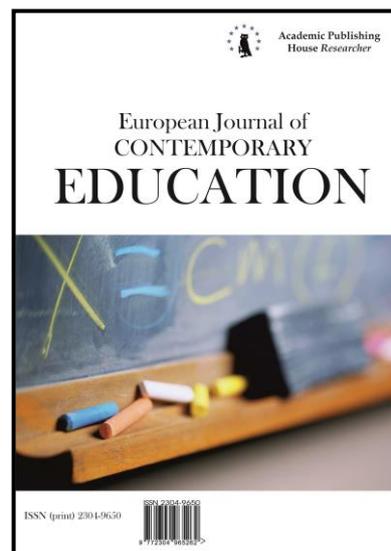




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Published in the Slovak Republic  
European Journal of Contemporary Education  
E-ISSN 2305-6746  
2018, 7(4): 642-652  
DOI: 10.13187/ejced.2018.4.642  
[www.ejournal1.com](http://www.ejournal1.com)

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## **Creativity and Creative Activity in High-School Students of General-Education Organizations in the Republic of Kalmykia**

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### **Abstract**

The article presents the results of an interdisciplinary and integrative study of creativity and creative activity in high-school students. The authors attempted to describe the abovementioned phenomenon considering the influence of a traditional large Kalmyk family, ethnical-cultural identification, self-actualization, role and functions of social environment, including the type of educational institution and extracurricular education. The study employed an innovative psychological diagnostic system that included authors' original developments. The obtained results can be extrapolated not only to the studied region (Republic of Kalmykia) but also to other territories with multiethnic and ethnical-cultural population.

The study allows expanding the scientific knowledge about creative skills in the youth, their psychological diagnostics and stimulation of their development.

**Keywords:** integrative approach, creativity, personality of high-school students, interdisciplinary approach, creative activity, traditional family, ethnical-cultural identification, youth.

### **1. Introduction**

The problems of scientific research and development of creativity and creative activity in high-school students of the general-education organizations of Kalmykia gain close attention and support from the administrative departments of the Republic. The quality of intellectual and personality potential of high-school graduates is considered as a human resource for innovative transformations in social, economic and cultural life of the Region for the following decades. Two crucial research components are activated for this goal.

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The first research component is related to the choice of scientific perspective. Multilevelled and ambiguous interpretations of the concepts of creativity and creative activity in the national and international psychological-pedagogic literature urge each researcher involved in this topic to state her scientific and methodological priorities in detail. However, in this case, the selected monotheoretical perspective automatically narrows the range for sharing the conceptual bases and practical results with the large research community. In such situation, even successful attempts to conduct empirical studies of project type in the scale of a region (republic) will be partially discredited. The results that are limited by a single paradigm might be considered as local, being only locally significant and requiring comparative analyses of samples from other regions and additional interpretations from the perspective of other scientific approaches and theories. In turn, intercepting various conceptual bases in a single integral diagnostic program would lead to an integrated methodology and would make the scientific foundation of the study interdisciplinary relevant.

The second component of a researcher's scientific perspective is related to the specifics of the studied cohort. This implies the answers to the following questions: Is creativity of high-school students related to the level of academic difficulty in the educational institution and with the nature of its educational environment, in general? Who is more creative, young men or women, and whose education should be supported more in the future? Which factors of family and general social way of life influence the manifestation of the creative potential during the transition from the school environment to the adult one (city or rural location, number of children in the family, presence or absence of extracurricular education in creative activities, etc.)?

The period of high-school and university youth is abundant in crises. Crises («changing the roots», «equator», «transition») follow one right after another: right upon the finish of one crisis, the next one already awaits a young person during a new life turn. «What is this crisis?», was the question of G. Allport, the founder of the American humanistic psychology. His answer was: «It is a situation of emotional and cognitive stress that requires significant changes in the ideas about the world and oneself in a short amount of time» (Allport, 1998). How can one handle such task without an ability to focus potential creative abilities to overcome yet another age-related, social-psychological or social-economic challenge?

