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PSYCHOLOGICAL STUDY OF THE ENVIRONMENTAL FACTORS OF PERSONAL CREATIVITY MANIFESTATION

Sona POGHOSYAN [1, *] | Ruben AGHUZUMTSYAN [1] | Ani KHACHATRYAN [1] | Khachatur GHAZEYAN [1]

1 Public administration academy of the Republic of Armenia, Yerevan, Armenia

* *Correspondence*
Sona POGHOSYAN, Kievyan st. 8/1, Yerevan 0028, Armenia
E-mail: sona.poghosyan@paara.am

Abstract: The manifestation of a person's creativity is determined by the complex interaction of the conducive and obstructive factors of the environment. We propose a model for the study of creativity, which takes into account the conducive and obstructive factors. The purpose of the article is to study the ratio of conducive and obstructive factors to the manifestation of a person's creativity. The characteristics of the creativity of modern managers are determined by a unique ratio of conducive and obstructive factors, according to which the impossibility of making independent decisions is an obstructive factor for them; and the freedom to express their thoughts is an conducive factor, the fear of making mistakes and the fear of criticism are obstructive factors; and the spark of new thoughts and ideas, the inspiration and enthusiasm to create new ideas are considered to be conducive factors. Such a correlation of contributing and hindering factors of personal creativity is the basis for developing a new model of studying and developing personal creativity. Thus, the creativity study model is built from the level of creativity, standards, personal qualities of creativity, the relationship between them, the factors contributing to and hindering creativity, their unique relationship.

Keywords: creativity, person, barriers of creativity, relationship, manifestation, study, model.

Introduction

Nowadays, when we witness the construction of the new world, we cannot refute the fact that it is necessary to think in a new format, in a new way. Changes in modern life are challenges to a person. And creativity helps him/her to face and adapt to these challenges.

Creativity is the challenge to the new world. It allows the creation of new tools, new methods and technologies. As G. Abel (2009) mentioned, creativity is the creation of something new that has never existed before. Creativity has to do with bringing something new into being, into the

world. It refers not to mere novelty but to something genuinely new, something that was not use to exist.

The construction of the new world is based on the creativity of a person, which is a complex of the most important intellectual and personal qualities.

Along with its necessity and importance, the manifestation of creativity in a person's activity is quite complicated. It is not always an obvious quality contributing to a person's activity. Often creativity is pushed to the background and does not become important. One of the dangerous trends today is that very often creativity is considered as a fashionable phenomenon and is rejected without going deep into its essence. There is a misleading impression that it is possible to be creative without knowledge.

Many authors (Sternberg, R., Weisberg, R., Amabile) consider that knowledge is important for creativity, even in R. Sternberg's theory, knowledge stands out as a component of creativity.

There is in opinion, that knowledge about a field can result in a closed and entrenched perspective, resulting in a person's not moving beyond the way in which he or she has seen problems in the past. Knowledge can thus either help or hinder creativity (Sternberg, 2009, p. 30).

We also consider, that knowledge is important for manifestation of creativity.

In professional activity we constantly face the problem of creating conditions for the manifestation of creativity. Until now, there are few studies aimed at identifying the factors contributing to or hindering the manifestation of creativity.

Today, in the conditions of digital society, the manifestation of creativity becomes more important in teams and organizations, where the phenomenon of synergy and mutual motivation exist. However, at the same time, creativity is not always visible in teams and organizations as a result. Our studies have shown that a person most often values the manifestation of other qualities than creativity in his/her activity. So the question arises, why it is not highlighted. One of the reasons is the barriers to creativity and the lack of favorable conditions that will allow a person to fully express his/her creativity.

Creativity can be expressed only in the environment with favorable conditions. This kind of environment is a set of factors that include national, cultural and social elements. Each of these elements' role is indispensable and unique in the expression of creativity. But one thing is clear: they work together and have a systemic impact. Ignoring any of these elements makes a systematic study of creativity incomplete. That is the reason we propose a creativity study model, which includes both supporting and hindering factors of creativity. Barriers to creativity are numerous and multifaceted, but in fact, they are strong barriers at the level of consciousness and do not allow a person to realize his/her potential.

