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## Peculiarities of the manifestation of psychological barriers in the development of creative abilities in young teenagers of Ukraine and China

### Особливості прояву психологічних бар'єрів в розвитку творчих здібностей у молодших підлітків України та Китаю

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#### Abstract

Our work is aimed at studying peculiarities of the manifestation of psychological barriers in the development of creative abilities in younger teenagers of Ukraine and China. The object of study is the mental states and abilities of young adolescents. The research methods: theoretical – analysis, generalization and systematization of theoretical approaches and empirical results; empirical – observation, conversation, analysis of activity products, testing and mathematical and statistical methods. In the scientific literature, it has long been recognized that the development of creative abilities has a significant impact on the formation of a personality, in particular, its opportunities for self-actualization increase. It is especially important to develop the creative abilities of children who are just forming as individuals. This paper presents the results of its own research and provides a comparative analysis of the manifestation of psychological barriers in the development of creative abilities in young adolescents of the Ukrainian and Chinese sample groups made it possible to reveal that the most evident barriers in the young adolescents of the Ukrainian sample group are self-doubt, lack of interest, fear of making a mistake, reluctance to take risks, and among the young teenage Chinese sample group – lack of interest, fear of being unsuccessful at school, reluctance to take risks, and fear of losing friends. However we can observe that in both sample groups there are the same barriers, which are related to the specifics of the development of children of this age and the leading activities of children in young adolescence.

#### Анотація

Наша робота спрямована на вивчення особливостей прояву психологічних бар'єрів у розвитку творчих здібностей у молодших підлітків України та Китаю. Об'єктом дослідження є психічні стани та здібності молодших підлітків. Методи дослідження: теоретичні – аналіз, узагальнення та систематизація теоретичних підходів та емпіричних результатів; емпіричні – спостереження, бесіда, аналіз продуктів діяльності, тестування та математико-статистичні методи. У науковій літературі давно визнано, що розвиток творчих здібностей має значний вплив на формування особистості, зокрема підвищуються її можливості до самореалізації. Особливо важливо розвивати творчі здібності дітей, які тільки формуються як особистості. У статті наведено результати власного дослідження та проведено порівняльний аналіз прояву психологічних бар'єрів у розвитку творчих здібностей у молодших підлітків української та китайської вибіркової груп, що дозволило виявити, що найбільш вираженими бар'єрами у молодших підлітків є: української вибірки – невпевненість у собі, відсутність інтересу, страх зробити помилку, небажання ризикувати, а серед молоді підлітки китайської вибірки – відсутність інтересу, страх бути неуспішним у школі, небажання ризикувати, і страх втратити друзів. Проте можна спостерігати, що в обох вибіркової груп присутні однакові бар'єри, які пов'язані зі специфікою розвитку дітей

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**Key words:** psychological barriers, young adolescents, creativity, creative abilities, teenagers.

цього віку та провідною діяльністю дітей молодшого підліткового віку.

**Ключові слова:** психологічні бар'єри, діти молодшого підліткового віку, творчість, творчі здібності, підлітки.

## Introduction

The problem of psychological barriers in the development of creative abilities of an individual is one of the most relevant in modern psychology. This especially applies to children of younger teenage years. Since this age period is characterized by high sensitivity, both to the development of creative abilities and to the emergence of psychological barriers. The immediate cause of the psychological barrier is the unfavorable prediction of the child as to the process or result of performing the desired action. By its nature, a psychological barrier is a mental state that impedes the realization of intention. The development of creativity acts as a prevention and a means of overcoming psychological barriers in the creative activity of younger teenagers. The elimination of the students' tendency to experience unjustified psychological barriers promotes their inclusion in creative activity during which creative abilities are developed. The unlocking of creative potential influences the development of the individual, in particular, increasing his capacity for self-actualization. The importance of younger adolescence for the development of creative abilities is determined by the fact that at this age at the conscious level manifested the moral and social attitudes of the individual, actively formed the identity of the teenager. The social situation of development in this period becomes stressful in many ways, which entails the appearance of psychological barriers, which, in turn, complicate the formation of the younger teenager's personality and, in particular, his creative abilities. The analysis of the above implies the relevance of determining the relationship and the specifics of the manifestation of psychological barriers in the development of creative abilities of younger teenagers.

The purpose of the study is to study the peculiarities of the manifestation of psychological barriers in the development of creative abilities in younger teenagers of Ukraine and China.

The object of research is the mental states and abilities of younger teenagers, which are a

manifestation of psychological barriers and hinder the development of creative abilities.

## Research methods

A set of methods was used to perform a number of assigned tasks: theoretical - analysis, generalization and systematization of theoretical approaches and empirical results contained in scientific literary sources; empirical - observation, conversation, analysis of activity products; psychodiagnostic testing, during which the following methods were used: P. Torrens's method, G. Davis's questionnaire of personality creativity; a scale of personal anxiety A.M. Prikhazan, self-assessment of self-confidence, the author-developed questionnaire for the diagnosis of psychological barriers in the development of creative abilities of young adolescents (A. V. Massanov, Liu Yan).

To process the primary data, we used methods of mathematical statistics: computing of the arithmetic mean, correlation analysis (according to the Spearman's test). We used the Student's t-criteria to test the probability of a difference in mean values across samples. The data processing procedure was carried out using the SPSS v 13.0 for Windows software package.

**Empirical research base.** South Ukrainian National Pedagogical University named after K.D. Ushinsky, Ukrainian Children's Center "Moloda Gvardia" (Odesa), primary and incomplete secondary schools of the People's Republic of China.

**The sample group consisted** of 300 young teenagers aged 10-12, who were divided into two groups: 150 examinees of the Ukrainian sample group and 150 examinees of the Chinese sample group.

The study was conducted in accordance with the principles of deontology and bioethics.