The choice of the integrative approach towards studying creativity and creative activity in students' early youth appears to be timely and viable due to at least two significant factors (Sokalskiy, 2014). Firstly, orienting the system of general and professional education in the Republic of Kalmykia at the development of young personnel would require systematically organized preparation of the students for performing creative activity by involving their creative potential. Secondly, it would call for special work for expanding and integrating the theoretical bases for diagnosing creativity as an intellectual skill and an ability to transform a life situation in response to an internal need. Such approach would exclude the educational amateurs' attempts to «make everyone creative» by introducing the school students to the folk traditions and amateur artistic activity (Rabochaya kontseptsiya..., 1998). Choosing integrative approach would allow using not only the instrumental and interpretative resource of the psychological disciplines (differential, social, developmental and pedagogic psychology), but also of the adjacent fields, such as sociology, demographic studies and pedagogics.

The selected perspective – transconceptual integration of various scientific positions in studying skills (giftedness, creativity, creative activity) in the context of young age – allowed transmitting a highly significant scientific idea for its integration in practice. The essence of this idea consists in the fact that making a system of different theories allows excluding superficial knowledge about nature and manifestations of general and special skills, giftedness and talent. This would minimize premature, consciously and precariously extoling influence of the educational system on the personality development and general life choices of young people that demonstrate accelerated intellectual development.

The integrative approach creates a unified perception of the problem of employing and actualizing the creative potential of a personality; this problem requires a multiaspect research approach in the context of the period of youth in the human development. Due to this, it is highly reasonable to group the research material around the concepts and categories that are typically used by researchers and practicing teachers that are interested in the problems of creative skills and their perfection.

Among those researchers, the key role for our studies belongs to the paradigms of V.N. Druzhinin and E.P. Ilyin.

V.N. Druzhinin has pointed out that one can make advances in studying creativity and creative activity only by integrating the achievements of different psychological approaches towards studying creativity and creative activity (Druzhinin, 2007). In his opinion, such paradigm, being fortified from the interdisciplinary perspectives, would help resolving the contradictions in the scientific paradigms and related psychological paradoxes of personality establishment and development in different age periods.

According to V.N. Druzhinin, radical qualitative changes in the mechanism of development of creative skills and creative activity occur in adolescence and youth («the second phase»). During this age, a «specialized» creativity establishes on the basis of general creativity; it is related to a specific field of activity (Druzhinin, 2007: 219). A young person chooses a professional example that he follows and mimics as an ideal. «The second phase finishes with rejecting her own mimicked creations and negative attitude towards the former ideal. An individual either remains at the stage of mimicking forever, or transitions to original creativity» (Druzhinin, 2007: 220).

The researcher points out that «the studies of creativity in older age groups should use stating experiments and biographical method» (Druzhinin, 2007: 220). Developmental experiment provides positive results for 3-6-year-old children, and sometimes for the conditions of professional education.

E.P. Ilyin (2009) studied the problem not only at the interdisciplinary, but also at the integrative level; he synthesized rational grains from intellectual-emotional, existential, psychoanalytical and gestalt approaches.

As a result, scientific knowledge and practice gained an integral innovative system; the distinction between the concepts of creative activity and creativity, which were typically defined in a straightforward manner in the national psychological literature, became more specific and strict. He provided new insights on the questions of: ways of managing creative activity, collective creative activity and creative activity in a collective, as well as creative activity in the context of different ages. The retrospective review (from XIXth century to the present) of creative activity styles and their correlation with the types of creators is informative in the applied manner. The author solved these problems by addressing the wide spectrum of opinions of international and national scientists. The value of a literature review consists in the fact that it analyzes the newest opinions that have not been reflected in the previous scientific publications in our country.

## **2. Materials and methods**

The study had been conducted during several years with various intensity in three gymnasiums and three general-education schools located in regional centers of the Republic of Kalmykia or close to them. The sample fully reflected the general specifics of the cohort, i.e. high-school students of the Republic of Kalmykia. Despite the fact that, formally, the study was conducted outside of the city, its results could be considered valid for the whole territory. On the one hand, it is true because the Republic of Kalmykia has only two small cities, apart from the capital – Gorodovikovsk (8.8 thousand people) and Lagan (13.1 thousand people). On the other hand, school students from the city of Elista are voluntarily transferring to the 10-11<sup>th</sup> grades of the gymnasium in Troitskoe village.

