Abstract

The value of the human capital as well as sociocultural specificities considered by the Russian venture company and Institute of national projects to be an important factors of technological development of the society and individual innovation activity. Despite existing demand for people creative, tolerant to uncertainty and able to be productive in the hard and unstable VUCA-world, there are problematic tendency in crisis to reject creative potential in favor of more pragmatic or hedonistic lifestyle. In the context of development of creative life path, it’s important to study high school student’s attitude towards creative person. The purpose of this research is to identify peculiarities of the role identification and tolerance towards different types of creative people among high school students. The sample consisted of 66 high school students from Chelyabinsk city. For the research purpose we used «Role Relations between Social Subjects and Creative Personalities» (RRSSCP) methodology, developed by Gryazeva-Dobshinskaya V.G., Bakunchik N.Y., Glukhova V.A., Maltseva A.S., based on Kelly's Repertory Grid Technique. Results calculated through method of factor analysis. Following peculiarities of high school student’s tolerance towards creative person were identified: high level of tolerance towards the role of «Creator» in organizational structure and towards those creative people, who either show leadership potential or already hold high-status positions; identification of own self with creative persons with low levels of intolerance. The analyzed data shows necessity of development of vocational guidance programs and trainings, focused on development of attractive images of creative person with differential life strategies.

Keywords: Attitude towards creative person, creativity, high school students, tolerance
1. Introduction

According to both Russian and foreign researchers, development of tolerance as an attribute of social capital is significant for the development of an innovative economy. Tolerance is considered in various different contexts: as a feature of national culture, as a characteristic of organizational culture, as an element of the value-meaning sphere of an individual. In this context, the following types of tolerance are considered significant – tolerance towards national and sexual minorities (Florida, 2002; Shcherbak, 2013), tolerance towards uncertainty (Everdingen & Waarts, 2003; Hofstede, 1984; Shane, 1993), risk, mistakes and failures (Goran et al., 2017; Golubev et al., 2018), tolerance towards creative personality (Gryazeva-Dobshinskaya & Dmitrieva, 2020). Low level of any type of tolerance can be considered as one of the main barriers to the creation and implementation of innovations.

2. Problem Statement

Large-scale study of the Institute of National Projects and the Russian Venture Company considers following list as influencing factors in the development of the innovative potential of the Russian Federation: the value orientations and personal attitudes of people, positive attitude towards various innovative technologies and products ("technological optimism"), and attitudes towards entrepreneurial activity. But the respondents of this study are mainly characterized from the point of view of the consumption of innovative products - technologies, goods and services. In this study technological "innovators" are "people who feel confident when using technology" (Auzan et al., 2020). However, there are other significant factors of development of an innovative economy besides people's interest in new things, their readiness to accept new technologies, and promptly respond to their emergence, acting as consumers. It is also necessary to actively strive to create and introduce new things. For example, to desire to master professions, to demonstrate activity options, to be ready to occupy positions that involve a personal or team creative process. Thus, passive and active forms of tolerance can be distinguished (Chebykina, 2012), where passive ones represented by an emotionally calm attitude, a willingness to coexist with something other than usual and standard, while active forms means creation and creativity, a willingness to support creativity, defend it, and take risks.

The RVC study provides optimistic data on a positive attitude towards entrepreneurial activity among Russian population, especially among young people (18-30 years old), and on a high desire to organize their own business. However, entrepreneurship itself is not always associated with innovation. It is more often an indicator of a pragmatic, adaptive variant of activity rather than suprasituational, non-pragmatic one (Petrovskiy & Shmelev, 2019). This assumption can be confirmed, for example, by the relatively low share of organizations working on implementing various innovations, compared to the total number of existing organizations (Gokhberg et al., 2020). This comparison includes small innovative enterprises, and especially low when compared to similar indicators in the EU countries (Terebova & Borisov, 2019).

Another important aspect is the attitude not only towards innovative products, but also to the people who create them. Here we can differentiate object tolerance (for example, towards innovative technologies) and interpersonal tolerance (to a specific person or group of people). In this context, the
issue of tolerance towards a creative personality becomes a main focus: acceptance of it’s personal and behavioral characteristics, understanding of their value, both from the standpoint of organizing the team's role structure, and, consequently, as the possibility of their social integration and interaction synergy (Glukhov & Gryazeva-Dobshinskaya, 2018).

