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ASPECTS OF CREATIVITY DEVELOPMENT AT SCHOOL-AGED
CHILDREN AND PREADOLESCENTS

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Abstract

Humankind has been preoccupied with defining what determines the new ideas in someone's mind, hence manifesting a real interest in studying creativity. The study is based on the Imagination and Creativity Test adapted by Roco (2001) after Torrance, Osborn, Guilford, Wallach, Kogan and Meunier, composed of figural and verbal creativity tests, focusing on the evaluation of fluidity, flexibility, originality. The study was conducted on 133 preteenagers and primary school children from Constanta. The objectives and the hypotheses of the research are: the identification of the significant differences between the figural and the verbal creativity, depending on gender and age level; the identification of the significant differences on fluidity, flexibility and originality level, depending on gender and age level. There was no record of significant differences between the primary school children and the preteenagers or between girls and boys, from the creativity development point of view; fluidity and flexibility are relatively similar as development level, both for the two age categories and genderwise. We recorded significant differences on the originality level, between the primary school children and the preteenagers. The verbal creativity is more developed, compared to the figural one, for the primary school children and the preteenagers. There was a record of the same significant differences concerning the development of verbal and figural creativity, gender-wise. The study offers arguments for the obtained results, presenting a topical and modern perspective on the approached subject, and it is one of the few studies on this theme that have been conducted in Romania.

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1. Introduction

Since ancient times, humankind has been preoccupied with defining what determines the new ideas in someone's mind, hence manifesting a real interest in studying creativity. One of first psychologists that drew the attention over the importance of creativity is Guilford, who in 1950 (in Sternberg, 2005, p.13), urged the psychologists to approach this "neglected, but extremely important aspect", as a result of the fact that there was a limited number of articles about creativity, until 1950. After 1950, it appears that the interest for creativity has increased, as more research institutes have been founded. Furthermore, the number of published articles in various studies has increased as well (Ormenișan, 2012).

2. Problem Statement

At present, there are hundreds of methods through which creativity is defined. Psychologists generally claim that "being creative" means "creating something new, original and appropriate for reality". Creative is the one who is characterized by originality and expressivity, the one that is imaginative, generative, initiating, inventive, innovative, etc. (Rocco, 2001, p. 17). Al. Roșca (1981) believes that due to the complexity of the creation phenomenon, it is unlikely to agree upon a definition unanimously recognized, because every author highlights different dimensions. Consequently, according to some authors, "creativity is the aptitude or the ability of producing something new and valuable", and according to others, it is a process through which a product is made (Roșca, 1981, p. 16). Numerous researches, studies, as well as specialists' experience (Dău – Gașpar, 2012; Torrance, 1965; McKinnon, 1962; Stein, 1988; Fryer, 1996; Amabile, 1997 in Dincă, 2001) have demonstrated that the creative abilities are significantly influenced by the intellectual factors, which also guide the development of communication and language skills.

3. Research Questions

In elaborating our study, we created a set of 12 hypothesis subsumed to the 3 proposed objectives, each of them being statistically verified and explained in the below subchapters.

4. Purpose of the Study

The goals that the current study is constantly aiming to reach are: (1) the identification of the significant differences between the different age categories and sexes, as far as creativity is concerned; (2) the identification of the significant differences between the figural and the verbal creativity, depending on sex and age level; (3) the identification of significant differences in regards to fluidity, flexibility and originality, depending on sex and age level.

5. Research Methods

For the study, 133 preadolescents and school-aged children from Constanta participated: 92 school-aged (6-10 years old) and 41 preadolescents (11-15 years old). The study was based on the

Imagination and Creativity Test adapted by Mihaela Roco (2001, p.204-211), after E.P. Torrance, A.I. Osborn, J.P. Guilford, N.A. Wallach and N. Kogan, G. Meunier. The questionnaire consists of 7 creativity tests, out of which 3 are figural creativity and 4 are verbal creativity. The questionnaire targets the evaluation of 3 basic components of creativity: fluidity, flexibility and originality.

6. Findings

There have been calculated skewness coefficients – 2.022; kurtosis – 6.838 that indicate an asymmetrical distribution, therefore, we used correlation and comparison nonparametric coefficients.

H1 – it is assumed that there is a significant difference in the creativity development between the preschoolers and preadolescents. We marked the preschoolers as group 1 and the preadolescents, group 2. We used Mann-Whitney U coefficient: mean rank group 1 – 69.96; mean rank group 2 – 63.80; $U = 2003.500$; $p = .357$. The obtained results show that **there are** no significant differences between the preschoolers and the preadolescents in regards to the development of creativity. The analysis of the creative imagination of preschoolers generated contradictory points of view in the published literature. Some studies demonstrated that in comparison to the preschoolers, the school-aged children were less expressive, less inspired while using colors, the modelling or construction work have been made more in the limits of ordinariness, reality, the known and normal (Crețu, 2009, p. 223). Thus, we notice a kind of regression of the creative abilities.