## Literature Review

The conducted theoretical analysis of the literature made it possible to determine that there

are enough works in psychology in which various aspects of the problem of psychological barriers in creative activity were studied, but they are devoted more to the study of problems in youth and adulthood. The development of creative abilities was studied by C.V. Aymedov, Yu. O. Asieieva, H. Alieksiieieva, N. Kravchenko, L. Horbatiuk, V. Zhyhir, O. Chernieha, A. Craft, V. Levkovska, V. Storozh, R. Dunn, A. Harris, G. D. Chistyakova and others (Aymedov et al., 2018; Alieksiieieva et al., 2020; Asieieva & Panaiotova, 2019; Bogoyavlenskaya, 2002; Chistyakova, 1991; Dunne & Wragg, 1994; Harris, 2016). Issues of the psychology of young adolescents are considered in the researches of Yu. O. Asieieva, R. Ewing, R. Gibson, W. Forrester, A. Hui, So. Kyunghee, Hu. Yaeji and others (Asieieva & Panaiotova, 2019; Ewing & Gibson, 2015; Forrester & Hui, 2007; Kyunghee & Yaeji, 2019). There are studies in which it is noted that psychological barriers both negatively and positively affect the development of an individual and his creative abilities (G. O. Ball, M. V. Bastun, O. G. Vydra, N. I. Voloshko, L. M. Hrydkovets, D. B. Bogoyavlenskaya, Ya. A. Ponomarev, A. V. Massanov, D. Bar-Tal, E. Halperin, F. Piske, T. Stoltz, C. Vestena, S. Freitas, B. Valentim, C. Oliveira, etc.) (Ball et al., 2005; Bogoyavlenskaya, 2002; Ponomarev, 1976; Massanov, 2016; Bar-Tal & Halperin, 2014; Piske et al., 2016).

It was also established that there are contradictions in the perceptions of the role of the Examinee's personal characteristics in overcoming psychological barriers in creative activity, which are related to determining the influence of personal characteristics on the success of overcoming a psychological barrier (Craft, 2008; Ewing & Gibson, 2015; Aymedov et al., 2018; Asieieva & Panaiotova, 2019). In the works of scientists, it was proved that psychological barriers play a leading role in personality development. It is precisely the development of creative thinking that occurs during the solution of emerging problems that act as obstacles to achieving the goal (Shakurov, 2001; Bar-Tal & Halperin, 2014; Matyush, 2016). As A. A. Osipova notes, everything that happens to a person under the influence of a psychological barrier is experienced by them as a state of stress, discomfort, tension, which leads to a deviation from normal functioning. However, mental development leads to the restoration of balance and reduction of stress (Osipova & Prokopenko, 2014). Thus, the success of creative activity depends on getting rid

of the template in the activity and overcoming the barrier of stereotypes. But, according to the research of T.V. Kudryavtsev and Ya. O. Ponomarev, one of the most important functions of the barrier is to ensure the stability of the individual (Kudryavtsev, 1975; Ponomarev, 1976). In his works, Ya. O. Ponomarev points out the need to research ways to overcome psychological barriers, noting that instead of searching for particular methods and algorithms that lead to the creation of a new one, it is necessary to develop a system of measures designed to prevent errors of inertia, that prevent its occurrence, and are directed, if it has already appeared, to the destruction of standard principles and routine techniques (Ponomarev, 1976). The success of a creative solution depends on the ability of a person to get rid of the template in solving the problem and to understand that the methods used before are invalid.

However, it is precisely the problem of preventing the occurrence and overcoming of undesirable psychological barriers that is relevant today, as noted by (V. Ageyev, T. V. Kudryavtsev, A. A. Matyush, R. Kh. Shakurov, etc.) (Ageyev, 2012; Matyush, 2016; Kudryavtsev, 1975; Shakurov, 2001).

Therefore, despite the large number of studies on this issue, the study of psychological barriers in the development of creative abilities of younger teenagers remains an understudied aspect and requires detailing various aspects of this phenomenon.

## Results and discussion

In order to study the peculiarities of the manifestation of psychological barriers in the development of creative abilities in young adolescents of Ukraine and China, we conducted a comparative analysis of the results according to the methods of P. Torrens, G. Davis (Shestakova, 2015), Pryhozhan (2002), "Non-existent animal", the author-developed questionnaire for the study of psychological barriers in the development of creative abilities.

Tables 1-2 present the results of the study of the level of development of creative abilities and personal characteristics in the young Chinese sample group.

Based on the data in Table 1, we can say that the average level of expression of creativity as a personality quality prevails among young adolescents aged 10-12 years of the Chinese

sample group. This testifies to the presence of creative abilities in the examinees. A more detailed analysis allows us to determine that among the 10-year-old examinees of the Chinese sample group, 8% have a low level of expression of creativity as a personality quality, 76% of the examinees have an average level of development of this criterion, 16% have a high level. Thus, the most revealed qualities of a creative personality

identified in the 10-year-old Chinese sample group are a developed sense of beauty, a desire to experiment, a desire to stand out among others, not to be altruistic, a desire for group work, self-sufficiency, a sense of purpose. Acceptance of a disorder, risk-taking, dissatisfaction with oneself, and making mistakes turned out to be the least pronounced qualities.

**Table 1.**

*The level of development of creative abilities of young adolescents from the People's Republic of China (according to the methods of P. Torrens, G. Davis)*

Groups of examinee (N=50)	P.Torrens's method			G.Devis's method					
	Productivity	Constructive activity	Categorical flexibility	Visual creativity	Verbal originality	$X_{mv}$	M	St.of X	Level
10 years	0.52	1.5	0.60	0.79	1.30	11.72	12	2.72	C
11 years	0.56	1.6	0.62	0.82	1.36	11.46	12	2.51	C
12 years	0.65	1.8	0.65	0.89	1.42	12.12	12	2.66	C

Among the 11-year-old examinees of the Chinese sample group, 10% had a low level of expression of creativity as a personality quality, 82% of the examinees had an average level of expression of the specified criterion, and 8% of the examinees had a high level of the specified criterion. A more detailed analysis of the researched works of the specified group shows that the most evident characteristics of a creative personality are altruism, inquisitiveness, a tendency to individual work, self-sufficiency, a sense of beauty, a desire to experiment, and a need for activity. The least expressed qualities of a creative personality are the following - acceptance of disorder, risk-taking, dissatisfaction with oneself, unpopularity, denial of pressure, business mistakes.

It was established that among the 12-year-old Chinese sample group, 10% have a low level of this criterion, 70% of the examinees have an average level, and 20% of the examinees have a high level. Characteristics of a creative personality in 12-year-old examinees of the Chinese sample group are the desire to stand out, altruism, inquisitiveness, desire for individual work, a sense of beauty, the need for activity, as well as order in affairs, freedom from risk-taking, self-satisfaction, popularity.