The purpose of the article is to analyze the factors hindering and supporting the expression of creativity in a theoretical and experimental way. The object of research is the influence of objective and subjective factors on the manifestation of creativity. We put forward the following hypothesis: the characteristics of the creativity manifestation of a modern manager are due to the unique correlation of hindering and supporting factors.

Methods

The methodological principles of our research are the systemic approach and the principle of development of psychological qualities. The methodological basis of this research is the psychometric approach to creativity, the representatives of which (Guilford, 1950; Torrance, 1968; Williams, 1986) define the indicators of creativity, since setting indicators makes creativity measurable. F. Williams' methodology evaluates both cognitive and personal-individual qualities of creativity. Cognitive factors of creativity are fluency of thinking, flexibility, originality, and elaboration. The personal-individual factors of creativity are the ability to take risks, complexity, curiosity, and imagination. Research was done using the methods of diagnostics by F. Williams for creativity assessment and for discovering the individual qualities of a creative person. The level of creativity was measured by F. Williams's divergent thinking test, which includes the parameter of fluency, flexibility, originality, elaboration, and verbal creativity (to use the word creatively) (Tunik, 2003, p. 5).

We conducted a study among 200 executive and mid-level managers of different organizations. 116 of them are men, 84 are women. Test-

ing and expert questionnaire methods were applied. We use the methods of survey, testing, mathematical statistical analysis for this study. The study was done by groups and by individuals. The study of barriers and contributing factors was done in some groups in group format, at first a discussion was organized, then they completed the questionnaire.

The results of the research were analyzed by SPSS-23 mathematical-statistical software.

Literature Review

The article has theoretical and practical significance. The theoretical significance is that the concepts of creativity are supplemented, a new model of creativity study is put forward, in which obstacles and supporting factors of creativity play a special role.

The practical significance is that this study can be a basis for the development of creativity of a person and for creating the best conditions in organizations for its manifestation.

The scientific novelty is the model for the study of creativity, that includes the level, personal qualities of creativity, contributing and hindering factors of creativity.

The creativity was studied by some researchers (Maslow, 2022; Lubart, 2001; Gardner, 1988; Mednick, 1962; Simonton, 2004; Runco, 2004), but until now no one has given the final definition, which led to the absence of joint research system. Due to this we offer a new model of a person's creativity.

The role of environmental factors, which is still one of the controversial issues in the concepts of creativity and has been subject to long discussions, is particularly emphasized in the creativity study model proposed by us. We will briefly review several theoretical approaches, which emphasize the role of environmental factors and will complement them with our studies.

The interaction between creativity and environment is considered in not all concepts of creativity. Today, one of the most important concepts of creativity is the investment theory, which takes into account the role of social factors. As Peter Meusburger (2009) points out, the original concepts of creativity do not address the issue of interaction with the environment. Researchers state that creative people have a special talent that others do not have, that creativity is a gift or innate talent that cannot be acquired or taught.

However, later on, the role of environmental factors is emphasized more. P. Meusburger (2009) states that more scientists began to accept the fact that creativity is not an innate quality of a person, no matter how talented and clever he is (p. 97). They began to accept that creative ideas arise and develop as a result of a complex dynamic interaction between the creator and his/her environment.

In other words, creativity requires time and certain environmental conditions.

A. Cropley (2006) notes that interest in the impact of environmental contents, attitudes, and relationships on creativity emerged only in the late 20th century (p. 402). The author considers the reason for this delay is the fact that new, unique and valuable ideas often meet resistance because they threaten traditions and can destroy existing paradigms and ruling relations. Both ignorance and the highly valued prior knowledge of experts can block novel ideas, so that thinking leads only to production of tried and trusted, "correct" answers.