H2 – it is assumed that there is a significant difference in the creativity development between girls (group 1) and boys (group 2). We obtained a mean rank group 1 = 72.47; mean rank 2 = 61.45; $U = 1844.500$, $p = .099$, consequently there are no significant differences. Among creativity blockage, Roco (2001, p.109) includes blockages as the fear of making a mistake, of being extravagant or minority, the difficulty of changing the thinking pattern, the dependence on others' opinions, the excessive exaltation as far as the group spirit is concerned, that leads to conformism, low capacity of transforming or modifying the ideas, etc. These are characteristics specific to the studied groups of age, to which the subjects accede through the set of physiognomies of the development level itself that they go through.

H3 – it is assumed that there is a significant difference in what concerns the fluidity between preschoolers and preadolescents. We obtained a mean rank group 1 – 70.13; mean rank group 2 – 63.63, $U = 1992.000$; $p = .331$, as a consequence, there are no significant differences. Fluidity refers to the richness and flux of words, ideas, images, connections that the subject makes. The test considers the total number of answers. Both age categories are in a process of developing language, vocabulary, and of collecting knowledge and new information. Certain limitations in this particular matter are normal.

H4 – it is assumed that there is a significant difference in what concerns the flexibility between preschoolers and preadolescents. We obtained a mean rank group 1 – 67.91; mean rank group 2 = 66.02; $U = 2145.000$, $p = .778$, therefore there are no significant differences. We would have expected the confirmation of this hypothesis because there are obvious differences of flexibility development and of thinking reversibility. The 2 components that belong to both creativity and thinking are formed according to the Piaget's theory during preschool, and deepen during preadolescence. The obtained result could be attributed to the fact that the questioned subjects belong to similar categories of age, and the border between the 2 stages, on mental age level, is very low perceivable.

H5 – it is assumed that there is a significant difference in what concerns the originality between preschoolers and preadolescents. We obtained a mean rank group 1 – 75.72; mean rank group 2 – 57.59; $U = 1606.000$, $p = .007$, as a consequence the preschoolers are more original than the preadolescents. The metaphorical, unusual answers, are more typical to the preschoolers, because the teenagers tend to be more pragmatic, more realistic, having more scientific knowledge, that anchors them better in the world and reality that they live in. School significantly influences child's abandonment of the imaginary universe, and it transfers and prepares the child for the real world, anchoring him in the pattern of the educated, competent, informed, but not necessarily creative person.

H6 – it is assumed that there is a significant difference in what concerns the fluidity between girls (group 1) and boys (group 2). We obtained a mean rank 1 – 73.90; mean rank 2 – 59.99; $U = 1748.500$; $p = .037$, as a result, girls have a higher fluidity than boys. Fluidity, as creativity factor, manifests through the richness, the easiness and the rapidity of associations. The published literature provides studies that demonstrate the fact that the language development of girls is superior to the one of boys. While girls are more effusive and can access easier the affective and emotional levels, for boys it is more difficult to access these information. Girls use language more than boys do. During the learning process, girls often verbalize, while boys work quietly, or use symbolism. Moreover, girls prefer the daily conceptualized information and they are extremely focused on details. Boys prefer a more coded, specialized language and ignore details. They search for logical arguments and clear evidence in conversations or in any presentation of information (Gurian et al., 2001, p. 45).

The hypothesis H7 and H8 focus on the existence of a significant difference in regards to flexibility and originality between girls and boys. For flexibility, we obtained a mean rank 1 – 70.60; mean rank 2 – 63.35; $U = 1970.000$, $p = .278$, and for originality, we obtained mean rank 1 = 67.35; mean rank 2 = 66.64; $U = 2187.500$; $p = .916$. The results do not indicate significant differences, which lead to arguing this aspect through the impact of the audio-visual channels, specific to the current generations, which act against the interest for reading. Due to a limit of our current times, the new technologies can block creativity through their own influence in the process of knowledge and representations development.

H9 – it is assumed that there is a significant difference between the level of figural and verbal creativity development, for the preschoolers. We marked group 1 – figural creativity and group 2 – verbal creativity and we obtained a mean rank 1 – 47.27; mean rank 2 – 91.73; $U = 846.500$; $p = .000$; consequently, the verbal creativity is more developed than the figural one. With regard to the creativity development, the school age, as a period highlighted by discoveries and surprises, is characterized by a continuous exploration, and spiritual mobility. *“The reality blends with imagination in drawing, and painting, therefore it is necessary that from an early age the esthetic perception, the esthetic sense and the ability of understanding the beautiful develop”*(Toma, 2005, p.8). Starting with the age of 6-7, the conscious, intentional and planned feature of imaginative combinations increases. Consequently, the development of figural creativity at the age of preschoolers becomes a substantial task for the tutors. During the artistic activities, where the child can speak freely, authentically, the role of the educator is fundamental in regards to the development of the observation sense, attention, independence in action, originality, creativity in general.

