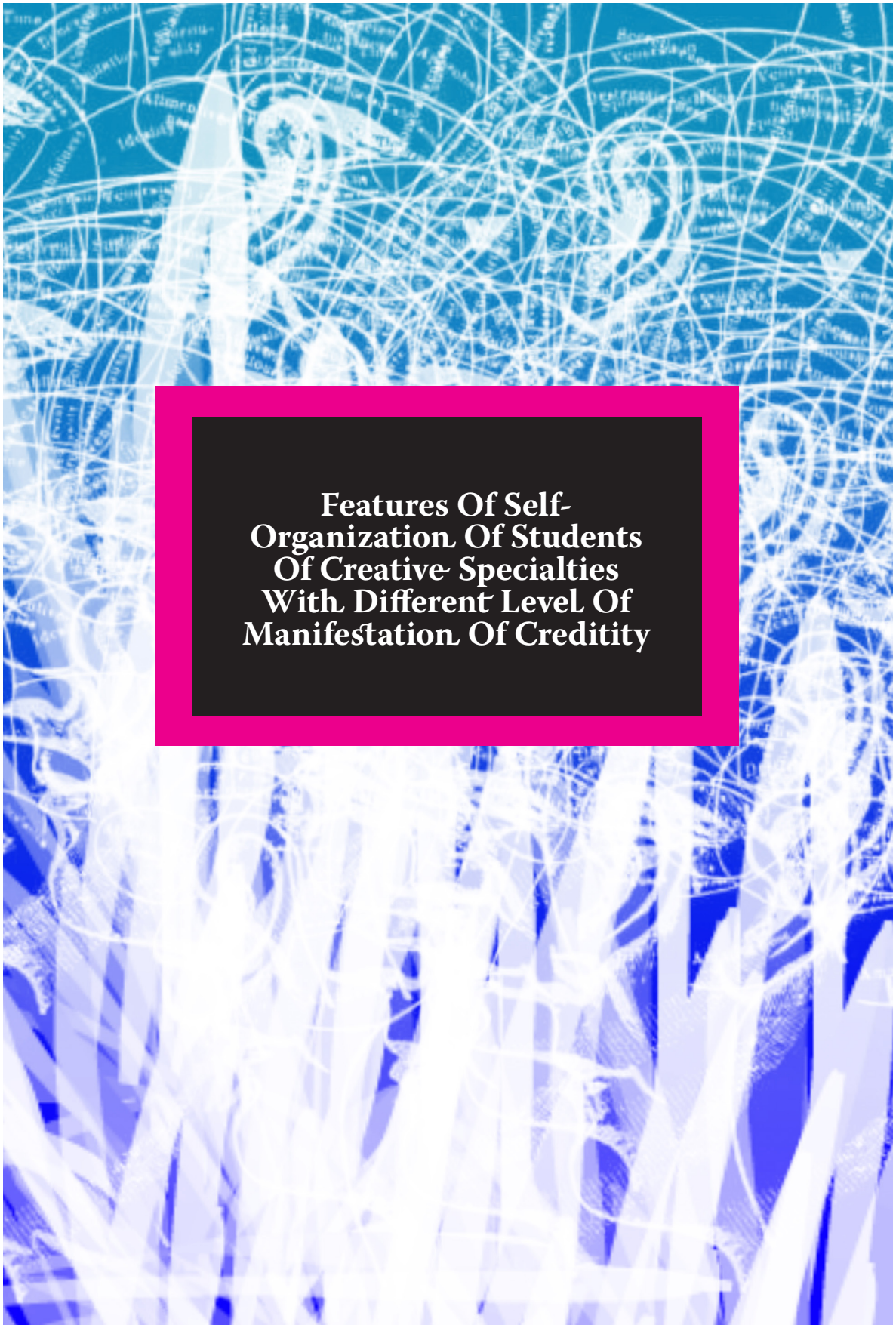

Features Of Self-Organization Of Students Of Creative Specialties With Different Level Of Manifestation Of Creditity

FEATURES OF SELF-ORGANIZATION OF STUDENTS OF CREATIVE SPECIALTIES WITH DIFFERENT LEVEL OF MANIFESTATION OF CREDITITY

CARACTERÍSTICAS DE LA AUTOORGANIZACIÓN DE ESTUDIANTES DE ESPECIALIDADES CREATIVAS CON DIFERENTES NIVELES DE MANIFESTACIÓN DE CREDIBILIDAD