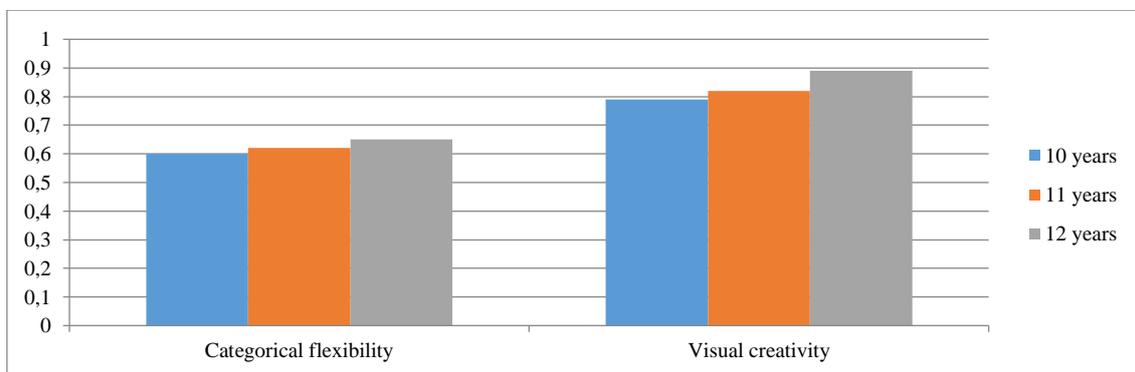
So, we can observe that the level of expressiveness of creativity as a personality quality in the studied Chinese sample group increases during the studied age, and the characteristics of the creative personality in

young adolescents experience some changes. Also, statistically significant differences (according to the Mann-Whitney test,  $p < 0.05$ ) were found for the criterion of expressiveness of creativity as a personality quality in young adolescents of the Chinese sample group, namely, the level of expressiveness is higher in 12-year-old than in 10-year-old examinees.

The analysis of the results of the study of the development peculiarities of structural components of creative abilities in the studied 10-12-year-old Chinese sample group made it possible to establish (see Table 1) that high scores were found for markers of constructive activity ( $X_{mv} = 1.5$ ,  $X_{mv} = 1.6$ ,  $X_{mv} = 1.8$ ) and verbal originality ( $X_{mv} = 1.30$ ,  $X_{mv} = 1.36$ ,  $X_{mv} = 1.42$ ), productivity markers were the second according to the results ( $X_{mv} = 0.52$ ,  $X_{mv} = 0.56$ ,  $X_{mv} = 0.65$ ) and visual creativity ( $X_{mv} = 0.79$ ,  $X_{mv} = 0.82$ ,  $X_{mv} = 0.89$ ), the marker of categorical flexibility is in the last place ( $X_{mv} = 0.60$ ,  $X_{mv} = 0.62$ ,  $X_{mv} = 0.65$ ). This distribution of markers is related to the peculiarities of the school education system in China. As pointed out by Kyunghee So, Yaeji Hu, Forrester V., Hui A, changes in school education in the country have led to the fact that students are trained to answer specific questions correctly, because examinations are conducted in the form of tests (Kyunghee & Yaeji, 2019; Forrester & Hui, 2007). But almost no attention is paid to the development of the originality of thinking and creativity. Forrester V., Hui, A. indicate that the current education system in China is based on

fear and cramming of material, does not provide an individual approach and the certification system evaluates only cognitive skills (Forrester & Hui, 2007). That is, the education system is based on mechanical memorization. However, to date, the M. Montessori system and the Waldorf education system, which are currently only used in private schools, are

beginning to be used in education (Liu, 2019). Also, the obtained results indicate that during the studied age there is a development of certain components of creative abilities in the young adolescents of the Chinese sample group, especially this jump is observed at the age of 11 and 12 years.



**Fig. 1.** Generalization of the results of the research on creativity among young adolescents of the Chinese sample group (according to P. Torrens' method).

According to the generalized data presented in fig. 1, it can be observed that during the studied age, the representatives of the Chinese sample group develop structural markers of creativity. For confirmation, we used the Mann-Whitney test. Statistically significant differences were found between performance markers of young adolescents aged 10 and 11 ( $U=1060$  at  $p<0.05$ ), 10 and 12 years old ( $U=1037$  at  $p<0.05$ ); constructive activity of young adolescents 10 and 12 years old ( $U=1130$  at  $p<0.05$ ), visual creativity of young adolescents 10 and 11 years old ( $U=1095$  at  $p<0.05$ ).

The results of the research on the level of anxiety (according to the method of H. M. Prihozhan) of

young adolescents of the Chinese sample group are presented in Table 2.

It was found that among the young adolescents of age 10 of the Chinese sample group, the scale of interpersonal anxiety is the most evident ( $X_{mv}=6.3$ ), which has an average level and indicates that they are characterized by some anxiety in communicating with their peers. The second marker according to the results is school anxiety ( $X_{mv}=6.1$ ), that is, anxiety in the studied 10-year-olds is caused by situations related to school, academic success and communication with teachers. The third one according to the results of the 10-year-old examinees is the marker of self-assessed anxiety ( $X_{mv}=5.7$ ), that is, the least disturbing for the examinees are situations related to self-image.

**Table 2.**

*Markers of the level of anxiety in young adolescents of the Chinese sample group (according to the method of H. M. Prihozhan)*

Groups of examinee	School anxiety	Self-esteemed anxiety	Interpersonal anxiety	General anxiety
10 years old	6.1	5.7	6.3	6.0
11 years old	5.5	5.8	6.1	5.8
12 years old	5.4	6.2	5.8	5.8

It was found that among the young adolescents aged 11 of the Chinese sample group, the scale of interpersonal anxiety is the most evident ( $X_{mv} = 6,1$ ), which indicates the presence of certain anxiety and fear in communication with peers. According to the results of the studied 11-year-olds, the second marker that stands out is self-assessed anxiety ( $X_{mv}=5.8$ ), which generally

indicates the possibility of anxiety in situations that actualize self-discovery. The third marker of young adolescents aged 11 is school anxiety ( $X_{mv}=5.5$ ), i.e. the examinees are emotionally restrained in situations related to school.