It’s important issue to form a tolerance towards a creative personality among school students, as in the near future they will become active participants of the economic relations. Today, high school students contain a promising potential for the future development of innovations. Thus, the education system shouldn’t aim towards standardization, but instead support individuality, expanding the possibilities for realizing personal potentials with maximum personalization of students’ abilities. Individualization of a creative personality is only possible in the atmosphere of acceptance and active support of personal uniqueness, tolerance towards a creative personality. The lack of such individualization leads to devaluation creative personality, subsequent decrease of abilities (Gryazeva-Dobshinskaya et al., 2020) and refusal to follow the creative choice of life path.

3. Research Questions

In the context of the development of an innovative economy, it is important to understand the attitude of modern youth towards various sociocultural types of creative personalities, because this can be used to predict the scenarios leading to a successful realization of personal potential.

This study will address the following issues:

- What types of creative person considered to be the most attractive and popular among high school students, and to which types they demonstrate the greatest intolerance.
- Specifics of types of creative person with a high level of tolerance and intolerance among high school students.
- With which types of creative personality high school students do identify themselves more often and what is the specifics of tolerance-intolerance in role identification and positioning among high school students.
- Is there specificities in the preferences of high school students and enterprise managers.

4. Purpose of the Study

The main purpose of this study is to identify peculiarities role identification and tolerance towards various sociocultural types of creative people among high school students.

5. Research Methods

The study of various aspects of tolerance and intolerance to a creative personality was carried out using the «Role Relations between Social Subjects and Creative Personalities» (RRSSCP) methodology, developed by Gryazeva-Dobshinskaya et al. (2008).

This technique combines the capabilities of both projective and psychosemantic methods. The methodology is based on the modified psychosemantic method of J. Kelly (Repertory Grid Technique). As elements (objects for assessment) images of different types of creative personalities are used. The
methodology presents 27 different types of creative personalities. For the purpose of evaluation of the elements, 72 phraseological units that corresponds to the polar definitions of different types creative people are used. Elements and constructs were selected by the authors based on preliminary studies.

5.1. RRSSCP methodology procedure

The respondents select 10 types of creative personalities from the total (27 pieces) set of pictures for the corresponding role positions: “Professional Role-playing I”, “Male chief”, “Female chief”, “Male deputy chief”, “Female deputy chief”, “Creator”, “In-demand employee”, “Rescuer in a critical situation”, "Male dismissed employee", "Female dismissed employee". Given instruction does not mention image as types of creative personalites and does not name them in any way other than number of the image (from 1 to 27).

Types of creative personalities chosen for the certain role positions are evaluated by bipolar constructs that the respondents form personally, from the 72 phraseological units presented on the separate blank.

The respondents fill out an evaluative repertoire grid, where 10 elements (images of types of creative personalities) are evaluated by 12 bipolar constructs (created from the phraseological units). Factor analysis is used to analyze the data of repertoire grids.

5.2. Methodology indicators, used in our research

The study employs the results for the following indicators of the RRSSCP methodology:


- identification with "Professional Role-playing I" - are determined by counting the number of choices of images (types of creative personalities) for the role position "professional I" in the given sample of respondents.

- tolerance-intolerance based on the role identification of subjects - determined individually for each respondent by using a special ratio of the role position “professional I” with other role positions, based on results of factor analysis: the presence of the “professional I” role in one factor with the other roles, that have significant load on that given factor and located on the same pole as the “professional I” role (have the same mathematical sign).

- tolerance-intolerance based on the role positioning of subjects – are determined individually for each respondent by using a special ratio of the role position “professional I” with other role positions, based on results of factor analysis: the presence of the “professional I” role in one
factor with the other roles, that have significant load on that given factor and located on the opposite pole than the “professional I” role (have different mathematical signs).

Indicators of tolerance-intolerance based on role identification and positioning are determined based on results of factor analysis procedure.

6. Findings

Based on the results obtained by the «Role Relations between Social Subjects and Creative Personalities» methodology, following indicators of tolerance towards a creative personality were successively analyzed: frequency indicators of tolerance-intolerance; identification with "professional I", tolerance-intolerance based on role identification of subjects, tolerance-intolerance based on role positioning of subjects. Frequency indicators obtained in a sample of high school students were compared with similar indicators from a sample of enterprise managers (statistical indices) using Fisher angular transformation criterion. Indicators of the role identification and positioning were determined based on the results exploratory factor analysis procedure.

