Urban Test (TCT-DP) as an Instrument that Identifies Specifics of Creativity of Young Adolescents with Different Types of Giftedness

Ekaterina I. Donii
Moscow State University of Psychology & Education, Moscow, Russia,
ORCID: https://orcid.org/0000-0002-2180-7060, e-mail: doniiekaterina@gmail.ru

This article presents the results of the study of the Urban test as an instrument for identifying the specifics of the manifestation of creativity in younger adolescents with artistic and intellectual giftedness. The literature notes the specificity of the manifestation of creativity in younger adolescents with these types of giftedness. The author notes that the analysis of indicators of the Urban test categories, regardless of its general indicator, suggests that they can reveal the specifics of the manifestation of creativity in younger adolescents with artistic and intellectual giftedness. The study involved 196 younger adolescents, of whom 63 intellectually gifted (M = 11.6 years old, 30 boys and 33 girls), 34 artistically gifted (M = 12.1 years old, 5 boys and 29 girls) and 99 from the control group (M = 11.6 years, 46 boys and 53 girls). Analysis of the average values of the Urban test indicators revealed statistically significant intergroup differences in categories such as humor, non-traditional use – any manipulation of the form; any surreal, fictional and/or abstract use of elements or patterns; any use of symbols and signs, and speed. For the first time, an attempt was made to analyze the values of the Urban test categories, regardless of its overall value in the context of identifying the specifics of the manifestation of creativity in young adolescents with artistic and intellectual giftedness. The results expand the toolbox for specialists, clarifying the capabilities of an already familiar test, and allowing to optimize the diagnostic process.

Keywords: artistic giftedness, creativity, intellect, young adolescents, Urban test (TCT-DP).

Funding: The reported study was funded by Russian Foundation for Basic Research (RFBR), project number 19-313-90002-19

В данной статье представлены результаты исследования теста Урбана как инструмента выявления специфики проявления креативности младших подростков с художественной и интеллектуальной одаренностью. В литературе отмечается специфика проявления креативности у младших подростков с данными видами одаренности. Автор отмечает, что анализ показателей категорий теста Урбана вне зависимости от его общего показателя позволяет предположить, что они могут выявить специфику проявления креативности младших подростков с художественной и интеллектуальной одаренностью. В исследовании приняли участие 196 младших подростков, из которых 63 интеллектуально одаренных (M=11,6 лет, 30 мальчиков и 33 девочки), 34 художественно одаренных (M=12,1 лет, 5 мальчиков и 29 девочек) и 99 из контрольной группы (M=11,6 лет, 46 мальчиков и 53 девочки). Анализ средних значений показателей теста Урбана выявил статистически значимые межгрупповые различия по таким категориям, как юмор, нетрадиционное использование — любая манипуляция с бланком; любое сюрреалистичное, вымышленное и/или абстрактное использование элементов или рисунка; любое использование символов и знаков, а также скорость. Впервые предпринята попытка анализа показателей категорий теста Урбана вне зависимости от его общего показателя в контексте выявления специфики проявления креативности младших подростков с художественной и интеллектуальной одаренностью. Результаты расширяют инструментарий специалистов, уточняя возможность уже знакомого теста и позволяя оптимизировать процесс диагностики.

Ключевые слова: интеллект, креативность, младшие подростки, тест Урбана, художественная одаренность.

Финансирование. Исследование выполнено при финансовой поддержке Российского фонда фундаментальных исследований (РФФИ) в рамках научного проекта № 19-313-90002-19.