H 10 – it is assumed that there is a significant difference between the level of figural and verbal creativity development, for the teenagers. We obtained a mean rank 1 – 41.95; mean rank 2 – 87.05; $U = 605.000$; $p = .000$; therefore, the verbal creativity is more developed than the figural one. The same cited author, Viorel Toma (2005), states that: “at an early age, creation has a major importance in human growth, in the development of the child’s personality, even though for the humankind the child’s creation has no value (...) It is known that a vital component of creativity is the desire to create itself, curiosity, the inner need of affirmation” (Toma, 2005, p. 29). In terms of motivational development, both for the preschooler, as well as for the preadolescent, it is the tutor that has them accustomed to the elements of a plastic language, he / she stimulates them to reproduce those elements, to transform and associate them, during the artistic activities. For this reason, the verbal creativity becomes significant in comparison to the figural one (for the preschoolers and the teenagers), through their need to express their own feelings, the necessity to reproduce the image in an artistic way or the pleasure of narrating through images.

The hypothesis H11 and H12 highlight the existence of a significant difference between the level of figural and verbal creativity development, for girls and boys. For the girls, we obtained a mean rank 1 – 44.91; mean rank 2 – 90.09; $U = 731.000$; $p = .000$; and for the boys – mean rank 1 – 44.39; mean rank 2 – 88.61; $U = 718.000$, $p = .000$. The obtained results highlighted the following aspect: the verbal creativity is more developed than the figural one, for both genders. The verbal creativity is expressed through an elaborate, fluid, flexible and original language. The school-aged child is attracted by certain sonorities, he / she uses wordplays, learns new words through the activities specific to learning to read. The oral communication expands, facilitating the development of verbal creativity. The act of telling known stories is enriched by personal elements, yet maintaining the basic elements of the initial tale. “*All these creative manifestations of children are original in relation to their individual experience, establishing premises for their future creative products*” (Dănescu, 2009, p.51). In terms of figural creativity, fantasy, free speech, original creations, fertile imagination mainly expressed through plastic expressions, modelling or drawing, are specific to the school age. All these artistic activities are loved and preferred by children, both boys and girls, in different stages of the instructive-educational process, because they offer them the opportunity of expressing in a free and unimpeded way, the creative potential that they have, to a larger or lesser extent.

7. Conclusion

The current study attests that some of the hypothesis have not been validated; in this regard, the justification could result from the sample constitution. It is possible that the level of mental development between the 2 groups of age is not fundamentally different, on a large scale. For the ontogenetic development of an individual, the crossing of all the stages of the development process is more important than the chronological age itself, where the transition between stages is produced.

In this regard, the published literature provides the specialists’ experience – Tardif and Sternberg (1988) (in Dincă, 2002, p. 32), who synthesize the results of many studies on motivational and attitudinal characteristics of creative personality: adventure, perseverance, inclination towards research, being open to new experiences, leadership, discipline and ability of ordering the own activity, intrinsic motivation, focus on task, independent achievement, competitiveness, need of privacy, good social presence,

tolerance to ambiguity, multiple interests, valuing originality and creativity, unconventional behavior, need of “peak experiences”. These features represents key factors for the creative performance, factors that our study did not consider, which can reinforce the explanation for some of the alleged hypothesis.

As far as the differences between the verbal and figural creativity are concerned, the obtained results are also supported by the dissertation of Lucie Jiru (2009), sampled on the students of the traditional schools versus those in the alternative educational institutions (Waldorf and Montessori). Jiru (2009) discovered that the students from the alternative schools have significantly better figural creativity test results, compared to the verbal creativity one.

The elaboration of this study aims to highlight the importance of creativity in the everyday life, a substantial component of the personality development, throughout the entire ontogenetic evolution. Humankind is influenced by the frequent changes during the entire lifetime, by the necessity of the continuous need to adapt to change, of the stress and frustration resistance caused by these changes, by the expediency in framing answers and solving problems. An article written by Makini Brice (2012), suggests the following aspects: the joyful and flexible individuals, that are open towards new ideas, have higher chances to live longer than the majority: creativity, rather than intelligence or the feature of being open to everything, is the one that reduces mortality risk; creative people can manage stress better, whereas stress is a known factor causing many diseases. Therefore, developing and studying creativity of all groups of age represents a topical issue, extremely important, that requires subsequent intense studies.

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