6.1. Peculiarities of frequency indicators of tolerance-intolerance

For each image (type of creative personality), the number of positive and negative choices were determined based on attribution to a different role positions. As a result, the most and the least popular (index of tolerance), as well as the most and the least rejected (index of intolerance) images were identified. The indices of tolerance-intolerance for each image represents the percentage of positive or negative choices from the total number of choices.

The most and the least popular images selected for "positive" and "negative" role positions presented in Table 1 and Table 2. Their indices of tolerance and intolerance, obtained from sample of high school students during the current research, are displayed. Also displayed the statistical indices of tolerance and intolerance, which were obtained during previous study of tolerance towards a creative personality from a sample of managers from promising innovative enterprises (Gryazeva-Dobshinskaya, 2016). The level of significant differences in tolerance-intolerance indices between samples of high school students and managers is depicted.

<table>
<thead>
<tr>
<th>Images</th>
<th>Rating</th>
<th>Empirical index of tolerance in a sample of high school students</th>
<th>Statistical index of tolerance in a sample of managers</th>
<th>criterion φ-Fisher’s angular transformation</th>
</tr>
</thead>
<tbody>
<tr>
<td>№14. Icarus</td>
<td>1</td>
<td>76 %</td>
<td>59 %</td>
<td>φ=2,7, p&lt;0,01</td>
</tr>
<tr>
<td>№25. Amazon</td>
<td>2</td>
<td>76 %</td>
<td>32 %</td>
<td>φ=5,4, p&lt;0,01</td>
</tr>
<tr>
<td>№23. Ariadne</td>
<td>3</td>
<td>73 %</td>
<td>37 %</td>
<td>φ=5,2, p&lt;0,01</td>
</tr>
<tr>
<td>№19. Hera</td>
<td>4</td>
<td>73 %</td>
<td>93 %</td>
<td>φ=3,9, p&lt;0,01</td>
</tr>
<tr>
<td>№18. Genius S.</td>
<td>21</td>
<td>3 %</td>
<td>39 %</td>
<td>φ=7, p&lt;0,01</td>
</tr>
<tr>
<td>№15. Genius J.</td>
<td>22</td>
<td>6 %</td>
<td>23 %</td>
<td>φ=3,5, p&lt;0,01</td>
</tr>
<tr>
<td>№13. Saturn</td>
<td>23</td>
<td>9 %</td>
<td>11 %</td>
<td>not significant</td>
</tr>
<tr>
<td>№10. Eros</td>
<td>24</td>
<td>9 %</td>
<td>17 %</td>
<td>not significant</td>
</tr>
</tbody>
</table>
Table 2. Correlation of indices of intolerance towards different types of creative personalities in a sample of high school students with corresponding statistical indices among managers

<table>
<thead>
<tr>
<th>Images</th>
<th>Rating</th>
<th>Empirical index of intolerance in a sample of high school students</th>
<th>Statistical index of intolerance in a sample of managers</th>
<th>Fisher's angular transformation criterion φ</th>
</tr>
</thead>
<tbody>
<tr>
<td>№1. Melpomene</td>
<td>1</td>
<td>33 %</td>
<td>43 %</td>
<td>not significant</td>
</tr>
<tr>
<td>№18. Genius S.</td>
<td>2</td>
<td>27 %</td>
<td>0 %</td>
<td>φ=7.7, p&lt;0.01</td>
</tr>
<tr>
<td>№5. Diana</td>
<td>3</td>
<td>24 %</td>
<td>14 %</td>
<td>not significant</td>
</tr>
<tr>
<td>№9. Zeus</td>
<td>4</td>
<td>24 %</td>
<td>11 %</td>
<td>not significant</td>
</tr>
</tbody>
</table>

There is a peculiarities in the preferences of the types of creative personalities among high school students in comparison with manager’s data.

For "positive" role positions, high school students prefer to choose such types of creative personalities as "Icarus", "Amazon", "Ariadne", "Hera". These images are characterized by high values of the index of tolerance. Moreover, among high school students the images of "Icarus", "Amazon", "Ariadne" are characterized by a higher level of tolerance compared to managers (φ = 2.7, φ = 5.4, φ = 5.2, with p <0.01). Thus, the types (images) that demonstrates heroism, strength, power, courage, self-sufficiency, independence, well-developed intellect (qualities, associated with personal and cultural potential of a leader) are characterized by the highest level of tolerance among high school children.