We cannot disagree with this point of view, because our experiments have also shown that very often managers refuse to accept new ideas proposed by employees as they are a threat to stability and known ideas. Also, employees often avoid using new methods and tools, because there are already reliable and correct options. Such comments are often heard. "If the previously used method brings us results, why do we need a new method, the usefulness of which we do not know?", "If there is an easy way, why do we need to take a difficult way?" Even the new methods of problem solving presented during the training cause rebellion among them. Such attitudes do not allow employees to get out of the mental patterns they have built, to take risks, to try and find new ways and methods, to improve the system. Meanwhile, we cannot deny the fact that the global paradigm of management has changed: the employee has a desire to push his/her ideas forward, to participate in the decision- making process.

Frensch and Funke (1995) put forward another original observation. They state that creative potential must be realized in the family, school environment, role models, organizational structures, culture, and professional career opportuni-

ties (p. 18). This interaction is not mechanical. Creative people are not only nurtured, they are included in the environment, where they can develop their abilities, interact with other people, get the necessary support, get excited, solve problems and have the necessary resources. "Joint problem solving involves effective interaction with the problem solver and situational conditions. It includes the problem solver's knowledge, cognitive, emotional, personal and social abilities".

Creativity is the ability to create the result that is new and corresponds to the content of the surrounding reality, the limitations of the situation (Amabile, 1982; Amabile & Pillemer, 2012; Lubart, 2001; Mackinnon, 1962).

T. Amabile (1996) finds, that there are three components for creativity: domain-relevant skills, creativity-relevant processes, and task motivation.

M. Csikszentmihalyi (2015) thinks in a similar way noting that creativity is not in the head, but in the field of interaction between human mind and socio-cultural context (p. 29).

The interaction of a person and the environment is important for the manifestation of creativity, because a person can be creative, but the environment does not allow his manifestation.

We consider creativity as a complex of thinking and personal qualities that allows us to solve problems in a new way, get new methods of solving, tools. A feature of creativity is the presence of each parameter of fluency, flexibility, originality, elaboration, from the sum of the indicators of which the level of creativity is obtained. If a person is characterized only by originality of thinking, or only flexibility, this is not creativity yet and we cannot get a level of creativity. Creativity is a combination of thinking criteria - fluency, flexibility, originality, elaboration and personal qualities - the ability to take risks, complexity, curiosity, due to which new solutions are proposed. Our vision is that if a person has only a high level of creativity, but personal qualities are needed, the combination of which will allow us to talk about creativity.

We believe these are the key issues that cannot be ignored in the process of developing creativity, since our studies have found out that most employees do not show their creativity as their managers do not value their ideas.

Here are some examples: "Leaving the important issues, you are busy painting a butterfly", "Your proposal is not relevant now. We need to use a lot of resources to implement it".

The role of environmental factors is highlighted in the comments that emphasize the importance of creativity in terms of benefiting the organization and the environment. The article of Meusburger (2009) presents a number of authors' approaches (p. 101). For example, Briskman (1980), argues that one of the characteristics of a creative result is its relevance, the internal connection that exists between the result and the background where it arises. Stein (1953) suggests that creative work is the new one that is accepted by a group as reasonable, useful, or satisfying at some point in time. Oldham and Cummings (1996) describe creative activity as a result, idea or process that meets two conditions: first, they are new and original, second, they are relevant or useful to the organization. In the field of management, Woodman, Sawyer and Griffin (1993) describe creativity as the creation of a valuable, useful new product, idea or process by people working together in a complex social system.

Many authors have the same opinion and we also share their opinion, that the originality is one of the main and important criteria of creativity, which leads to new solutions.

Although the mentioned authors point out environmental factors, they do not propose methodologies and models of the study, which will reveal the influence of environmental factors.

These comments prove once again that creativity, as the creation of something new and valuable, cannot be considered outside of the system and the structure where it is created, which means that the impact on it should also be considered within the specific structure and system. This further expands the methodical approaches to creating favorable conditions for the development of creativity, that is, when suggesting a program for the development of creativity, it is necessary to take into account the environment and the structure in which it should be implemented.

We are also inclined to the approach that creativity is a quality expressed by the influence of the environment, which is also approved by our research. It is obvious that proper conditions are necessary for the manifestation of creativity.

Favorable environmental conditions allow not only to create new ideas, but also to make them real.

When addressing the factors contributing to the manifestation of creativity, we are directly related to the issue of collective creativity, which is considered a priority in organizations due to its type and demand.