The aim of the study was to explore the relation between creativity and constitutional, social-demographic and individual-personality traits of high-school students. The three selected aspects allowed employing the diagnostic inventory that was developed for studying creativity and creative activity from the conceptual perspectives of scientific, practice-oriented and humanitarian paradigms.

The study of the relation between creativity and constitutional, social-demographic and individual-personality traits of high-school students included a sample of 530 students of 10-11<sup>th</sup> grades – 248 young men (46.8 %) and 282 young women (53.2 %). They studied in the gymnasiums (363 high-school students, 68.5 % of the sample) and general-education schools (167 high-school students, 31.5 %). The predominant number of gymnasium students was defined by the specifics of the study subject. It is considered that the nominally advanced academic level in gymnasiums is a condition for attracting and developing intellectually gifted children within those schools.

The study used the following diagnostic methods: survey (a survey developed by E.A. Sokalskiy with consideration of ethical-psychological characteristics of the participants); testing (Eysenck's personality Inventory adapted by A.G. Shmelev (Ishov, 2004); creativity scale of the Personality Self-actualization survey by A. Maslow (Aleschina et al., 1987); short test of creative thinking (STCT, figure form) by P. Torrance adapted by E.I. Scheblanova and I.S. Averina (Kratkiy test..., 1995); and projective method (unfinished sentence, adapted for obtaining the information about the family). The procedures of statistical verification were used for the statistical analysis.

We used R. Fischer's  $\varphi^*$  test for the statistical analysis. Distribution of the characteristic in the general sample was close to normal. The choice of Fischer's  $\varphi^*$  test was not random. Firstly, we are planning on expanding the sample further to over 1,000 respondents; secondly, this criterion allows precise estimation of factors' significance and their interaction.

The description of the study results is primarily provided for the sample of the participants that have the diagnostics materials in the majority of the tests (this sample included 151 people). The empirical data collected in a large sample (530 people) were used as a confirmation of the revealed patterns and connections, especially for the analysis of texts of the surveys and half-projective method of unfinished sentences.

Furthermore, the article presents a partial description of study materials for the grant of the Russian Foundation for Humanities and the Ministry for Education and Science of the Republic of Kalmykia, project No. № 14-16-08001 «Creative skills of young people: psychological aspects» conducted in 2014-2015, and a detailed plan of further work on analyzing the data that were obtained in the sample of over 1,000 people. The study of creativity with the aim of its goal-directed amplification in specially created conditions was supported by a republican grant and encouraged by the Kalmykia's educational system. It required valid arguments in favor of revealing the nature of creativity, the forms of its manifestation, direct and indirect factors of its stimulation and containment in the context of the scientific achievements and practical advances in the work with gifted school students.

### **3. Discussion**

Republic of Kalmykia is a subject of Russian Federation and the only region in the European part of Russia where the local population (Kalmyk people) has Eastern origin. Together with this, the population of this steppe region is mostly multiethnic (over 30 nationalities) and multiconfessional (Buddhists, Christians and Muslims). These characteristics make Kalmykia a specific field for experimental studies and define the choice of the interdisciplinary approach with its possibilities to provide a wide scientific and cultural context for interpreting the empirical data.

According to the Constitution of the Republic of Kalmykia (Steep Law Code) from the 5<sup>th</sup> of April 1994, there are two equally-righted languages in the steep Region – Kalmyk and Russian. Possessing such linguistic wealth creates additional favorable conditions for the development of young people's creative skills. Such situation realizes the new stage of the program for the national restoration of the native Kalmyk language, the development of the national culture, rituals, traditions and beliefs. The key role here belongs to the educational system packed with regional-level programs with a dominating ethnical-cultural component. Their innovativeness and prospective success are recognized at the governmental level in Russia.