The level of anxiety in young teenagers aged 12 in the Chinese sample group was studied and

according to the results it was established that the self-reported anxiety marker ( $X_{mv}=6.2$ ) stands out first, that is a significantly increased level of anxiety in situations related to self-discovery. The second marker of 12-year-old young Chinese adolescents according to the results is interpersonal anxiety ( $X_{mv}=5.8$ ), i.e., anxiety was investigated in situations that involve communication with a large number of people. The third marker of 12-year-old teenagers according to the results is school anxiety ( $X_{mv}=5.4$ ), which is the most evident in situations related to the performance of tests and receiving grades for them.

A comparative analysis of the results of the research on the levels of anxiety in young adolescents aged 10-12 years of the Chinese sample group (see Table 2.) allows us to reveal that during the studied age there are changes in the predominance of one or another type of anxiety, namely in young adolescents aged 10 and 11 the most evident is interpersonal anxiety, and self-esteem anxiety is the most evident in 12-year-old examinees. However, school anxiety is the least evident for young adolescents aged 11 and 12, and self-esteem anxiety for 10-year-old examinees. As the scientists explain, this is due to the special social situation of the development of Chinese young teenagers, as well as socio-economic and psychological reasons. Also, So. Kyunghee, Hu. Yaeji, V. Forrester, A. Hui indicate that Chinese schoolchildren are constantly under stress, which is related to the constant testing system at school (Kyunghee & Yaeji, 2019, Forrester & Hui, 2007)

The results obtained by the "Non-existent animal" method in the young 10-year-old Chinese sample group allow us to say that the most evident is the marker of experiencing fear (60%). The second marker is fear and anxiety (20%), and the least expressed in the studied group of 10-year-old teenagers are such markers as the ease of occurrence of apprehensions and fears (17%) and severe anxiety (16%). It was also found that among the studied 10-year-olds, 65% of the examinees are not confident in themselves, have low self-esteem, are indecisive, are not interested in their social position, they have no tendency to self-affirmation, and 30% of the Examinees have markers of a constant tendency to activity. 25% of the studied 10-year-old Chinese sample group are dissatisfied with themselves and depressed, have feelings of remorse; creative abilities were found in only 25% of the examinees.

Among the young 11-year-olds teenagers of the Chinese sample group, the most evident marker is experiencing fear (60%). The marker of the ease of apprehension and fear (20%) is the second most evident one, and the marker of fear and anxiety (18%) is the third one. The results for the marker of acute anxiety are slightly lower (18%). Feelings of anxiety and fear of aggression from others were also found in 37% of the examinees; 29% of the researched are characterized by conformity of judgments and attitudes in decision-making, stationarity, banality; 25% of the respondents are dissatisfied with themselves and depressed, have feelings of remorse; creative abilities were found in only 27% of the examinees.

In the works of young 12-year-old adolescents from the Chinese sample group, the marker of experiencing fear prevails (57%). The markers of ease of apprehension and fear (22%) and fear and anxiety (19%) are second ones in terms of results. Less evident in the works of 12-year-old teenagers is the marker of acute anxiety (16%). It was also established that 20% of the examinees show mistrust and verbal aggression; creative possibilities were found in 30% of the examinees.

The analysis of the results of the author-developed questionnaire for the study of psychological barriers in the development of creative abilities in young adolescents (A. V. Massanov, Liu Yan) (Liu, 2019) of a 10-12-year-old Chinese sample group revealed that among the studied 10-year-olds, 90% of teenagers attend after-school activities and clubs, 10% of respondents do not go to clubs of interests after school; among the studied 11-year-olds, 95% of the teenagers are involved in clubs and activities after school, 5% of teenagers do not attend any after-school clubs, among the studied 12-year-olds, 13% of teenagers do not attend after-school clubs and are not engaged into after-school activities, and 87% of teenagers attend clubs.

Studying in detail the results according to the specified method in each age group, we found out that if the 10-year-old young teenagers of the Chinese sample group do not attend after-school clubs, it will be due to the fact that they do not want to go anywhere, they only want to study (30%), think that school is more interesting and you can study only at school (20%), in other places besides school they feel threatened and do not go to clubs (25%), there are many friends at school (20%). However, among the respondents who do not attend creative clubs and activities,

dancing, ping-pong, basketball, football, singing and drawing were singled out among the best after-school clubs where they would go. It was also established that among the most popular sections and groups among 10-year-olds are ping-pong, dancing, drawing, singing and physical education, playing a Chinese musical instrument. In 40% of the studied 10-year-olds, the desired after-school clubs differ from the ones they attend.

The results of the questionnaire on psychological barriers in the development of creative abilities of 11-year-olds of the Chinese sample group made it possible to establish that, if they did not attend clubs, what is the reason for this - they explain it by the fact that they "don't know" (15%), "I don't want to study, but I want to go out" (20%), "I need to study" (15%), "I can spend more time with friends" (55%). It was found that among the most popular clubs and groups among 11-year-olds are calligraphy, dancing, football, playing the piano, drawing, chess, and English. However, most of the studied 11-year-olds would like to change their club to another one, among which they single out dancing, piano, playing the guitar, tourism, playing a Chinese musical instrument, and playing the swirel.

In the works of 12-year-olds of the Chinese sample group, it is determined what is associated with not attending clubs - "I have many friends and I want to communicate with them more" (30%), "lessons are the most important" (15%), "I want to study more at school" (15%). So, among the most popular clubs and activities attended by 12-year-olds are the museum, summer camp, swimming, literature, drumming, chess, and playing basketball. However, the

studied 12-year-olds have practically no desire to change the club to another one.

We can observe that during the studied age, the younger teenagers of the Chinese sample group have a change in the choice of after-school clubs, as well as a desire not to go to after-school clubs at all, but to rest and communicate with their peers. Such results are explained by the peculiarities of schooling. After all, children are at school from eight in the morning until three or four in the evening, and after school they return home and do numerous homework. On weekends, schoolchildren mostly visit tutors, and also attend music school, art school and sports sections. But they do all this under the pressure of their parents, who teach them that they will not be able to enter the university without passing school exams, forgetting that success in life depends on other social skills.

We also studied the specifics of the relationship between markers of creative abilities and psychological barriers, personality traits on which these barriers are based, among young teenagers of the Chinese sample group (see Tables 3-5).

