire for the perfect activities, following only the highest standards does not always lead to successful performance. Adolescents with an average level of perfectionism are



**Fig. 1. The types of academic perfectionism in adolescents**

characterized by the same academic success as adolescents with high levels of perfectionism. This type of adolescents is more oriented towards success, in contrast to perfectionists who focus on errors and difficulties. The small group of adolescents with a high level of perfectionism and a low level of success was selected, that shows the inverse connection between perfectionism and productive activity. Also the high level of an anxiety and depression in adolescents with a high level of perfectionism influences destructively on the general psychological state, level of emotional well-being, level of academic success.

### 5. Conclusions

Perfectionism is a complex multidimensional phenomenon, which means striving to perfection. There is no common view of its structural components, content, forms of manifestation and typology. Perfectionism has both positive and negative forms, which are manifested in childhood and adolescence. In its positive manifestations perfectionism allows you to success, various types of learning or activity. Negative manifestations of perfectionism lead to the emotional problems, difficulties in social adaptation, low self-esteem, fear of errors and failures. Therefore, we tried to design a typology of perfectionism in adolescents, which would allow determining which forms of perfectionism are constructive and help the self-realization of adolescent; and which of them leads to the psychological problems and reduce the level of emotional well-being.

Our study aimed at building a typology of perfectionism in adolescents. The sample included adolescents in the age from 12 to 18 (96 adolescents, 50 boys and 46 girls). We analysed the correlation between perfectionism and academic achievement. The results of the study showed low rates of correlation. Than it was found that the linear direct correlation between the level of perfectionism and the level of academic success exists only to the average level of perfectionism. Therefore, we used cluster analysis that included indicators of perfectionism, motivational tendencies, emotional manifestations and academic achievement.

Using cluster analysis, we developed the typology of perfectionism in adolescence, which takes into account the following criteria: “avoiding failure – hope for success”; “high level of success – low level of success”; “no emotional problems – high emotional problems”; “high level of perfectionism – low level of perfectionism”. It is established that the first

type of perfectionism (successful anxiety and depression perfectionist) includes adolescents with a high level of perfectionism, equally expressed motivational tendencies for success and avoidance of failure, high level of academic achievement, high level of anxiety and depressive manifestations. The second type (successful constructive perfectionist) represents adolescents with an average level of perfectionism, a prevailing motivational tendency to success, a high level of academic achievement and average level of anxiety and depression. The third type of adolescents (unsuccessful anxiety-depressive perfectionist) have a high level of perfectionism, a motivational tendency to avoid failure, high level of anxious and depressive manifestations and low level of academic achievement. And, finally, the fourth type includes adolescents with a low level of perfectionism, equally expressed motivational tendencies for success or avoidance of failure, less expressed anxious and depressive manifestations and an average level of academic success.

Consequently, according to the results of our study, the desire for the perfect performance of activities, following the highest standards does not always lead to academic success. Adolescents with an average level of perfectionism are characterized by the same academic success as adolescents with high levels of perfectionism. This type of perfectionists is more oriented to success, in contrast to perfectionists who focus on errors and difficulties. Besides, there is small group of adolescents with a high level of perfectionism and a low level of success. It indicates the inverse relationship of perfectionism with productivity and performance.

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