The regional level of designing educational programs was conducted in fundamental studies in pedagogics, ethnical pedagogics and culture studies by such renowned scientists of Kalmykia, as N.Ts. Bitkeev, G.N. Volkov, A.B. Pankin, as well as their colleagues and successors B.A. Bicheev, B.B. Dyakieva, O.D. Mukaeva, and others. In this context, one should note the studies in the ethnical psychology of the Kalmyk people by Z.S. Badmaeva on the national-psychological specifics of Kalmyk people (Badmaeva, 1997) and A.B. Imkenova on their ethnical identity (Imkenova, 1999). The described personality type of Kalmyk people highlights mostly social personality traits and qualities that were reflected in the Ethnical psychology textbook by V.G. Krysko (2002). The description specifically highlights romantic or sentimental perception of reality, closeness to nature, rich cultural relationships, persistence, courage and bravery, ability to be content with small things, overcome difficulties, etc.

However, the works of Z.S. Badmaeva and A.B. Imkenova state the insufficiency in the description of the specificity of Kalmyk mentality, their creativity in everyday life that manifests

though the works of folk art, as well as the achievements of musical and oral folk art (Platonov, 2007; Stefanenko, 2000).

Another study on a similar topic was conducted by B.K. Zhumagalieva (2002) in East Kazakhstan. Based on the studies of ethnical-cultural traits and interhemispheric asymmetry in Kazakhs and Russians, the author revealed and described the specifics in cognitive styles of settled and nomadic nations and the differences in their worldviews. This work is of scientific interest because it approaches the debated issues of selecting a valid inventory, as well as interpretation and generalization of the obtained results of the comparative analysis.

#### 4. Results

##### 4.1. Analysis of the diagnostic material from the perspective of humanistic and cognitive approaches to studying creativity and creative activity

In order to reveal the correspondence of the creativity characteristics described with diagnostic inventory, which was developed from opposing psychological perspectives, i.e. life-scientific (P. Torrance) and humanitarian (A. Maslow), we analyzed diagnostic materials that were obtained with the figure task of the short test of creative thinking (STCT) adapted by E.I. Scheblanova and I.S. Averina (Kratkiy test..., 1995); and the creativity scale of the Personality Self-actualization survey by A. Maslow (Aleschina et al., 2017). We selected the Originality scale of the STCT as the one that reflected the essential characteristics of creative activity, according to P. Torrance – «manifestations of sensitivity to problems, deficit of knowledge, the disturbance of its balance, uselessness, etc.; acknowledgment of these problems, search for their solutions and proposal of hypotheses; evaluations, changes and reevaluations of the hypotheses; and finally, statement and presentation of the resulting solution» (Kratkiy test..., 1995: 4). Unlike quantitative record of the originality characteristics as a trait of creativity in the STCT, the creativity characteristics of the Personality Self-actualization survey were the result of conceptual personal choice of alternative statements, such as: «In difficult life situations it is necessary to search for radically new solutions», «The most important aspect of our life is to create something new», «I often make spontaneous (random) solutions», «I easily make risky decisions», etc.

Firstly, we analyzed the materials of the Creativity scale of the Personality Self-actualization (PSA) survey, and then of the Creativity scale of the STCT. Moreover, the creativity characteristics according to the PSA were mostly interpreted as a *generalized* characteristic of a person with the urge for personality self-actualization and its creative potential. Creativity characteristics of the STCT expanded the diagnostic picture by revealing the *level of manifestation* of the creative potential in young people in a more specific aspect. The comparison of creativity characteristics between the two methods was considered as a level of correspondence or dissociation between high-school students' potential creative abilities and the capability to use them for solving the problems of personal and professional self-identification. The analysis of the normality of distribution of the two characteristics revealed that the curve of the Originality scale of the STCT was different from the Creativity scale of the PSA in terms of its minor shift towards the lower scores.

Such observed shift of the scores on the Originality scale towards the lower pole might be interpreted as follows. The obtained diagnostic picture that demonstrates a dissociation upon the analysis for the normality of distribution of the scales points to the presence (generalization) of the creative potential in high-school students without its full actualization for solving the problems of early youth. As for the pedagogical activity aimed at achieving the educational results in high-school age in accordance with the requirements of Federal State Educational Standard (FSES), it is reasonable to discuss specially organized work in this direction with pedagogical staff and directors of the educational organizations.