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Abstract

An empirical study of the creativity of students in creative specialties was conducted. Self-organization and its psychological means were chosen as a creativity factor: functional – goal-setting, situation analysis, planning, self-control, correction, and personal – volitional efforts. A randomization strategy was used to form the sample. To study the predictors of creativity by means of self-organization, a diagnostic toolkit was selected: a scale of personal creativity and a scale of self-organization. Statistical data processing was carried out using methods of descriptive statistics, Pearson Correlation Coefficient, analysis of variance and pairwise multiple comparisons of mean values. The results of the study showed the influence of self-organization on the level of creativity of students of a creative university. It has been established that among all psychological means of self-organization, the personal variable “volitional efforts” has the strongest influence on the manifestation of creativity, and among functional ones, goal-setting and correction. The article discusses the results of the study, summarizes some of the results and identifies areas for further research in this area.

Keywords: creativity, risk appetite, curiosity, complexity of tasks, imagination, students of creative specialties, self-organization.

Resumen

Se realizó un estudio empírico de la creatividad de los estudiantes en especialidades creativas. La autoorganización y sus medios psicológicos fueron elegidos como un factor de creatividad: funcional - establecimiento de objetivos, análisis de situación, planificación, autocontrol, corrección y personal - esfuerzos voluntarios. Se usó una estrategia de aleatorización para formar la muestra. Para estudiar los predictores de la creatividad

mediante la autoorganización, se seleccionó un conjunto de herramientas de diagnóstico: una escala de creatividad personal y una escala de autoorganización. El procesamiento de datos estadísticos se llevó a cabo utilizando métodos de estadística descriptiva, coeficiente de correlación de Pearson, análisis de varianza y comparaciones múltiples por pares de valores medios. Los resultados del estudio mostraron la influencia de la autoorganización en el nivel de creatividad de los estudiantes de una universidad creativa. Se ha establecido que entre todos los medios psicológicos de autoorganización, la variable personal "esfuerzos volitivos" tiene la mayor influencia en la manifestación de la creatividad, y entre los funcionales, el establecimiento de objetivos y la corrección. El artículo analiza los resultados del estudio, resume algunos de los resultados e identifica áreas para futuras investigaciones en esta área.

Palabras clave: creatividad, apetito por el riesgo, curiosidad, complejidad de tareas, imaginación, estudiantes de especialidades creativas, autoorganización.

Introduction

In modern conditions, a society can be effective if it is based not only on knowledge, but on the intellect and creativity of the people living in it. This is due to the acceleration of changes taking place not only in the scientific and technical field, but also in other spheres of human life and activity and which have led to an increase in the innovative tasks facing a specialist and requiring a non-standard approach to solving them. According to the theory of the creative class of the American economist R. Florida, the development of society and its economy is not due to physical labor, not to the knowledge acquired in different educational institutions, not to technology, but to the ability of specialists to think outside the box, their creativity (Florida R., 2005).

Creativity as the ability to think outside the box, to think creatively is the basic competence of specialists in any field of activity. The interest of researchers and practitioners in the field of creativity is explained by the fact that it is a means of increasing the effectiveness of any type of work (both intellectual and physical) and a means of adapting to constantly changing working conditions, communication and, in general, human life.

Under the conditions of significant changes taking place in the world community, universities are faced with the task of developing a new strategy for university education, the task of changing its priorities. The changing world, the intensive development of the information society poses a challenge for universities to build an educational space (process) aimed at solving two tasks that are important for the formation of a professional personality:

1) developing the ability to maximize the use of each student's own capabilities for structuring and monitoring their living and educational-professional space and time; and

2) the development of the ability to think creatively, generate new ideas.

The first task is connected, on the one hand, with the process of students mastering their future professional activity, which involves not only turning to the culture of the profession as experience accumulated by previous generations and to their own individual

experience, but also to reproducing it. Preservation and reproduction of the culture of the profession, in its essence, is an appeal to the past of the profession. If in this vein we understand the professional development of a future specialist, then the effectiveness of his professional activity in the future will be determined by how much it (the future) will reproduce the past. At the same time, the culture of the profession, assimilated by the student and reflected in his image of the profession and the image of "I", plays a crucial role in cognizing professional reality and its place in it, in the formation of professional identity. The formed image of the profession, thanks to such functions as the organization of perception and actions of the subject, adaptive and protective functions, to a certain extent, contributes to the success of professional activity, especially at the initial stage of its implementation.