Introduction

Timely identification of creativity enables the child to realize his abilities and increases his chance for happiness and well-being. In addition, creativity is considered one of the components of giftedness, and early identification of the latter also gives a child more chances to develop and realize his potential [22]. Despite the fact that a lot of literature is devoted to the development of creativity, its identification remains a difficult task due to the variety of creativity tests and interpretations of this concept. Drawing tests, as one of the ways to identify creativity, contain a lot of information about the subjects, because they provide an opportunity for creativity and freedom. One such test is the Urban's TCT-DP drawing test. It allows to identify such components of creativity as non-standard thinking, the ability of risk taking and imagination [25; 26; 27; 28]. The sum of its 14 categories – including such as continuation (Cn), completeness (Cm), new elements (Ne), connections made with lines (Cl), connections made to complete the theme (Cth), fragment-dependent boundary breaking (Bfd) or fragment-independent boundary breaking (Bfi), perspective (Pe), humor (Hu), 4 types of non-traditional use (Uca, Ucb, Ucc, Ucd), speed (Sp) – allows you to assess the level of overall creativity: from very low to very high [25; 26; 27]. To date, the test has been applied in more than 20 countries around the world [25; 26; 27]. Developed in 1986 by Urban and Hellen in English and German, this test was aimed at identifying low or high creative potential of the subjects, regardless of their age and nationality [26; 27]. The test is easy to conduct, analyze and interpret, which makes it convenient in use; it can be used both as a main and auxiliary tool. The Urban test was used on different samples, for example, musicians and students of scientific and technical universities, football players, engineering students, intellectually gifted adolescents, linguistically gifted children, deaf and dumb and normal hearing children [26; 27]. The Urban test was also used to evaluate the effectiveness of a program for developing emotional abilities in high school students [1] and in a program for developing creativity in gifted children in the field of fine arts [19]. In his research, Beal [10] notes that the Urban test allows for an objective and unbiased assessment of student creativity, while teachers, who are also able to identify creative children through observation and collaboration, are not immune from excessive subjectivity, bias and conservatism in relation to a child. During approbation on a Russian sample, 286 pupils from grades 5 to 7, aged 10 to 12, both with artistic and intellectual giftedness took part. The test homogeneity index equaled 0.643 [2]. This figure was higher than in western sources. According to other studies, the test homogeneity index became 0.57, the validity was 0.80 [16; 27]. There is evidence that the Urban TCT-DP test is able to track behavioral changes in subjects over several years [16]. Speaking about the specifics of the manifestation of creativity, the study by Donii and Shumakova [3] noted that a qualitative analysis of the completed drawings for certain categories of the Urban TCT-DP test clearly demonstrates differences in the manifestation of figurative creativity in groups of artistically and intellectually gifted younger adolescents. The ones with artistic giftedness are much more likely than their intellectually gifted peers to go beyond the boundaries of a large frame (Bfd, Bfi), which, according to the interpretation of the author of the methodology, is an indicator of the ability to think outside the given frames. In addition, artistically gifted young adolescents often use abstraction (Ucb), create a holistic drawing on a general theme (Cth), come up with a title (Ne), which is an option for the test. At the same time, intellectually gifted younger adolescents are characterized by the simple use of given figures, the lack of connection between
Adult artists demonstrate differences in the aesthetic and figurative perception of the world. At the same time, it should be noted that quantitative analysis did not reveal statistically significant differences between the groups of artistically and intellectually gifted younger adolescents in terms of the overall indicator of creativity in terms of the Urban TCT-DP test. An important clarification will be that, according to the author of the test, it is customary to evaluate only the overall indicator of the Urban TCT-DP test, because the test is designed to determine the overall level of creativity. The specificity of the manifestation of creativity in younger adolescents with artistic and intellectual giftedness was noted in the same study by Donii and Shumakova using another test of creativity as an example. Significant differences in the manifestation of creativity were identified in the framework of the author's methodology "Figurative and Verbal Creativity" (OVK, Shumakova). The results were higher in the group of intellectually gifted younger adolescents on all the measures of verbal creativity (fluency, flexibility, originality, verbal elaboration), including the sum of all four measures. In a study by Shumakova on the peculiarities of the manifestation of creativity of younger schoolchildren with artistic and intellectual giftedness, using the example of the already mentioned OVK method, statistically significant differences were found in the manifestation of creativity depending on the type of giftedness. The creativity of artistically gifted children was more pronounced in the figurative subtest, while the creativity of their intellectually gifted peers was more pronounced in the verbal subtest. The manifestation of creativity of artistically gifted children is expressed in their aesthetic attitude to the world, while their intellectually gifted peers – in the "game of imagination" with a large number of objects, ideas, unusual combinations.