According to the data in Table 3, it can be seen that there is a strong relationship between the performance marker before making visual hypotheses and general anxiety ( $r=0.29, p<0.05$ ); between the marker of creative environment and productivity ( $r=0.33, p<0.05$ ), constructive activity ( $r=0.38, p<0.05$ ), that is, we can say that in the presence of a creative environment and a moderate level of anxiety the level of structural components of creative abilities in the examinees will increase.

**Table 3.**

*Indicators of correlations between creative abilities and personal characteristics in young 10-year-old adolescents of the Chinese sample group (according to the methods of P. Torrens, G. Davis and the methods of H. M. Pryhozhan, psychological barriers)*

Indicators of the motivational sphere	Criteria according to the P. Torrens's method					G. Davis' s method
	Productivity	Constructive activity	Categorical flexibility	Visual creativity	Verbal originality	
r1	-0.32*	0.13	0.07	-0.19	0.27	-0.34*
r2	0.18	0.10	0.11	0.04	0.12	0.11
r3	-0.31*	-0.09	0.01	-0.12	-0.06	-0.32*
r4	0.29*	0.18	0.16	0.15	0.18	-0.37*
r5	0.33*	0.38*	0.20	0.24	0.13	0.29
r6	-0.34*	-0.31*	-0.16	-0.30*	0.09	-0.35*

Note: \* – statistically significant differences at  $p<0.05$ ; \*\* – statistically significant differences at  $p<0.01$ ; r1 – school anxiety; r2 – self-assessed anxiety; r3 – interpersonal anxiety; r4 – general anxiety; r5 – creative environment; r6 - is an indicator of psychological barriers.

A significant inverse relationship was found between markers of school anxiety and productivity ( $r=-0.32$ ,  $p<0.05$ ), creativity as a personality quality ( $r=-0.34$ ,  $p<0.05$ ); between interpersonal anxiety and productivity ( $r=-0.31$ ,  $p<0.05$ ), creativity as a personality quality ( $r=-0.32$ ,  $p<0.05$ ); between general anxiety and creativity as a personality quality ( $r=-0.37$ ,  $p<0.05$ ); between the markers of psychological barriers and visual creativity ( $r=-0.30$ ,  $p<0.05$ ), productivity ( $r=-0.34$ ,  $p<0.05$ ), constructive activity ( $r=-0.31$ ,  $p<0.05$ ), creativity as a

personality quality ( $r=-0.35$ ,  $p<0.05$ ), the specified personal characteristics negatively affect the development of structural components of creative abilities and creativity in the 10-year-old Chinese sample group examinees.

Table 4 presents the results of the study of the relationships between the structural components of creative abilities and personal characteristics in the works of young 11-year-old teenagers of the Chinese sample group.

**Table 4.**

*Indicators of correlations between creative abilities and personal characteristics in young 11-years-old adolescents of the Chinese sample group (according to the methods of P. Torrens, G. Davis and the methods of H. M. Pryhozhan, psychological barriers)*

Indicators of the motivational sphere	Criteria according to the P. Torrens's method					
	Productivity	Constructive activity	Categorical flexibility	Visual creativity	Verbal originality	G. Davis's method
r1	-0,34*	-0,15	0,18	-0,37*	-0,22	-0,39*
r2	-0,14	-0,15	-0,03	-0,13	-0,10	-0,07
r3	-0,33*	-0,10	-0,05	-0,38*	-0,32*	-0,41*
r4	0,09	0,07	0,24	0,05	-0,13	0,10
r5	0,35*	0,31*	0,27	0,36*	0,22	0,20
r6	-0,39*	-0,29*	-0,27	-0,34*	-0,28*	-0,42**

Note: \* – statistically significant differences at  $p<0.05$ ; \*\* – statistically significant differences at  $p<0.01$ ; r1 – school anxiety; r2 – self-assessed anxiety; r3 – interpersonal anxiety; r4 – general anxiety; r5 – creative environment; r6 – is indicator of psychological barriers.

Interrelationships were revealed in the works of young teenagers aged 11 of the Chinese sample group between markers of the creative environment and productivity ( $r=0.35$ ,  $p<0.01$ ), visual creativity ( $r=0.36$ ,  $p<0.05$ ), constructive activity ( $r=0.31$ ,  $p<0.05$ ), which indicates the dependence of the level of development of markers of creative abilities on the environment in which a teenager develops.

Strong inverse relationships were found in the works of 11-year-old Chinese teenagers between markers of school anxiety and productivity ( $r=-0.34$ ,  $p<0.05$ ), visual creativity ( $r=-0.37$ ,  $p<0.05$ ), creativity as a personality quality; between interpersonal anxiety and productivity ( $r=-0.33$ ,  $p<0.05$ ), visual creativity ( $r=-0.38$ ,  $p<0.05$ ), verbal originality ( $r=-0.32$ ,  $p<0.05$ ), creativity as a personality quality ( $r=-0.41$ ,  $p<0.05$ ); between psychological barriers and productivity ( $r=-0.39$ ,  $p<0.05$ ), visual creativity ( $r=-0.34$ ,  $p<0.05$ ), verbal originality ( $r=-0.28$ ,  $p<0.05$ ), constructive activity ( $r=-0.29$ ,  $p<0.05$ ), creativity as a personality quality ( $r=-0.42$ ,  $p<0.05$ ), that is, the level of development of

structural components of creative abilities will decrease with an increase in the number of psychological barriers and the level of anxiety in the studied 11-year-olds.

A strong relationship was found in the works of younger adolescents aged 12 years of the Chinese sample (see Table 5) between markers of the creative environment and productivity ( $r=0.32$ ,  $p<0.05$ ), visual creativity ( $r=0.36$ ,  $p<0.05$ ), constructive activity ( $r=0.30$ ,  $p<0.05$ ), creativity as a personality quality ( $r=0.31$ ,  $p<0.05$ ), that is, a creative environment promotes the development of creative abilities of the studied 12-year-olds.