The following types of creative personalities ended up being the least popular, with a low index of tolerance among high school students: "Genius senior", "Genius junior", "Saturn", "Eros". We would like to emphasize that, among these images, only the image of “Genius senior” also has a high index of intolerance among high school students. These types are characterized by a high level of ability, giftedness, preciseness, pedantry and sensuality.

High school students demonstrated intolerance, by choosing for "negative" role positions "dismissed employee", towards such types of creative personalities as "Melpomene", "Genius senior", "Diana", "Zeus". These types (images) demonstrate, on the one hand, uniqueness, talent, non-standard thinking, and on the other hand - willfulness, pride and arrogance. Moreover, the type “Genius senior” among high school students is characterized by a significantly higher index of intolerance, compared to managers (φ = 7.7, with p <0.01).

Thus, among high school students, higher level of tolerance is demonstrated towards symbolic images that convey ideas of activity, courage, independence, strength; and less - towards images that convey ideas of uniqueness, willfulness, pride, arrogance.

6.2. Peculiarities of frequency indicators of identification with "professional I"

For each image (type of creative personality), the number of choices for the role position "professional I" in the given sample of respondents was determined. The distribution of the number of choices among images in the sample of high school students ended up being uneven (χ² = 61.5, p <0.01), with 53% of choices being distributed among 3 types: "Amazon", "Ariadne", "Icarus".

Table 3 presents the semantic characteristics of images, most chosen for the role position "professional I" by high school students. As shown above, these stimulus images not only the most popular one, but also are characterized by the highest index of tolerance.
Table 3. Semantic characteristics of images of creative person, chosen for role position "professional I"

<table>
<thead>
<tr>
<th>Images</th>
<th>Image 25 Amazon</th>
<th>Image 14 Icarus</th>
<th>Image 23 Ariadne</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of people who chose them</td>
<td>21.8 %</td>
<td>15.5 %</td>
<td>15.5 %</td>
</tr>
<tr>
<td>Semantic characteristics</td>
<td>female warrior,</td>
<td>heroism,</td>
<td>assistant,</td>
</tr>
<tr>
<td></td>
<td>- authoritative,</td>
<td>eloquence,</td>
<td>- faithful,</td>
</tr>
<tr>
<td></td>
<td>- bold,</td>
<td>consumed by ideas,</td>
<td>- loving,</td>
</tr>
<tr>
<td></td>
<td>- independent,</td>
<td>- intelligence,</td>
<td>- bold,</td>
</tr>
<tr>
<td></td>
<td>- uses men and</td>
<td>- pedagogical giftedness</td>
<td>- ingenious,</td>
</tr>
<tr>
<td></td>
<td>doesn't like them</td>
<td></td>
<td>- responsible</td>
</tr>
</tbody>
</table>

These types of creative personalities have following common characteristics: courage, ingenuity, heroism. But there are also significant differences in the behavioral strategies of these types: power and authoritative options for the Amazon, research and creativity for the Icarus, care and support for the Ariadne. At the same time, according to other studies, students identify themselves with images that convey sensuality, sexuality, beauty, talent, openness, youth, adventurism, and top managers - with images that convey skill, hard work, responsibility, commitment to their work, justice (Pismehyuk & Gryazeva-Dobshinskaya, 2020).

The acquired results can be explained by the fact that high school students have no experience with the professional activity yet, and their ideas about the future are idealistic and abstract. At the same time, they are faced with the problem of professional self-determination, the choice of the direction of their future professional activity. On the one hand, identification presents two oppositely directed tendencies: one is associated with achievements, courage, the other one - with moral ideals, responsibility. On the other hand, for the purpose of further career and vocational guidance in the context of the choosing among professions associated with the creation and implementation of innovations, it’s important to discern differences in the preferences of chosen images from the standpoint of the preferred individual style of activity: direct, intellectual or supporting.

Thus, based on the descriptive characteristics of preferred images, the frequency indicators of the chosen images and the level of tolerance-intolerance towards creative personalities, it is possible to determine resources and obstacles, that capable to affect high school students’ work in the sphere of innovations. Among characteristics that hinder their effective participation in innovative activities the most prominent appears to be desire to win, rule and control. It appears that among creative individuals (including those chosen for identification) preference is given to demonstrative, strong persons, who has a high social status, but at the same time lacks high level of responsibility. In addition, we can see a discrepancy between the preferences and chosen identifications with types of creative personalities between high school students and managers.