The information obtained through the comparison of Creativity and Originality scales should be considered as fundamental during the development of recommendations for educational specialists in psychological-pedagogic assistance and development. These recommendations can be provided primarily for the strategic direction of psychological-pedagogic work aimed at developing creativity in high-school students. It is possible that this would require rethinking the directions of the work in favor of prioritizing the development of flexibility and innovativeness of thinking, rather than artistic content of education. Flexibility and innovativeness of thinking are required by the problems that young people should solve at the stage of self-identification during youth.

Top-priority pedagogical task will therefore include: extracting the generalized creative potential by using it in the system of psychological preparation for taking the Unified State Examination (USE); solving the problems of professional self-identification and career choice; changing the content of the mentoring work with high-school students to make it more similar to solving the self-identification problems that are stated in the governmental standards in the chapter on personality-related results of education.

Analysis of the significance of differences in the gender-role characteristics did not reveal any differences between the samples. The discovered fact reflects a well-known scientific axiom about the absence of difference in the intellectual development (creativity is initially considered as a characteristic of intellect) between men and women (Table 1).

**Table 1.** Quantitative characteristics of differences between the samples of young men and women on the Creativity scale of the PSA and Originality scale of the STCT, Fischer’s  $\phi^*$  test

Characteristics Scales and levels	Men n=82		Women n=69		n=151 $\phi_{emp}$	Significance of differences
	%	$\phi_1$	%	$\phi_2$		
Creativity scale of the PSA						
High	14.63	0.784	15.94	0.820	-0.220	Nonsignificant
Average	71.95	2.026	75.36	2.104	-0.078	Nonsignificant
Low	13.42	0.750	11.26	0.686	0.392	Nonsignificant
Originality scale of the STCT						
High	3.65	0.387	5.80	0.485	-0.600	Nonsignificant
Average	59.76	1.769	59.42	1.760	-0.055	Nonsignificant
Low	36.59	1.299	34.78	1.262	-0.226	Nonsignificant

The comparisons of creativity and originality characteristics between the samples of high-school students from the educational organizations with different types of academic differences revealed significant differences (Table 2).

**Table 2.** Quantitative characteristics of differences between the samples of high-school students from different types of educational organizations on the Creativity scale of the PSA and Originality scale of the STCT, Fischer’s  $\phi^*$  test

Characteristics Scales and levels	Gymnasiums n=103		Schools n=48		n=151 $\phi_{emp}$	Significance of differences
	%	$\phi_1$	%	$\phi_2$		
Creativity scale of the PSA						
High	10.68	0.666	25.00	1.047	-2.180	$p<0.05$
Average	74.76	2.090	70.83	2.000	0.515	Nonsignificant
Low	14.56	0.784	4.17	0.413	2.123	$p<0.05$
Originality scale of the STCT						
High	1.94	0.277	10.42	0.657	-2.174	$p<0.05$
Average	66.02	1.897	45.83	1.487	2.346	$p<0.01$
Low	32.04	1.203	43.75	1.446	-1.390	Nonsignificant

Defining the nature of the relation between the scales of the two tests provided a rationale for using them autonomously for solving the problems of correspondence of the diagnostic characteristics in different groups of respondents.

The correlation analysis between the Creativity scale of A. Maslow’s PSA test and Originality scale of the STCT was conducted with Pearson’s correlation coefficient for the sample of 151 high-school students. The correlation analysis showed a high level of relation between the scores of the two scales ( $r=0,207$ ;  $p<0,001$ ), which made it possible to infer the conclusions about creativity solely based on the data of the STCT scale.

It is necessary to further analyze the results of the tests for the significance of differences in Creativity between the students of the general-education school and educational organizations of the advanced level (gymnasiums). Psychological studies repeatedly showed the absence of significant differences in creativity between the city and the village school students, and between the students attending general-education school and educational organizations of the advanced academic level. However, we conducted such analysis and it was mostly of explanatory and divulgatory nature.