An inverse strong relationship was found between markers of school anxiety and constructive activity ( $r=-0.29$ ,  $p<0.05$ ), visual creativity ( $r=-0.36$ ,  $p<0.05$ ), verbal originality ( $r=-0.30$ ,  $p<0.05$ ); between interpersonal anxiety and productivity ( $r=-0.35$ ,  $p<0.05$ ), visual creativity ( $r=-0.29$ ,  $p<0.05$ ), categorical flexibility ( $r=-0.37$ ,  $p<0.05$ ), creativity as a personality quality ( $r=-0.30$ ,  $p<0.05$ ); between

the level of psychological barriers and productivity ( $r=-0.35$ ,  $p<0.05$ ), visual creativity ( $r=-0.32$ ,  $p<0.05$ ), verbal originality ( $r=-0.30$ ,  $p<0.05$ ), creativity as a personality quality ( $r=-0.39$ ,  $p<0.05$ ), between self-rated anxiety and productivity ( $r=-0.29$ ,  $p<0.05$ ), visual creativity

( $r=-0.34$ ,  $p<0.05$ ), verbal originality ( $r=-0.30$ ,  $p<0.05$ ), creativity as a personality quality ( $r=-0.37$ ,  $p<0.05$ ), i.e. the level of development of creative abilities will decrease with an increase in the level of psychological barriers and the level of anxiety in the studied 12-year-olds.

**Table 5.**  
*Indicators of correlations between creative abilities and personal characteristics in young adolescents 12 years old of the Chinese sample (according to the methods of P. Torrens, G. Davis and the methods of H. M. Pryhozhan, psychological barriers)*

Indicator of the motivational sphere	Criteria according to the P.Torrens's method					
	Productivity	Constructive activity	Categorical flexibility	Visual creativity	Verbal originality	G.Davis' s method
r1	-0,07	-0,29*	-0,12	-0,36*	-0,30*	0,11
r2	-0,29*	-0,12	-0,03	-0,34*	-0,30*	-0,37*
r3	-0,35*	0,13	-0,37*	-0,29*	-0,17	-0,30*
r4	0,05	-0,09	-0,12	0,10	-0,11	-0,16
r5	0,32*	0,30*	0,27	0,36*	0,20	0,31*
r6	-0,35*	-0,14	0,10	-0,32*	-0,30*	-0,39*

Note: \* – statistically significant differences at  $p<0.05$ ; \*\* – statistically significant differences at  $p<0.01$ ; r1 – school anxiety; r2 – self-assessed anxiety; r3 – interpersonal anxiety; r4 – general anxiety; r5 – creative environment; r6 – is indicator of psychological barriers.

A comparative analysis of the results of the study of the level of development of the structural components of creative abilities in young adolescents of the Ukrainian and Chinese sample groups was conducted (see Table 6 and Figs. 2, 3).

level of development of creativity as a quality of personality is higher in the representatives of the Chinese sample group compared to the representatives of the Ukrainian sample group, which is confirmed by the presence of statistically significant differences in the scores for marker in the studied Chinese and Ukrainian groups of 10, 11, 12 years old ( $U=997$ ,  $U=956$ ,  $U=923$  at  $p<0.05$ ).

According to the summarized data due to the methods of P. Torrens and G. Davis, which are presented in Table 6, we can observe that the

**Table 6.**  
*Comparative analysis of the results according to the methods of P. Torrens and G. Davis in young adolescents of the Ukrainian and Chinese sample groups*

Criteria	Sample groups								
	10 years old			11 years old			12 years old		
	USG	CSG	U	USG	CSG	U	USG	CSG	U
Productivity	0.57	0.52	890	0.65	0.56	967*	0.71	0.65	814
Constructive activity	1.65	1.5	1001	1.87	1.6	1002	2.0	1.8	902
Categorical flexibility	0.45	0.6	805	0.35	0.62	937*	0.35	0.65	942*
Visual creativity	0.71	0.79	1028*	0.76	0.82	997*	0.86	0.89	1004*
Verbal originality	1.02	1.30	1036*	1.47	1.36	938*	1.48	1.42	822
Creativity	10.52	11.72	997*	10.6	11.46	956*	11.2	12.12	923*

Note: USG – Ukrainian sample group, CSG – Chinese sample group.

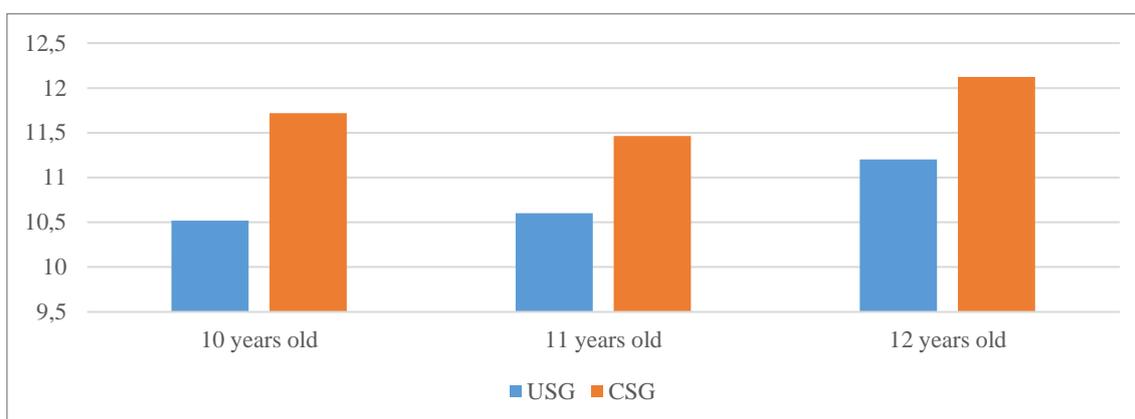
The analysis of the results of the research on the level of development of the structural components of creative abilities according to P. Torrens's method made it possible to establish

that in the works of the studied 10 years differences in the levels of development of such structural components of creative abilities as productivity ( $X_{mv}=0.57$  and  $X_{mv}=0.52$ ),

constructive activity ( $X_{mv}=1.65$  and  $X_{mv}=1.5$ ), i.e. the level of development of the indicated markers is higher among representatives of the Ukrainian sample group. But, according to such markers as categorical flexibility ( $X_{mv}=0.45$  and  $X_{mv}=0.6$ ), visual creativity ( $X_{mv}=0.71$  and  $X_{mv}=0.79$ ), verbal originality ( $X_{mv}=1.02$  and  $X_{mv}=1.30$ ) the level of development is higher in representatives of the Chinese sample group compared to the Ukrainian one. Also, we found statistically significant differences in the scores for markers of visual creativity and verbal originality among the studied Chinese and Ukrainian groups of 10-year-old teenagers ( $U=1028$ ,  $U=1036$  at  $p<0.05$ ), that is, the level of development of the specified markers is higher among the representatives of the Chinese sample group.