Thus, it can be said that artistically gifted schoolchildren reveal a qualitative originality in the manifestation of figurative creativity, which can be recorded both in the results of quantitative and qualitative analysis using two methods aimed at studying different aspects of creativity – divergent (OVK) and synthetic ability (Urban TCT-DP test).

In this regard, we consider it as justified to expand the capabilities of the Urban TCT-DP test, namely, the quantitative analysis of certain categories of this test, since it can provide more information about the specifics of the manifestation of creativity of younger adolescents with artistic and intellectual giftedness. Attention to the Urban TCT-DP test, in particular to its categories, is also due to the fact that the categories identified by the author of the test partially correlate with the manifestations of the child's artistic giftedness, which are described in the literature. Children with artistic giftedness can draw recognizable shapes and distinguish the main parts of the body already at the age of two; draw objects of non-canonical form; use depth with the full range of techniques of adult artists: foreshortening, occlusion, size reduction, shading and modeling, linear perspective, three-dimensional image; use a smooth contour to outline complex shapes or connect fragments. Artistically gifted children begin to draw in a realistic manner at an early age. Their drawings are more developed with regard to decorative details, more solid and systematic, they trace the development of the theme. Artistically gifted children go through all successive stages of mastering the skill of drawing, but they do it faster than their ordinary peers. Given this information, the analysis of the results of the Urban TCT-DP test can be further studied by experts in the field of fine arts in terms of the artistic potential of the child. It is important to note that the
analysis of the completed drawing is not evaluated from an artistic point of view.

Continuing the topic of the specifics of the manifestation of creativity and the necessity of early identification of creativity, it is worth paying attention to motivation. It is known that artistically gifted children demonstrate a high level of intrinsic motivation in working on their drawings, work enthusiastically, without external encouragement [4; 5; 31]. Precocious artists make discoveries through self-study, try to use complex techniques, or tend to quickly sketch something they have seen before, which is not typical of ordinary children [31]. Sometimes by the age of 5, artistically gifted children begin to draw at a more complex level than most adults [31], and their drawings correspond more to the level of professional artists than the drawings of artistically gifted adolescents [4]. In secondary school, all children improve in realistic drawing [19] and the level of artistically gifted and their non-gifted peers can coincide [10; 17]. At the same time, it is noted that artistically gifted children tend to perform their work at a higher creative level [13; 20; 31].

At the same time, intrinsic motivation depends on many factors. So, being in an unfavorable educational environment, children who are accustomed at an earlier age to fully express their emotions in a drawing, face new requirements that can “blunt” the former motivation and desire for self-realization [4; 5]. In turn, the development of creativity also depends on how the child is motivated and focused on productive work [20; 22]. In early adolescence, manifesting itself as a general ability, creativity also begins to manifest itself in specific areas [6; 22]. Therefore, at this stage the use of relevant techniques is especially important in order not to overlook the moment of the earliest identification of the specifics of the manifestation of creativity.

Based on the mentioned above, the hypotheses of our study are as follows 1) the Urban TCT-DP test – both its general indicator and indicators for individual categories – can be used to identify the specifics of the manifestation of creativity in younger adolescents with artistic and intellectual giftedness, 2) the manifestation of creativity will vary among younger adolescents with artistic and intellectual giftedness in such categories as connection (Cn), completeness (Cm), new elements (Ne), connections made using lines (Cl), connections made to complete the theme (Cth), fragment- dependent boundary breaking (Bfd) or fragment-independent boundary breaking (Bfi), perspective (Pe), humor (Hu), non-traditional use – any manipulation of the blank (Uca), fictional and / or abstract use of elements (Ucb), any use of symbols and signs (Ucc), non-traditional use of given elements (Ucd), speed (Sp).

To test our hypotheses, we defined the following task: to conduct a comparative analysis of the performance of the Urban TCT-DP test, taking into account the assessment of the performance of its 14 categories in the groups of intellectually gifted younger adolescents, artistically gifted younger adolescents, and also their peers in the control group.