In a small sample, the drawings that resulted from creative thinking in P. Torrance's STCT did not reveal differences in creativity characteristics of originality and flexibility in the solutions of nonstandard problems. The same correspondence was analyzed in a large sample (1,800 people) with consideration of insignificant but recurring facts of prevalence of the female sample of high-school students upon all characteristics related to creativity. A large sample would help clarifying whether such phenomenon is actually present.

#### **4.2. Analysis of the diagnostic material from the perspective of different approaches towards studying creativity and creative activity**

Other data of the conducted study are currently being thoroughly analyzed and interpreted. The obtained results can be grouped in four sections that are connected by the content orientation of the conducted work.

**The first section** is constituted by the results of the data analysis that reveal the *connection of high-school students' creativity characteristics with psychological and constitutional characteristics* (i.e., temperament type). To this end, we used H. Eysenck's Psychological Inventory (EPI) in order to define the temperament type. The results obtained in a large sample of participants of a single age group (over 1,000 high-school students) substantially enrich the cohort of cross-cultural studies conducted within the national research in differential psychology.

First of all, the normality of distribution was evaluated for the scores on the scales of Extraversion, Introversion and Neuroticism for the sample of high-school students. Discussing the distribution of the obtained data also helps the authors to explain and describe the revealed phenomena and their mechanisms. It is also necessary to correspond these results with other studies in differential psychology on similar topics. Such paradigms and approach allow extracting the largest amount of information for developing psychological and pedagogic recommendations.

**The second section** of the presented data reflects the specifics of the *relation between creativity characteristics and social-demographic characteristics*, such as high-school students' gender (young men and women), their ethnical-cultural affiliation (including the consideration of mixed marriages among their parents), family size (big/small families). An originally developed survey was used for collecting the diagnostic material.

Analysis of the obtained and processed empirical data allowed revealing a number of statistical patterns and tendencies that defined the establishment and development of creative skills in high-school students. Primarily, they include the type of family, in which the students were raised. Here, large families (with three or more children) have a priority; 43.4 % of the sample (530 high-school students) fall into this category. The results of the comprehensive survey demonstrate that the students from the participating schools in Ketchenerovskiy and Yustinkiy districts mostly come from large traditional (Kalmyk) families – 57.2 %. In the school of Yashkul' this parameter is equal to 42.7 %. In the school of Troitskoe, 33,3 % (one third) of high-school students come from this category of families; however, this school has the highest number of respondents from average-sized families (52.8 %). The second and third positions in this category belong to the high-school students from Yashkul' (41.6 %), Ketchenerovskiy and Yustinkiy (33.3 %) districts. The number of small families in the evaluated school varies from 9.5 % to 15.7 % (Table 3).

**Table 3.** Quantitative characteristics of the distribution of families with different number of children in the regions with compact residence of the native population, %

Schools Families	Yashkul'	Troitskoe	Ketchenerovskiy and Yustinkiy districts
Small	42.7	33.3	57.2
Average	41.6	52.8	33.3
Large	15.7	13.9	9.5

It is necessary to point out that the lifestyle, rituals and tradition, folklore, crafts, family behaviors and mentoring process of nomadic Kalmyk people have long attracted the attention of researchers of Mongolian culture, ethnography researchers, experts in the oral folk art and writers. The studies and descriptions of Kalmyk families, parent-children relationships and other family bonds have a special place in their works and diary entries. In the present study, these problems remain relevant and important. The works of Kalmyk researchers state and argue the advantages of a traditional Kalmyk family (Sharmandzhiev, 2014). Such advantages include so-called «cults», such as the cult of family hearth, father and mother, children and ancestors – founders and successors of the family. Since ancient times, a large family with many children was considered as the primordial value of nomadic Kalmyk people. The divorce was accepted only in one case – in the absence of children.

**The third section** includes the results of *corresponding the respondents' creativity characteristics with their individual personality traits*, such as academic performance, and intensiveness and productivity of their extracurricular activities of their choice. They were evaluated by an originally developed survey. High academic performance was defined by the respondents' statement of having mostly «5» and «4» school grades (on a 2-5 scale); the average level included «5», «4» and «3» grades; and the low level was defined by the presence of «3» and «2» grades. High level of intensiveness and productivity of extracurricular activities of the students' choice was defined as a combination of extracurricular activity (at least two different directions) with effective performance in competitions, school Olympiads and other competitive events of different levels.