D. Harrington (1990) considered creativity as a joint activity, since individual creativity is always the product of interaction with a wider social environment.

When considering the characteristics of the manifestation of creativity in joint activities and the organizational environment, it is necessary to take into account the organizational environment, the influence of the factors of that environment on the manifestation of creativity. In this context, the approach of Kratzer et al. (2003) is interesting, according to which the creative nature of developing something new requires the involvement and cooperation of different members of the organization, which means that the communication model in the group is an important factor contributing to the expression of creativity. Manifestation of creativity in the level of individuals and collectives largely depends on how much attention the management of the given organization pays to the creation of favorable conditions. The team's collective creativity and individual creativity are activated if the organization supports and stimulates the creative processes of its employees.

According to C. Andriopoulos (2001), there are five organizational components that can be used to influence employee creativity: Organizational climate, organizational culture, organizational structure, allocated resources, skills and abilities.

The organizational culture that promotes the manifestation of creativity has a key role for employees, as it becomes their way of life. It is not considered as an advantage or a privilege, but a natural process.

The manifestation of creativity in the organizational environment is greatly influenced by the leader's willingness to accept new thoughts and ideas and to promote their implementation. Creative ideas and thoughts cannot be brought forth in an environment where there is constant criticism and opposition to those thoughts. In this regard, the manager's personality and his attitude to the promotion of new ideas, as well as bringing them into the field of practical application, are highly important.

According to Neumann (2007) and Edmondson (1999) joint problem solving is one of the factors supporting creativity. This gives an opportunity to create an atmosphere of mutual support in the group, which contributes to the promotion of joint decisions and makes it possible to apply techniques that contribute to collective creativity.

The feeling of psychological security both at the individual and group level is an important psychological factor contributing to the formation and manifestation of creativity. So it is important to create an atmosphere of mutual cooperation and trust.

It is also necessary to take into consideration the fact that it is important to have people with different thinking styles in the group. The inclusion of people with different professions in the group is also considered as a contributing factor. This provides an opportunity to advance multicontent, diverse, cross-sectoral ideas and generate new ideas, which have a broad spectrum.

Based on the theoretical approaches, we also did an experimental study of the factors promoting and hindering the manifestation of creativity. The study aimed to identify which factors promoting and hindering the manifestation of creativity are most pronounced among modern managers.

Results and Discussion

The results of the research conducted among managers showed that the level of their creativity is above average (M=69, according to the test, 131 is considered a high score of creativity).

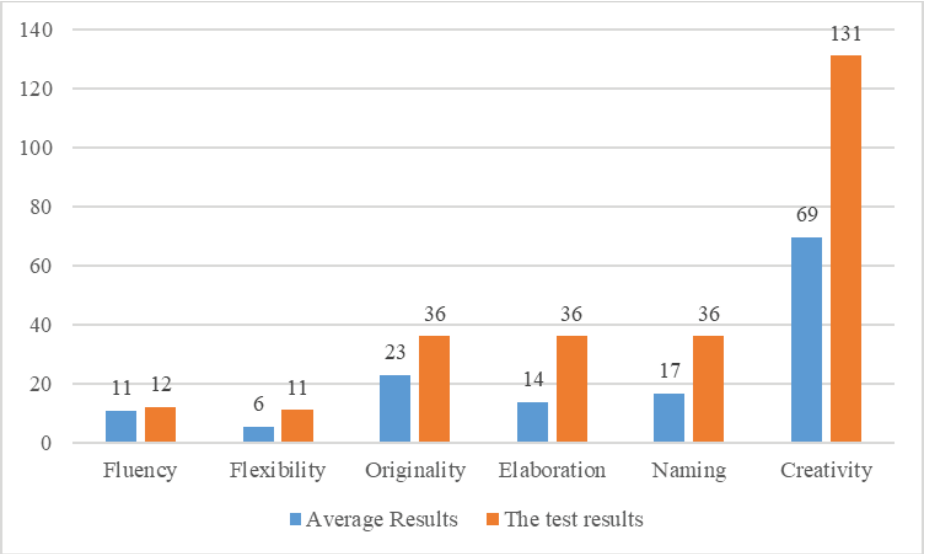

Figure 1. Creativity Level of Managers and indicators of Creativity: Average Results (n=200).