**Method**

The study involved 196 younger adolescents, of whom 63 were intellectually gifted (M=11,6 years, 30 boys and 33 girls), 34 were artistically gifted (M=12,1 years, 5 boys and 29 girls) and 99 from the control group (M=11,6 years, 46 boys and 53 girls). The group of intellectually gifted younger adolescents consisted of students of a secondary school in Moscow, who were included in the 30% of students with the best results on the Raven’s Matrix test [7; 8; 18] and showing a high level of cognitive motivation (as assessed by teachers and extracurricular
Доний Е.И.
Тест Урбана как инструмент выявления специфики проявления креативности младших подростков с разными видами одаренности

Donii E.I.
Urban Test (TCT-DP) as an Instrument that Identifies Specifics of Creativity of Young Adolescents with Different Types of Giftedness

activities) and academic success. The group of artistically gifted younger adolescents included students of a specialized art school in Moscow, who entered there through a competitive selection, in which experts selected the most talented students in the field of fine arts.

The significantly predominant number of girls in the group of artistically gifted adolescents reflects the current situation of the sex ratio in art schools.

To identify the features of the manifestation of creativity, the Urban TCT-DP test was used, in which the subject is asked to complete an unfinished free-form drawing with a simple pencil without using a ruler, eraser or other available means. The test form shows six objects – a dot, a semicircle, a wavy line, a right angle enclosed in a large frame, and an unfinished square outside the frame. Due to the conditions of the study, the subjects were offered only form A. The assessment and interpretation of the test is carried out in 14 categories. 13 of them relate directly to the drawing: continuation (Cn), completeness (Cm), new elements (Ne), connections made with lines (Cl), connections made to complete the theme (Cth), fragment-dependent boundary breaking (Bfd) or fragment-independent boundary breaking (Bfi), perspective (Pe), humor (Hu), 4 types of unconventional usage (Uca, Ucb, Ucc, Ucd). Category speed (Sp) was evaluated if the subject scored at least 25 points in 13 categories. The results were analyzed by one-way analysis of variance using ANOVA in SPSS V.27. The Bonferroni correction was applied to reduce the probability of a false positive result.

Results

Table 1 presents the results of a comparison of the Urban TCT-DP test scores in three groups of younger adolescents: those with intellectual giftedness, artistic giftedness, and the control group. The analysis of the means scores of the Urban TCT-DP test revealed statistically significant intergroup differences across the categories such as humor (Hu), unconventional use – any manipulation of the blank (Uca), unconventional use of elements – any surreal, fictional and/or abstract use of elements or pattern (Ucb), non-traditional use – any use of symbols and signs (Ucc), speed (Sp).

Scores in the categories such as humor (Hu), non-traditional use of elements – any surreal, fictional and/or abstract use of elements or drawing (Ucb) and speed (Sp) in artistically gifted children are significantly higher than in the group of intellectually gifted children and children in the control groups. At the same time, with regard to the speed, the lower the indicator, the better, i.e. the child completed the task faster.

Thus, artistically gifted children score lower than their intellectually gifted peers and peers from the control group in another category of non-traditional use of elements – Ucc (any use of symbols and signs).

One of the categories of non-traditional use of elements – Uca (any manipulation with the form) is significantly higher in the group of intellectually gifted children compared to the control group; there are no significant differences in this category with the group of artistically gifted children.

Table 1

Average values of indicators of the Urban TCT-DP test in different groups (1 - intellectually, 2 - artistically gifted younger adolescents, 3 – control group)