On the other hand, the desire to be socially active, recognized, strong and self-sufficient, while remaining moral, could be recognized as resource characteristics that will contribute to respondent’s effective participation in innovative activities in the future. Thus, high school children put more emphasis not on the uniqueness of the abilities of creative persons, but on their integration in society and their social activity.
6.3. Tolerance-intolerance based on role identification of high school students

As an indicator of role identification we used a special ratio of the “professional I” role with other roles, which is revealed based on the results of the factor analysis procedure: the presence of the “professional I” role in one factor with the other roles, that have significant load on that given factor and located on the same pole as the “professional I” role (have the same mathematical sign).

Table 4 presents data of the role identification of high school students. For each role position, number of students for whom this role position creates a significant load on the factor, including the role position "professional I" on the same pole, is shown. For convenience, let us designate the role positions as following: “Male chief” (M.Ch.), “Female chief” (F.Ch.), “Male deputy chief” (M.Dep.), “Female deputy chief” (F.Dep.), “Creator” (Cr.), “In-demand employee” (InD.), “Rescuer in a critical situation” (Resc), "Male dismissed employee" (M.Dism.), "Female dismissed employee" (F.Dism.).

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</tr>
</thead>
<tbody>
<tr>
<td>Respondents</td>
<td>10</td>
<td>6</td>
<td>6</td>
<td>12</td>
<td>8</td>
<td>8</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

It should be noted that the role position "professional I" in the factorial role structure was revealed in 42 out of 66 students, 61% of the respondents. At the same time, for some of them role position "professional I" was isolated in the factor structure (19%), without identification with any other proposed roles; while other cases there was identification with multiple role positions.

High school students more often identify themselves (role position "professional I") with status role positions (80% of the respondents), in particular with the roles of “Male chief”, “Female deputy chief” (52% of the respondents). Furthermore, this tendency does not depend on the gender of the respondents.

In the RRSSCP methodology, resourceful role positions for the sphere of innovations are considered to be following: “Creator”, “In-demand employee”, “Rescuer in a critical situation”. Identification with these role positions was also revealed in 52% of the respondents.

Thus, high school children have a high level of identification with creative resourceful role positions. However, it should be emphasized that there is also a very high level of identification with status role positions.

6.4. Tolerance-intolerance based on the role positioning of high school students

As an indicator of the role positioning we also used a ratio of the “professional I” role with other roles, which is revealed based on the results of the factor analysis procedure: the presence of the “professional I” role in one factor with the other roles, that have significant load on that given factor and located on the opposite pole than the “professional I” roles (have different mathematical signs).

Table 5 presents data of the role positioning of high school students. For each role position, number of students for whom this role position creates a significant load on the factor, including the role position "professional I" on the opposite pole, is shown.
Table 5. Variants of role identification (high school students)

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Respondents</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>10</td>
<td>14</td>
</tr>
</tbody>
</table>

A simple, consistent role structure was revealed - they oppose themselves to the role positions of the “dismissed employee”. It also should be noted, that aside from the role positions of the “dismissed employee”, high school students rarely chose to oppose their "professional I" with any other role position.

7. Conclusion

A number of peculiarities of tolerance towards creative personality among high school students have been revealed.

The structure of tolerance-intolerance towards a creative personality among high school students is consistent, if rather simple and idealistic. They favor more socially encouraged and demanded types of creative persons, tend to identify themselves with people of high status and oppose rejected role positions. The types of creative personality with which high school students consider themselves similar are characterized by a low index of intolerance (in different samples according to a different studies).

Revealed variable styles of identification with types of creative personalities: focused on direct, intellectual or supportive styles of interaction.

Following characteristics were defined as potential obstacles to effective participation of high school students in innovative activities: strong orientation towards status, power, victory, including by force. As opposed, to the characteristics, displayed by the top managers of creative enterprises: orientation towards skill, hard work, responsibility, commitment to their work and fairness.

Number of characteristics were identified as the resources for the effective participation of high school students in the future innovative activities: desire to be socially active, recognized, strong and self-sufficient, while remaining moral, as well as the importance of social integration.

The highest level of tolerance among high school students is manifested towards creative persons who convey the personal and cultural potential of the leader – those, who have achieved recognition, high social status, successfully integrated into society. Amongst provided images of creative persons, they value and prefer strength, courage, self-sufficiency and demonstrativeness.

References