The second task is connected with the process of mastering the profession and its implementation, which by its nature is creative and facing the future. However, the future never repeats the past. And in particular, changing the conditions for the implementation of activities, setting new professional tasks, the emergence of new technologies requires creative processing, transformation of the acquired and, accordingly, creation of new ideas, images, norms and rules of professional activity. Based on this, the educational and professional activity of students, like their future professional activity, is considered by us not only as reproducing, but also as creative activity. It is creative activity that makes a student a person, not only facing the future, including the professional, but also creating the future and changing his present.

Willingness and ability to creative activity, as creative competence, is a characteristic of a competitive specialist and, accordingly, a condition for the successful implementation of activities in a certain professional field requiring heuristic or creative decisions [Bruner J., 1962] argued that the creativity of children and students should be encouraged as preparation for a future life, given that the future is always unpredictable.

These tasks that are significant for the personal and professional development of students, in essence, contradict each other. The solution to the first problem is associated with the creation of an educational environment that represents opportunities for students' learning activities, which is sufficiently or entirely regulated by internal university regulations. The solution to the second problem is associated with the creation of a creative educational environment at the university, aimed at the development and manifestation by students of both individual and collective creativity. And, of course, such an educational environment leaves far fewer opportunities for a clear structure and control of students' learning activities.

When solving the indicated problems, questions of two levels arise: practical and theoretical. How actively do universities include students in the practice of creating an educational environment? Do they successfully solve the issues of correlation of regulated and creative educational environment? When creating a creative educational environment, do they take into account, along with external, environmental, internal, subjective factors? There is no doubt that the universities in different ways, but quite successfully solve these

issues, as evidenced by their functioning. The answer to the first question is determined mainly by the qualifications of university leaders and teachers, and the second and third ones are determined by the degree of theoretical elaboration of the problem.

Today in world psychology, enough research has been conducted on the nature and structure of creativity, (Sternberg, R.J., 1985; Averill J.R., 2000; Furnham, A., Zhang, J., & Chamorro-Premuzic, T. 2005; Chiksentmihayi, M., 2013; Hayes, J.R., & Mellon, C., 1989; Amabile, T.M., 1982; Amabile, T.M., 1983; Ivcevic, Z., & Mayer, J.D., 2009; Kaufman, JC, & Baer, J., 2004; Kaufman, J.C., Beghetto, R.A., Baer, J., & Ivcevic, Z., 2010; Rowlings, D., & Locarnini, A., 2007; Reiter-Palmon, R., Robinson-Morral, E., Kaufman, J.C., & Santo, J., 2012; Runco, M.A., 2006; Lubart T., Mushiru K., Thorjman S., Zenasni F., 2009).

It should be noted that the topic of creativity is actively explored by Russian scientists. There is a huge amount of empirical material on the complex relationships of external factors affecting the development of creativity, with internal intellectual and personal resources, personal factors (Kornilova, T.V., Kornilov, S.A., 2010; Pavlova E.M., Kornilova T.V., 2012; Kornilova T.V., 2010; Volkova E.V., 2011; Kornilova T.V., 2013; Pavlova E.M., 2014; Soldatova E.L., 1996; Barysheva T.A., 2012; Yudina S.D., Voitik I.M., Chukhrova M.G., Chukhrov A.S. 2019; Markina N.A., 2012; Rastyannikov A.V., Stepanov S.Yu., Ushakov D.V., 1983)

In the "polyphonic" interaction of external and internal factors determining the manifestation and development of students' creative potential, a special place is occupied by the student-teacher relationship system. In the conditions of the creative type of education, the technology of "free space" is used, in which the student realizes himself as a subject of knowledge and creativity. A unique opportunity is created for students to self-identify based on their own needs, their own working "rhythm", willingness to take responsibility, influence what is happening and get the maximum benefit for their own personal and professional development. All this happens due to the fact that the mechanisms of organization, i.e. structuring and control, to a certain extent, are replaced by self-organization and independence of students.

In domestic psychology, there are several approaches to the study of self-organization, of which the main ones are personality (Bazhenova N.G., 2015; Faleeva L.V. 2012; Nesterova O.S. 2014) and activity-related (Afanasyeva N.A. 2008; Bogomaz S.A., 2011; Kostromina S.N., 2010).

These approaches differ in research objects: in the framework of the personal approach, the object is the personality as a self-organizing system, in the framework of the activity approach, activity as an entity subject to organization and self-organization.