The creativity standards such as fluency (M=11, according to the test, 12 is considered a high score of fluency) and originality (M=23, according to the test, 36 is considered a high score of originality) recorded a high level. It means they can propose new, unique ideas, but they do not develop, improve or use the speech creatively. The flexibility measure is above average, indicating that they do not always come up with ideas in a different category (see Fig. 1).

Self-esteem of creativity among managers is low, which means that they do not value their creativity (see Fig. 2).

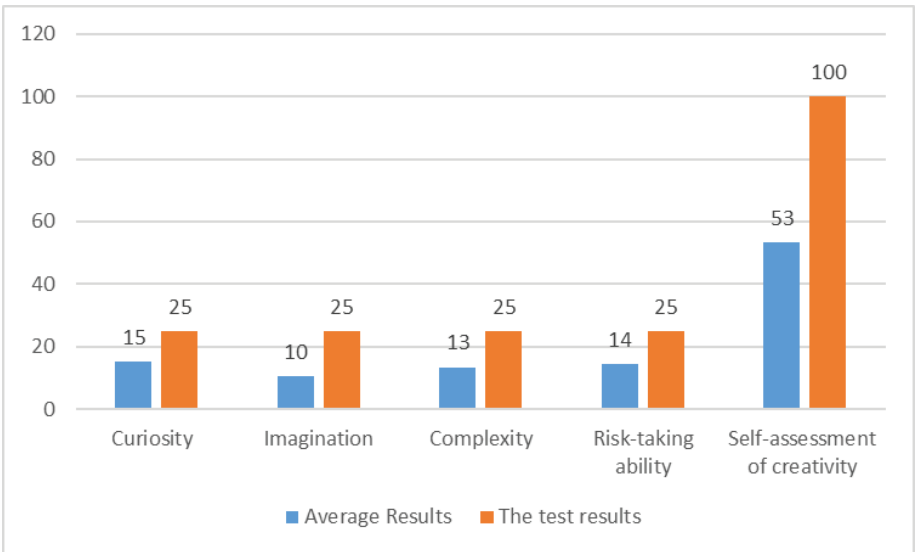

Figure 2. Personal qualities of creativity of Managers: Average Results (n=200).

From personal qualities of creativity, managers have middle level of Curiosity (M=15), Risk-taking ability (M=14), Imagination (M=13). Self-assessment of creativity is above average (M=53, the test norms is 100).

The correlation analysis showed that there are significant relationships between speed, flexibility and risk-taking ability, which means that the higher the risk-taking ability of managers from the personal qualities of creativity, the more they

propose a large number of ideas that belong to different categories.

The relationship is significant between originality and complexity (r=,166, P< 0,01), elaboration and complexity (r=,169, P< 0,01), which means how much managers tend to solve complex problems, put forward their own ideas and thoughts without paying attention to the reactions of others, set themselves high goals and try to achieve them.

They allow themselves the possibility of making mistakes and failures, they like to explore new ideas or things, not obeying the opinion of others, they are not satisfied with one answer, so they tend to put forward unique, unusual ideas, develop them, improve them. The relationship between self-esteem of creativity and elaboration (r=,143, P< 0,01) also indicates that the higher the self-esteem of managers' creativity, the more they improve their ideas and elaboration.

The relationship between curiosity (r=,163, P< 0,01), imagination (r=,151, P< 0,01), complexity (r=,173, P< 0,01), creativity self-evaluation and naming (r=,192, P< 0,001) means that managers use words creatively when they are interested in various phenomena, when studying new thoughts and ideas, when thinking about unknown phenomena, imagining, posing complex problems, when valuing their creativity.