The results obtained in the works of younger teenagers aged 11 of two sample groups show

that the level of development of such markers of creative abilities as productivity, constructive activity and verbal originality is higher in younger teenagers of the Ukrainian sample group compared to representatives of the Chinese one ( $X_{mv}=0.65$  and  $X_{mv}=0.56$ ;  $X_{mv}=1.87$  and  $X_{mv}=1.6$ ;  $X_{mv}=1.47$  and  $X_{mv}=1.36$ ). But the level of development of such components as categorical flexibility and visual creativity is higher in examinees of the Chinese sample group compared to young adolescents of the Ukrainian one ( $X_{mv}=0.35$  and  $X_{mv}=0.62$ ;  $X_{mv}=0.76$  and  $X_{mv}=0.82$ ). Also, the obtained results are confirmed by the presence of statistically significant differences in the works of the studied Chinese and Ukrainian sample groups according to the markers of productivity ( $U=967$ , at  $p<0.05$ ), categorical flexibility ( $U=937$ , at  $p<0.05$ ), visual creativity ( $U=997$ , at  $p<0.05$ ) and verbal originality ( $U=938$ , at  $p<0.05$ ).

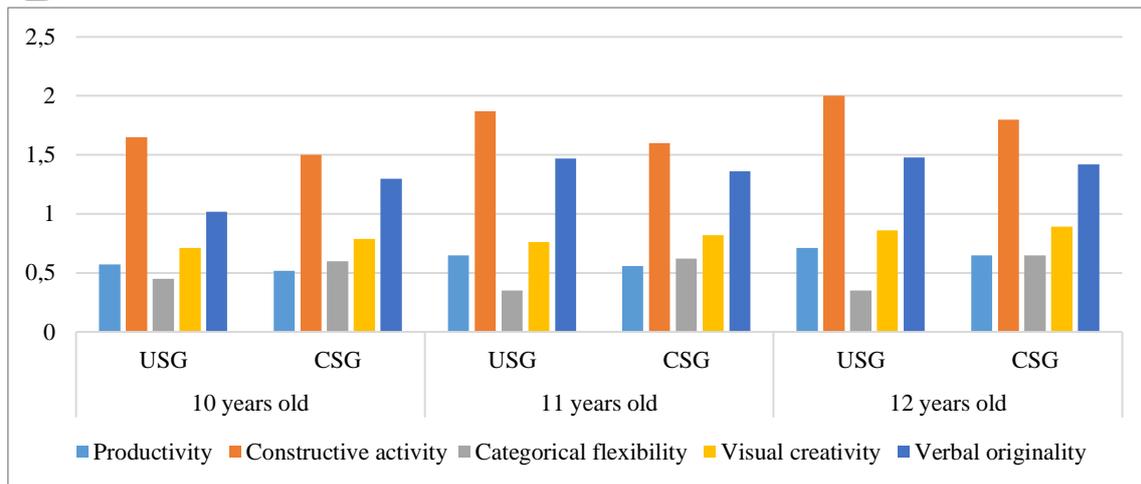


Note: USG – Ukrainian sample group, CSG – Chinese sample group.

**Fig. 2.** Comparative analysis of the level of creativity as a personality quality among young adolescents of the Ukrainian and Chinese sample groups (according to the method of G. Davis).

A comparative analysis of the results of the research on the level of development of the structural components of creative abilities among 12-year-old teenagers made it possible to establish that differences in the levels of development of such structural components of creative abilities as productivity ( $X_{mv}=0.71$  and  $X_{mv}=0.65$ ), constructive activity ( $X_{mv}=2.0$  and  $X_{mv}=1.8$ ), verbal originality ( $X_{mv}=1.48$  and  $X_{mv}=1.42$ ), i.e. the level of development of the indicated criteria is higher among representatives of the Ukrainian sample group. However, according to such markers as categorical

flexibility ( $X_{mv}=0.35$  and  $X_{mv}=0.65$ ), visual creativity ( $X_{mv}=0.86$  and  $X_{mv}=0.89$ ), the level of development is higher among representatives of the Chinese sample group compared to the Ukrainian one. Also, we found statistically significant differences in the evaluations of markers of visual creativity and categorical flexibility in the investigated Chinese and Ukrainian groups of 12 years old ( $U=1004$ ,  $U=942$  at  $p<0.05$ ), i.e., the level of development of these criteria is higher in representatives of the Chinese sample group.



Note: USG – Ukrainian sample group, CSG – Chinese sample group.

**Fig. 3.** Comparative analysis of the level of development of structural components of creativity in young adolescents of the Ukrainian and Chinese sample groups (according to the method of P. Torrens).

According to the comparative analysis of the level of development of the structural components of creativity in young adolescents of the Ukrainian and Chinese sample groups (according to P. Torrens's method), which are presented in fig. 3, we can observe that during the studied age, the young 10-12-year-old teenagers of the Ukrainian sample group have a higher level of development of such structural components of creative abilities as productivity, constructive activity and verbal originality in comparison with the results of the studied Chinese ones. However, the level of development of such structural components as visual creativity and categorical flexibility is higher in the studied Chinese sample group of 10-12 years old.

The peculiarities of the manifestation of anxiety in young adolescents aged 10-12 years of Ukrainian and Chinese samples were clarified (see Table 7 and Fig. 4). It was established that the level of school anxiety among young adolescents of the Ukrainian sample group is lower than that of the representatives of the Chinese one (10-year-old Hmv=4,12 and Hmv=6,1, 11-year-olds – Hmv=4,84 and Hmv=5,5, 12-year-olds – Hmv=4,56 and Hmv=5,4). Differences in the level of manifestation of self-evaluative and interpersonal anxiety among the representatives of the two samples were also found, namely, the level of the indicated types of anxiety is higher among the representatives of the Chinese sample group.