Until today, the problem of the correlation of purposeful organization and self-organization of student activities in the creative educational environment of the university remains unresolved. It is known that an external organization, involving the structuring of space and time control, not only does not contribute, but also impedes the process of creativity, acting as a destructive factor in relation to it. M.A. West claims that "creativity requires an undemanding environment" (West, M.A., 2002).

This, in turn, actualizes not only the fundamental problem of identifying the mechanisms and factors for the manifestation and formation of students' creativity in

conditions of increasing their activity, associated with the nature of self-realization and the organization of their life. Currently, in psychology, the problem of individual differences in creative abilities remains, requiring additional studies of creativity (T. Lubart). The main question in the framework of this problem, the answer to which allows us to more deeply understand the psychological phenomena associated with creativity, is the question of the degree to which creativity depends on intelligence, on individual personality traits, on context (T. Lubart).

The aim of our study was to assess the impact of personality and activity variables characterizing the manifestation of self-organization on the interindividual variability of students' creative abilities in creative areas of training. The study compares the variables of self-organization among students of a creative university with different levels of creativity. The study was conducted in the laboratory of psychological and pedagogical research of creativity of the Belgorod State Institute of Arts and Culture in 2018-2019. The study involved students studying at the Belgorod Institute of Arts and Culture (Russia, Belgorod), in the amount of 145 people (121 women, 24 men). Most of the young men (20 people) fell into the third group “with an average level of creativity”, therefore, such a criterion as “gender” was not used in the study. The average age of the subjects is 19.8 years (average deviation is 0.8). The respondents were 1-3 year students, future directors of theatrical performances and festivals, actors, choreographers, musicians, designers, managers of social and cultural activities.

The questionnaires of 139 students were subjected to statistical processing, as in the questionnaires of six students some completion errors were found. According to the results obtained, students according to the level of creativity were conditionally divided into three groups: the first group “with a high level of creativity” included students whose scores on the “creativity” scale fell into the interval greater than X av. + 1 av. dev. (42 people, which amounted to 30.2%), the second group with a “low level of creativity” consisted of students whose scores fell in the interval less than X av. – 1 av. dev. (39 people, which amounted to 28.1%) and in the third group “with an average level of creativity” - students whose scores fell in the interval X ± 1 av. dev. (58 people, which amounted to 41.7%). The study was conducted over 2 years.

Methods

To determine the level of creativity and self-organization of students, two psychodiagnostic tools were used: “The scale of personal creativity” (E.E. Tunik) and “The scale of self-organization” (A.D. Ishkov and N.G. Miloradova). The “Personal Creativity Scale” (E.E. Tunik) was used to measure four factors that closely correlate with the creative manifestations of the personality (risk appetite, curiosity, imagination and complexity), and to calculate the total indicator of the level of personal creativity. The objectivity of the data on creativity as a stable personality construct and the four factors correlating with creative manifestations of the personality is evidenced by the Cronbach Coefficient. In particular, for each factor (scale), the Cronbach Alpha Coefficient is more than 0.65 and, as a whole, in the questionnaire is 0.703. The indicators of the Cronbach Alpha Coefficient allow us to exclude duality in the interpretation of the obtained empirical data. The data were averaged. Higher values of the variables indicated a higher level of student creativity.

The “self-organization scale” (A.D. Ishkov and N.G. Miloradova) was used to measure the level of development of the functional components of self-organization (5

scales: goal setting, situation analysis, planning, self-control, correction), the level of development of the personal component (1 scale: volitional effort) and the level of self-organization as a multidimensional structure (1 integral scale). The statistical characteristics of individual scales and the integral scale of self-organization indicate the reliability of the results. In particular, the Cronbach Alpha Coefficient on each individual scale is greater than 0.798 and, on the whole, on the scale is 0.819, which is an acceptable indicator of the reliability of the obtained empirical data regarding students' self-organization competence. Elements were averaged. Higher values indicated greater severity of variables characterizing the level of formation of self-organization competence and its individual components among students of creative specialties. For mathematical processing of empirical data, the SPSS 21 program was used.

Results And Discussion

A statistical study of the relationship between creativity and self-organization of students of creative specialties was carried out using a parametric method such as the Pearson correlation criterion (Table 4.1). The same method was used to study the connection of variable creativity with each component of self-organization.