The highest level of academic performance («excellent», «excellent and good», «good» grades) was observed in secondary schools of Ketchenerovskiy and Yustinskiy districts – 47.6 %. The level of education quality in Yashkul' and Troitskoe schools was almost equal – 25.8 % and 25 %, respectively. The second place in the academic performance (with «excellent», «good» and «satisfactory» grades) belonged to the high-school students from general-education schools of Yashkul' (66.3 %), Troitskoe (63.9 %), Ketchenerovskiy and Yustinskiy districts (47.6 %). Low level of academic performance was revealed in a small number of students in the schools of Troitskoe (11.1 %), Yashkul' (6.8 %) and Ketchenerovskiy and Yustinskiy districts (4.8 %) (Table 4).

**Table 4.** Quantitative characteristics of the distribution of high-school students with different levels of academic performance in rural regions of the Republic of Kalmykia, %

Schools	Yashkul'	Troitskoe	Ketchenerovskiy and Yustinskiy districts
«5», «5 and 4», «4»	25.8	25.0	47.6
«5», «4», «3»	66.3	63.9	47.6
«3» and «2»	6.8	11.1	4.8
Did not reply	1.1	0	0

Among this group of characteristics, we additionally analyzed the statements of the method of Unfinished sentences that were aimed at studying verbal manifestations of emotional state of concern. The participants were required to finish the following statements: «At the moment, I am most worried about...», «Recently, I have mostly been concerned about...», «This year, I mostly worry about...», «My biggest concern is...», «I am very afraid that...». The prediction was that high-school students with different (high, average or low) levels of creativity and academic performance would present different modalities.

The study revealed the array of needs and interests of high-school students of the general-education organizations. The majority of participants (with the similar number for the gymnasiums) preferred extracurricular activities in amateur sports sections, including chess. Here, the students of Ketchenerovskiy and Yustinskiy districts were ranked first – 45.8 %. The high-school students of Yashkul' were ranked second with a rather large gap between them and the first place – by 16.6 % less. The participants from Troitskoe school were ranked last – 25.1 %. The same

tendency of choosing sports as extracurricular activity was observed for the students of youth athletic centers: 25.5 % in Yashkul' school, 19.2 % in Troitskoe school, and 18.1 % in schools of Ketchenerovskiy and Yustinkiy districts.

Even less high-school students attended youth art schools: 10.4 % in Yashkul' school, 7.7 % in Troitskoe school, and 3.6 % in schools of Ketchenerovskiy and Yustinkiy districts. However, it is necessary to consider that within the schools of Ketchenerovskiy and Yustinkiy districts there were extracurricular art workshops that were attended by 9.6 % of participants. Other directions of the system of additional (extracurricular) education, such as the ones that developed leadership, communicative and other social personality traits and qualities were not largely reflected in the results of the comprehensive survey (they ranged from 1.9 % to 2.6 %).

The obtained results were certainly affected by unreasonable cancellation of youth musical and art schools in a number of regions of the Republic. It is especially obvious on the example of the schools of Ketchenerovskiy and Yustinkiy districts. Here, the percentage of high-school students that attended youth musical school was 10.8 %, while the same percentage was higher in the schools of Yashkul' (15.1 %) and Troitskoe (17.3 %) where the segments of extracurricular education were integrated in the regular educational process in school. To some extent, such situation was compensated by the pedagogical staff members that organized vocal, instrumental and choreographic groups, studios and workshops.

**The fourth section** of the diagnostic data is analyzed from *the position of respondents' ethnical affiliation to the ethnical-cultural environment*. What is the rationale behind addressing this delicate topic, which might raise issues of political correctness?

Firstly, there is a straightforward request from the educational and cultural institutions of the Republic that restores its ethnical-cultural identity, which has remained at the verge of extinction for a long time during Stalin's repressions (the «Ulusy» operation, 1943).