<table>
<thead>
<tr>
<th>Urban TCT-DP</th>
<th>M (SD)</th>
<th>p</th>
<th>p</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Group 1</td>
<td>Group 2</td>
<td>Group 3</td>
<td>Group 4</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td>N = 63</td>
<td>N = 34</td>
<td>N = 99</td>
<td>N = 125</td>
</tr>
<tr>
<td>Creativity “gestalt” score</td>
<td>28.38 (11.01)</td>
<td>26.74 (10.41)</td>
<td>25.27 (10.60)</td>
<td>0.751</td>
</tr>
<tr>
<td>Cn (Continuation)</td>
<td>4.92 (0.97)</td>
<td>5.06 (0.65)</td>
<td>4.96 (0.88)</td>
<td>0.740</td>
</tr>
<tr>
<td>Cm (Completion)</td>
<td>4.43 (1.15)</td>
<td>4.82 (0.80)</td>
<td>4.59 (1.12)</td>
<td>0.200</td>
</tr>
<tr>
<td>Ne (New elements)</td>
<td>2.98 (2.24)</td>
<td>2.47 (1.97)</td>
<td>2.21 (2.23)</td>
<td>0.515</td>
</tr>
<tr>
<td>CI (Connection made with a line)</td>
<td>3.51 (2.29)</td>
<td>2.76 (2.20)</td>
<td>2.85 (2.19)</td>
<td>0.261</td>
</tr>
<tr>
<td>Cth (Connection made to produce a theme)</td>
<td>3.00 (2.76)</td>
<td>3.71 (2.64)</td>
<td>2.52 (2.76)</td>
<td>0.448</td>
</tr>
<tr>
<td>Bfd (Boundary breaking that is fragment dependent)</td>
<td>1.90 (2.71)</td>
<td>0.97 (2.18)</td>
<td>1.79 (2.67)</td>
<td>0.214</td>
</tr>
<tr>
<td>Bfi (Boundary breaking that is fragment independent)</td>
<td>1.90 (2.82)</td>
<td>1.24 (2.47)</td>
<td>2.30 (2.93)</td>
<td>0.506</td>
</tr>
<tr>
<td>Pe (Perspective)</td>
<td>1.52 (2.30)</td>
<td>1.88 (2.53)</td>
<td>0.92 (1.99)</td>
<td>0.724</td>
</tr>
<tr>
<td>Hu (Humour)</td>
<td>0.21 (0.86)</td>
<td>1.00 (1.74)</td>
<td>0.23 (0.85)</td>
<td>0.003</td>
</tr>
<tr>
<td>Uca (Unconventionality – any manipulation of the material)</td>
<td>0.76 (1.31)</td>
<td>0.35 (0.98)</td>
<td>0.27 (0.87)</td>
<td>0.163</td>
</tr>
<tr>
<td>Ucb (Unconventionality – any surrealistic, fictional and/or abstract elements or drawings)</td>
<td>0.29 (0.89)</td>
<td>1.15 (1.48)</td>
<td>0.06 (0.42)</td>
<td>0.000</td>
</tr>
<tr>
<td>Ucc (Unconventionality – any use of symbols and signs)</td>
<td>1.86 (1.50)</td>
<td>0.71 (1.29)</td>
<td>1.75 (1.48)</td>
<td>0.000</td>
</tr>
<tr>
<td>Ucd (Unconventional use of given fragments)</td>
<td>0.67 (0.92)</td>
<td>0.53 (0.96)</td>
<td>0.35 (0.70)</td>
<td>0.714</td>
</tr>
<tr>
<td>Sp (Speed)</td>
<td>0.43 (0.50)</td>
<td>0.09 (0.29)</td>
<td>0.48 (0.50)</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Note. ** – differences are significant, p <0.001; * – differences are significant, p ≤0.05 (Bonferroni correction is considered).
### Discussion

The aim of this study was to conduct a comparative analysis of the results of certain categories of the Urban test in groups of intellectually and artistically gifted younger adolescents, as well as in the control group, in order to identify the specifics of the manifestation of creativity.

As in the previous study [3], this study did not reveal statistically significant differences between the two groups in terms of overall creativity. In addition, no statistically significant differences were found when compared with the control group.

With regard to individual categories of the Urban TCT-DP test, statistically significant differences in groups of younger adolescents with artistic and intellectual giftedness were found in such indicators as humor (Hu), non-traditional use - any surreal, fictional and/or abstract (Ucb), non-traditional use – any use of symbols and signs (Ucc) and speed (Sp). At the same time, the categories Hu, Ucb and Sp were higher in the group of artistically gifted younger adolescents, and the category Ucc – in the group of their intellectually gifted peers.