The significant relationship between complexity (r=,211, P< 0,001), risk propensity (r=,173, P< 0,01), self-assessment of creativity and creativity (r=,185, P< 0,01) states that the extent to which managers pose complex problems, show persistence in achieving their goals, offer very complex options for problem solving, like to explore new ideas or things, not obeying to the opinion of others, take risks rate their creativity highly, the higher the level of creativity is. Thus, the correlation between the personal qualities of creativity and the criteria of creativity proves that among the personal qualities of creativity among managers, in case of curiosity, complexity, imagination, risk-taking, high self-esteem of creativity, they demonstrate a high level of creativity, speed of thinking, flexibility, originality.

We believe it is because of the barriers they have. In accordance with these principles, we have developed a questionnaire aimed at identifying the specifics of the emergence of barriers to creativity. The expert questionnaire included 19 factors that can hinder the expression of creativity. The expert should evaluate them on a scale of one to six (n=200).

Those barriers are fear of making mistakes (2.9), fear of being criticized (2.6), limited number of solution options (2.8), laziness (2.6), distrust (2.7), rigidity of thinking (2.6), working under time constraints (3), thinking in patterns and by the same way (3), inability to make independent decisions (2.8), yielding to the opinion of the majority (2.9).

These results prove that it is hard for managers to propose creative ideas when there is a shortage of time. When they do not have the opportunity to make independent decisions, they yield to the opinion of the majority, which may be because of the fear of being criticized, making mistakes, and the lack of confidence. If we combine our results with the opinion of the T. Amabile (Amabile et al., 2005), we will see, that the shortage of time doesn't let the incubation process lead to creative thought.

According to the results of the research of contributing factors(n=200), it is clear that managers highly value the desire for self-improvement and self-development (5.4), the encouragement of new thoughts and ideas (5.2), the inspiration to create new ideas, enthusiasm (5.2), freedom to express thoughts (5.3).

Psychological safety and the ability to take creative breaks are the lowest rated ones (4.2). Thus, if we compare the contributing and hindering factors of the managers' creativity, it is noticeable that they emphasized those contributing factors, the presence of which is a way to overcome the obstacles, in particular, the impossibility of making independent decisions is an obstacle and the freedom to express thoughts is a contributing factor.

We can conclude that in the case of freedom of expression, the managers will be able to make independent decisions. They will not be limited or constrained. Likewise, the fear of making a mistake and the fear of being criticized are the obstacles, and the encouragement of new thoughts and ideas, the inspiration to create new ideas and the enthusiasm are supporting factors. So there is a need to encourage creative ideas, enthusiasm and inspiration and exclude criticism.

We believe that psychological safety and taking creative breaks as the contributing factors have low scores and are not valued by managers

because they are still unable to realize their creativity fully. It is in the conditions of fully expressed creativity that there is a need to give creative breaks, while in our sample there are still many barriers for the managers to realize their creativity.

Conclusion

From the theoretical and experimental study, we can conclude that environmental factors have a special role in the model of studying creativity of a person. When studying the creativity of a person and a group we should take into account the contributing and hindering factors of its manifestation. The creativity of a modern manager is at an average level, the indicators of fluency and originality are high, they are able to put forward a large number of ideas, but they do not develop. The flexibility measure is above average, indicating that they do not always come up with ideas in a different category. Self-esteem of creativity among managers is low, which means that they do not value their creativity. The correlation between the personal qualities of creativity and the criteria of creativity proves that among the personal qualities of creativity among managers, in case of curiosity, complexity, imagination, risk-taking, high self-esteem of creativity, they demonstrate a high level of creativity, fluency of thinking, flexibility, originality, improving ideas, using the word creatively.

The characteristics of creativity manifestation of the modern manager are determined by the unique correlation of hindering and supporting factors. The impossibility of making independent decisions is an obstacle and the freedom to express thoughts is a supporting factor, the fear of making a mistake and the fear of being criticized are obstacles and the encouragement of new thoughts and ideas, inspiration to create new ideas and enthusiasm are supporting factors. Such a correlation of contributing and hindering factors of personal creativity is the basis for developing a new model of studying and developing personal creativity. Thus, the creativity study model is built from the level of creativity, standards, personal qualities of creativity (the ability to take risks, complexity, curiosity, and imagination), the relationship between them, the factors contributing to and hindering creativity, their unique relationship.

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