Secondly, it is obvious that general education is intentionally satiated with ethnical-cultural component (learning the Kalmyk language as native, along with the Russian language, in the schools of the Republic; stimulating the mentoring work that employs ethnical-cultural component; organizing national regional linguistic, literature and folk competitions, including «Dzhangariada», etc.).

Thirdly, the Republic provides financial support to the research projects that include the ethnical-cultural components. Their successful completion is guaranteed by the high standing of the Institute of Kalmyk Philology and Eastern Studies within Kalmyk State University and Kalmyk Institute of Humanitarian Studies, which is affiliated to the Russian Academy of Sciences.

Fourthly, there are objective reasons for dividing the sample into groups that are close to Kalmyk, Russian, Ukrainian and other ethnical cultures, due to the established traditions of close proximity in the residence of people of different nationalities in the rural area with the traditions of settled farming. For example, Ketcheneriy is mostly populated by Kalmyk people, Troitskoe – by Russians, and Sadovoe – by Ukrainians.

**The fifth section** is formed by *the factor analysis of all characteristics*. It was conducted with STATISTICA software. The distribution of the diagnostic data upon the factors would allow establishing the hierarchy of the influence of various complex environmental conditions on the creativity characteristics. This would provide an opportunity to clarify the range of directions for developing detailed recommendations for teachers, high-school students and their parents, which they can use for considering, activating and developing students' creative abilities at the stage of early youth during the transition to the new social environment.

## 5. Conclusion

As a result of the study that was conducted in general-education organizations of the Republic of Kalmykia (including high-level ones and ones with ethnical-cultural orientation), the authors developed, validated and verified a research-scientific project that allowed performing an innovative study and stimulating the development of creative skills in school students. Originality and effectiveness of the developed innovative project are characterized by the following aspects, traits and qualities:

1. Originality and specificity of theoretical, methodological and practice-oriented validation of the defined set of problems. The defined goal is reached by the integration of various psychological approaches, along with the advances of adjacent scientific disciplines. Using the

interdisciplinary approach allows synthesizing new knowledge that was obtained at the border of various sciences.

2. Comprehensive diagnostic inventory. During the empirical experimental work, the authors corrected and rationalized an adequate diagnostic inventory of comprehensive nature, which actively employed the measuring and testing materials from both life-science and humanistic approaches and which required the integration of authors' original developments.

3. The context of developmental psychology in the study. Novelty and productivity of the developed project consists in the study's focus on the age of early youth, i.e. the period when high-school students transit from school childhood to adult life. Psychological characteristics of creativity, which are extended to the intellectual, personal and social aspects of young people's lives, are considered to be the guarantee of their successful self-identification and the potential of human resources for the following generations.

4. Consideration of the traditional national structure of family life. A family, the climate in this social structure and the type of parent-children relationships lay an important part in the establishment and development of high-school students' creative skills and creativity as a personality trait. According to the conducted studies, high-school students from traditional large Kalmyk families present higher levels of creativity. This phenomenon was revealed throughout the Republic territory, especially in places with compact residence of the Kalmyk people.

5. Possibilities of introducing the materials of the study in different Russian regions and abroad. Since the study program was verified not only in the steep region but also in West Kazakhstan, it is reasonable to extrapolate the developed research project to the appropriate educational organizations of some countries from the Eurasian Economic Union in accordance with their specifics.

E.A. Sokalskiy (2012, 2013a, 2013b, 2014, 2015a, 2015b), the primary developer of the study, initiated the distribution of study materials that were presented as monographs, textbooks and handbooks, and articles, along with presenting the results of its applied integration in school education during scientific events in Moscow, Ufa, Irkutsk, Elista, etc.

The team of authors is working on many other interesting research ideas.

## 6. Acknowledgements

This research was funded by the grant of the Russian Foundation for Humanities (project No. 14-16-08001) at the Kalmyk State University named after B.B. Gorodovikov. Project theme: «The creative potential of youth in the aspect of «self-concept» of personality (on the materials of the educational institutions of the Kalmyk Republic)». Head of the project is E.A. Sokalskiy.

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