Thus, our hypothesis about the specificity in the manifestation of creativity in adolescents with different types of giftedness on the example of certain categories of the Urban TCT-DP test is partially confirmed. The non-traditional use of symbols and signs is a characteristic feature of the creativity of intellectually gifted adolescents, while humor, a tendency to abstract images and speed of execution act as a “strong” characteristic of the creativity of their artistically gifted peers.

A number of limitations of the study should be noted. The first is related to the nature of the sample – the predominant number of girls in the group of artistically gifted adolescents, which implies that gender differences should be taken into account in further research. The second is related to the time allotted for the test as the subjects were offered only the form A. In the future, it is worth testing, including the form B, and checking the stability of differences in the manifestation of creativity in groups of subjects with artistic and intellectual giftedness.

### Conclusion

This study is the first attempt to study the indicators of the categories of the Urban TCT-DP test (according to the author of the test, only the total sum of indicators by categories is taken into account) to identify the specifics of the manifestation of creativity in younger adolescents with artistic and intellectual giftedness. A comparative analysis of the mean values of the Urban TCT-DP test scores shows statistically significant intergroup differences in such categories as humor (Hu), non-traditional use – any surreal, fictional and/or abstract (Ucb), non-traditional use – any use of symbols and signs (Ucc) and speed (Sp). The use of the Urban TCT-DP test, taking into account not only its general indicator, but also indicators for individual categories in the context of identifying the specifics of the manifestation of creativity, expands the tools of specialists in this field clarifying the capabilities of already familiar test, and allows to optimize the diagnostic process. Considering gender differences, and the use of the form B of the Urban test, is implied in further research.

### References


Доний Е.И.
Тест Урбана как инструмент выявления специфики проявления креативности младших подростков с разными видами одаренности
Психолого-психологические исследования. 2022.
Том 14. № 1. С. 122–135.

02.12.2020).


Доний Е.И.
Тест Урбана как инструмент выявления специфики проявления креативности младших подростков с разными видами одаренности
Психолого-педагогические исследования. 2022.
Том 14. № 1. С. 122–135.

Donii E.I.
Urban Test (TCT-DP) as an Instrument that Identifies Specifics of Creativity of Young Adolescents with Different Types of Giftedness


Литература
1. Валуева Е.А., Лаптева Е.М., Овсянникова В.В. Оценка эффективности программы развития эмоциональных способностей у школьников старших классов [Электронный ресурс] // Современная зарубежная психология. 2018. Том 7. № 2. С. 70–79. DOI:10.17759/jmfp.2018070207
5. Мелик-Пашаев А.А., Новлянская З.Н., Адаскина А.А., Чубук Н.Ф. Истоки и специфика детского художественного творчества. М.: Навигатор, 2014. 84 с.
9. Эфроимсон В.А. Генетика гениальности. Биосоциальные механизмы и факторы наивысшей
Доний Е.И.
Тест Урбана как инструмент выявления специфики проявления креативности младших подростков с разными видами одаренности


Information about the author
Ekaterina I. Donii, psychologist-researcher, Junior Research Associate, Center of Applied Psychological and Pedagogical studies, Moscow State University of Psychology & Education, Moscow, Russia, ORCID: https://orcid.org/0000-0002-2180-7060, e-mail: doniiekaterina@gmail.ru

Информация об авторах
Доний Екатерина Игоревна, психолог-исследователь, младший научный сотрудник Центра прикладных психолого-педагогических исследований, ФГБОУ ВО «Московский государственный психолого-педагогический университет» (ФГБОУ ВО МГППУ), г. Москва, Российская Федерация, ORCID: https://orcid.org/0000-0002-2180-7060, e-mail: doniiekaterina@gmail.ru
Доний Е.И.
Тест Урбана как инструмент выявления специфики проявления креативности младших подростков с разными видами одаренности
Психолого-педагогические исследования. 2022.
Том 14. № 1. С. 122–135.

Donii E.I.
Urban Test (TCT-DP) as an Instrument that Identifies Specifics of Creativity of Young Adolescents with Different Types of Giftedness
Psychological-Educational Studies. 2022. Vol. 14, no. 1,
pp. 122–135.

Получена 21.04.2021
Принята в печать 10.03.2022

Received 21.04.2021
Accepted 10.03.2022