Table 4.1relation Between Creativity And Self-Organization Of Students Of Creative Specialties

		Self-organisation	Creative
Self-organisation	Pearson Correlation	1	.421(**)
	Significance (bilateral)		.001
	k		137
Creative	Pearson Correlation	.421(**)	1
	Significance (bilateral)	.001	
	k	137	

** Correlation at 0.001 (bilateral)

As a result of processing, a statistically significant Pearson Correlation Coefficient was obtained, which showed a connection between creativity and students' self-organization. Thus, a higher value of the variable "creativity" corresponds to a higher value of the variable "self-organization" and vice versa.

Table 4.2 presents the values of the statistical relationship between the variable "self-organization" and such individual variables that are closely correlated with the manifestation of creativity, such as: "risk appetite", "curiosity", "complexity" and "imagination".

Table 4.2.Relation Between Self-Organization And Creativity Manifestations Of Students Of Creative Specialties

		Self-organisation	Inclination to risk	Curiosity	Complication	Imagination
Self-organisation	Pearson Correlation	1	.228*	.257*	.400**	.335**
	Significance (bilateral)		.005	.0005	.0005	.0005
	df		137	137	137	137

*Correlation at 0.005 (bilateral); **correlation at 0.0005 (bilateral)

A statistically significant positive relationship was found between self-organization and the characteristics of a creative person. The obtained empirical data on the relationship of self-organization with behavioral patterns indicate that the higher the student's ability to self-build and self-organize, the more often he searches for new ways of thinking, allows for the possibility of errors and failures, likes to set and look for ways to solve complex tasks, sees in images and real life and thinks differently than others. And vice versa, the higher the level of development of creative abilities, the more often a student has personal characteristics that help him to achieve his goal, has high motivation, is capable of self-control, and is clearly aware of his needs.

In order to study the influence of self-organization as a multidimensional construct, including both functional and personality components, on the manifestations of students' creative inclinations, a one-way analysis of variance was carried out (Table 4.3).

Table 4.3.Results Of Single-Factor Dispersion Analysis

	Sum of squares (SS)	df	Mean-square (MS)	F	Significance	F critical
Between Groups	143.1233	1	143.1233	7.471773	.006672	3.875371
Within the group	5286.836	276	19.1552			
Total	66979.03	277				

A statistically significant indicator F was found, which indicates a different level of severity of self-organization in groups of students, distinguished by the degree of manifestation of creativity.

After obtaining a statistically reliable result of one-way analysis of variance, a pairwise comparison of the mean values of the "self-organization" variable was carried out in groups of students with different levels of creativity. To obtain the most accurate result, the posterior Scheffetest was used, which made it possible to determine in which groups of students the differences are most significant (Table 4.4). The procedure of pairwise multiple comparisons of average values was carried out to establish intergroup differences

in the functional (goal setting, situation analysis, planning and correction) and personal (volitional efforts) components of self-organization.

Table 4.4.results of inter-group differences in average values of the variable "self-organization"

(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Validity of difference (td)
Group A	GroupB	8.3434**	1.16931	7.14
	Group C	5.74605**	1.14634	5.01
GroupB	Group A	-8.3434**	1.16931	7.14
	GroupC	-2.59735*	0.81123	3.20
Group C	Group A	-5.74605**	1.14634	5.01
	GroupB	2.59735*	0.81123	3.0

* The average difference is significant at 0.01;

** The average difference is significant at 0.001

According to the results obtained, group A (students with a relatively high level of creativity) is significantly different from group B (students with a relatively low level of creativity) and group C (students with a relatively average level of creativity) in terms of the success of the self-organization process. Reliability coefficients of differences between the arithmetic mean of group A and groups B and C indicate the significance of the average difference at the level of 0.001. The indicator of the reliability coefficient of the average difference in the level of self-organization of groups C and B (MD = 2.59735) confirms its significance at the level of 0.01.

One-way analysis of variance also made it possible to establish the significance of differences in the level of all self-organization variables in the compared groups (by goal setting - $F = 14.19$ at $p \leq 0.05$, by situation analysis - $F = 4.15$ at $p \leq 0.05$, and by planning - $F = 3.35$ at $p \leq 0.05$, according to correction - $F = 11.43$ at $p \leq 0.05$ and by volitional efforts - $F = 19.46$ at $p \leq 0.05$).

As a result of multiple pairwise comparisons of the differences in arithmetic mean values for each functional and personal variable of self-organization, we established the presence of statistically significant differences between groups of students in terms of the level of creativity (Table 4.5).