**Table 7.**

*Comparative analysis of the results of studying the level of anxiety according to the method of H. M. Pryhozhan in young adolescents of Ukrainian and Chinese sample groups*

Sample groups	School anxiety			Self-esteem anxiety			Interpersonal anxiety			General anxiety		
	USG	CSG	U	USG	CSG	U	USG	CSG	U	USG	CSG	U
10 years old	4.12	6.1	993*	5.04	5.7	756	4.84	6.3	1089*	4.8	6.0	765
11 years old	4.84	5.5	1201*	5.52	5.8	810	5.51	6.1	1125*	5.68	5.8	901
12 years old	4.56	5.4	1095*	4.56	6.2	853	3.6	5.8	1020*	3.64	5.8	807

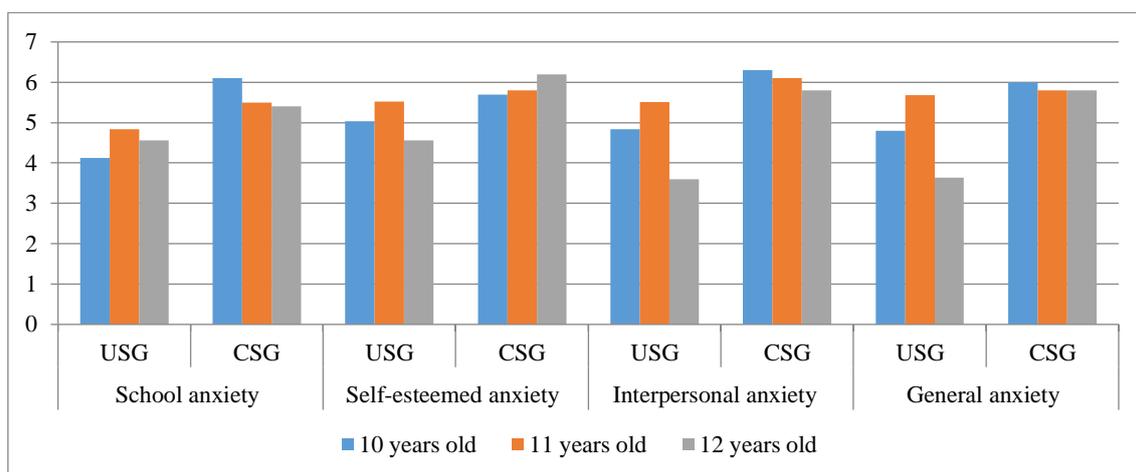
Note: USG - Ukrainian sample group; CSG - Chinese sample group.

A comparative analysis of the results of the study of the level of anxiety in the examinees allowed us to establish that self-esteem anxiety is the most evident in the young adolescents ages 10 of the Ukrainian sample group, and it is the least evident in the young adolescents aged 10 of the Chinese sample group. However, in the 10-year-old examinees of the Chinese sample group, interpersonal anxiety is the most evident. In the

works of 11-year-old examinees, it was found that self-esteem anxiety is the most evident in the representatives of the Ukrainian sample group, and interpersonal anxiety is the most evident in the representatives of the Chinese one. School anxiety is the least evident among representatives of both sample groups.

The results of the analysis of the works of the young 12-year-olds of the two sample groups show that self-esteem anxiety is the most evident in them, but the results differ in the least evident

type of anxiety: in the Ukrainian sample group - interpersonal anxiety, in the Chinese one - school anxiety.



Note: USG - Ukrainian sample group; CSG - Chinese sample group.

**Fig. 4.** Comparative analysis of levels of anxiety exposure in young adolescents of Ukrainian and Chinese samples groups

According to the comparative analysis of the level of manifestation of types of anxiety in young adolescents of the Ukrainian and Chinese sample groups (Fig. 4), it can be observed that there are significant differences in the manifestation of anxiety in representatives of the Ukrainian and Chinese sample groups. Namely, in young adolescents of the Ukrainian sample group, self-esteem anxiety is the most evident, and interpersonal anxiety is the least evident. On the contrary, in the teenagers of the Chinese sample group, interpersonal anxiety is the most evident, and self-esteem anxiety is the least evident. Also, statistically significant differences were found in the works of the studied Chinese and Ukrainian sample groups in the evaluations of interpersonal anxiety ( $U=1089$ ,  $U=1125$ ,  $U=1020$ , at  $p<0.05$ ), school anxiety ( $U=993$ ,  $U=1201$ ,  $U=1095$  at  $p<0.05$ ). This indicates that the level of interpersonal and school anxiety is higher in the studied Chinese sample group compared to the Ukrainian one. This can be explained by the peculiarities of schooling in the countries. Chinese children study for more than 10 hours a day and have little time to communicate with their peers, which leads to misunderstandings between them.

The peculiarities of the manifestation of psychological barriers in the development of creative abilities of young Ukrainian and Chinese adolescents were studied. Thus, it was found that the most evident barriers in the young adolescents of the Ukrainian group are self-doubt, limited opportunities, lack of curiosity,

fear of making a mistake, reluctance to take risks, and in the young adolescents of the Chinese sample group, the most evident are lack of curiosity, fear of bad study at school, reluctance to take risks, fear of losing friends, limited opportunities. But we can observe that there are the same barriers in both samples, which is related to the specifics of development at a given age and leading activities.

## Conclusions

Having studied the peculiarities of the manifestation of psychological barriers in the development of creative abilities of young adolescents of Ukraine and China, having conducted an analysis of theoretical scientific data on selected issues, we can say that when developing a program to work with psychological barriers in the development of creative abilities of young adolescents it is necessary to take into account the following classification of them:

1. Barriers related to acquired experience (narrowness of the world picture);
2. Individual creative barriers (level of intelligence, development of critical thinking, low ability to self-regulate, inadequate self-esteem, general passivity);
3. Psychological barriers in creative activity (anxiety, fears, doubts, uncertainty, surprise, etc.).

When working with psychological barriers of teenagers, scientists single out the following most effective methods and directions: psychocorrection; social and psychological training; game activity (play therapy, communicative, role-playing, simulation games); communicative activity; collective creative activity.

The main tasks of the corrective program to work with psychological barriers in the development of creative abilities of young adolescents should be work with: emotional barriers in creativity (reducing the level of anxiety and fear, increasing self-esteem and developing self-confidence, working with doubts); creative barriers (development of creative thinking, development of adequate self-esteem, increased sense of responsibility); conditions for the development of the personal and intellectual potential of a young adolescent.

Taking into account the system of psychological and pedagogical support of teenagers in a recreational institution, the directions of activity of the facilitators, who also create conditions for the development of the creative abilities of the recreationists, should be taken into account. Such conditions include visits by teenagers to creative after-school clubs, competitions, various games, participation in concerts, debates.

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