Table 4.5.Results Of Multiple Paired Comparisons Of Groups On The Average Difference Of Self-Organization Variables

Self-organizing variables	(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Significance
Goal setting	Group A	Group B	10.34065***	1,70552	.001
		Group C	7.53694***	1,7966	.001

	Group B	Group A	-10.34065	1,70552	.001
		Group C	- 2.80371	1,95266	.200
	Group C	Group A	-7.53694	1,7966	.001
		Group B	2.80371	1,95266	.200
Analysis of the situation	Group A	Group B	5,46154**	1,70873	.010
		Group C	3,98275*	1,79227	.050
	Group B	Group A	-5,46154**	1,70873	.010
		Group C	-1,47878	1,86488	.000
	Group C	Group A	-3,98275*	1,79227	.050
		Group B	1,47878	1,86488	.000
Planning	Group A	Group B	5,45604*	2,0776	.050
		Group C	3.50246*	1,74044	.050
	Group B	Group A	-5,45604*	2,0776	.050
		Group C	-1,95359	2,22331	.000
	Group C	Group A	-3.50246*	1,74044	.050
		Group B	1,95359	2,22331	.000
Correction	Group A	Group B	6,92857***	1.49146	.001
		Group C	4,04926**	1,46638	.010
	Group B	Group A	-6,92857***	1.49146	.001
		Group C	-2,87931*	1,19259	.050
	Group C	Group A	-4,04926**	1,46638	.010
		Group B	2,87931*	1,19259	.050
Volitional efforts	Group A	Group B	12,69231***	1,76928	.001
		Group C	10,18966***	2,01355	.001
	Group B	Group A	-12,69231	1,76928	.001
		Group C	-2,50265	2,02964	.250
	Group C	Group A	-10,18966	2,01355	.001
		Group B	2,50265	2,02964	.250

The average difference is significant at ***0.001; at **0.01 and at *0.05

The results showed that group A significantly differs in the level of development of all variables associated with the implementation of the self-organization process, both from group B and group C.

Conclusions

This article presents the results of a study of the relationship between creativity and self-organization in a sample of students of creative specialties. To identify the presence of a statistically significant relationship between creativity and self-organization, as well as between creativity and individual functional and personal components of self-organization, the Pearson Correlation Coefficient was used. The revealed statistically significant positive relationship between creativity and self-organization variables suggests that the higher the level of self-organization, the more students are motivated to search for a new one, to solve complex problems, to create new images, to break stereotypes. And vice versa: creativity,

the predictors of which is curiosity, a tendency to take risks, to solve complex problems and imagination, mobilizes the student to manifest steady activity in achieving the result. And this requires the development of goals, and analysis of the characteristics of the situation, and planning, and correction of all mini-processes that make up the process of self-organization.

Our assumption was confirmed that self-organization and its components are psychological predictors of creativity for students of creative specialties. This is evidenced by the revealed statistically significant differences in the level of self-organization in groups of students identified by the level of creativity. One-way analysis of variance showed that, firstly, the self-organization of students of a group with high creativity (group A) is much higher quantitatively and better than the self-organization of students with low (group B) and medium (group C) creativity. This suggests that the ability to break stereotypes is one of the personality characteristics of a person with a high level of self-organization.

Secondly, the identified estimate of factor variance turned out to be larger than the estimate of residual variance. Due to the fact that $f_{nabl}=11.92 > f_{kr} =4$ (from the Fisher-Snedekor Table (0.01; 1; 137) = 7.08), this suggests that the self-organization factor has a significant effect on the random value of creativity. In other words, group averages generally differ significantly. Thus, it can be concluded that the student and his ability to plan, control and correct his own life and activities, making sufficient volitional efforts, are a predictor of student assessment of his creative competence.

We found that students with different levels of creativity statistically reliably have different levels of development of skills to reasonably set goals, plan their own activities, evaluate the results of their actions, mobilize themselves, and show sustained activity in achieving the result. The latter in this study are considered as components of self-organization and can, from our point of view, be regarded as psychological factors contributing to the development of creativity. This emphasizes the possibility of developing creativity not only directly in the process of solving creative problems, but also in the process of mastering the methods of self-management, self-organization and self-realization.

A special role in the development of creativity is played by volitional efforts as a personal component of self-organization. This is due to the fact that it is volitional behavior that expresses the activity side of consciousness that includes goal setting, and planning, and evaluation, control and correction.

Our study showed that each student has internal resources for the development of creativity, this only requires activation of intrapersonal determinants of behavioral regulation. The educational environment of the university plays an essential role in this, creating the conditions for self-development of students, including through their mastery of the skills of self-organization of educational and professional activities, independent work and life in general.

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