



NATIONAL RESEARCH UNIVERSITY  
HIGHER SCHOOL OF ECONOMICS

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PREDICTORS OF POSITIVE OR  
NEGATIVE ATTITUDE TOWARDS  
INNOVATION AMONG  
REPRESENTATIVES OF VARIOUS  
GENERATIONS OF RUSSIAN  
PEOPLE**

BASIC RESEARCH PROGRAM

WORKING PAPERS

SERIES: PSYCHOLOGY  
WP BRP 44/PSY/2015

This Working Paper is an output of a research project implemented at the National Research University Higher School of Economics (HSE). Any opinions or claims contained in this Working Paper do not necessarily reflect the views of HSE

## **CULTURAL VALUES AS PREDICTORS OF POSITIVE OR NEGATIVE ATTITUDE TOWARDS INNOVATION AMONG REPRESENTATIVES OF VARIOUS GENERATIONS OF RUSSIAN PEOPLE<sup>2</sup>**

In the course of the last few years, the Russian society has been going through a stage of political, cultural and economic transformations that bring changes into the lifestyle, attitudes, and worldview of Russian citizens. The process of development has embraced not only science and technology, but also the social and cultural aspects of life. The contemporary image of Russia is in many ways defined by its younger generation that grew up within new economic, social and political standards. Young people's values, attitudes and aspirations differ from those of the adult generation of Russians, since the last years have been marked by transformations inside the country, as well as by some global changes. The paper demonstrates the results of a study which aimed to identify the relationship between individual values and attitude towards innovation. 380 respondents, young and adult representatives of the Russian population, took part in the research. The respondents belonged to the younger generation (under 25 years old) or to the adult generation (over 45 years old). The principal instrument used was the method of questionnaires. The methodic inventory consists of three main blocks oriented to the study of the following constructs: the PVQ-R method of measuring individual values (Schwartz et al., 2011) and the method of "Self-assessment of innovative qualities of a personality" (Lebedeva, Tatarko, 2009). The goal of the research is to reveal the age differences in values and attitudes towards innovation, and to find out which values determine positive or negative attitude towards innovations among representatives of different generations of Russians. The younger generation values " Self-Direction Thought", "Stimulation", "Achievement", " Power Dominance" stimulate the adoption of innovations.

JEL Classification: A13

Keywords: cultural values, values of individual level, innovation, attitude towards innovative.

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<sup>2</sup>This paper was prepared within the framework of the Academic Fund Program at the National Research University Higher School of Economics (HSE) in 2015- 2016(grant № 15-01-0060) and supported within the framework of a subsidy granted to the HSE by the Government of the Russian Federation for the implementation of the Global Competitiveness Program

## Introduction

Psychology of innovation is quite a new branch of psychological science, and specialists involved in the research in this field in Russia are not numerous. On a larger scale, psychology of innovation is an interdisciplinary field of knowledge that owes its development to increasing processes of globalization and modernization in the society. Today, in the world of business, innovations are not only vital for the growth of an enterprise, but also for its survival on the market. Companies have to introduce innovations in order to remain competitive in the quickly changing market conditions. Culture is one of the major factors determining a person's behaviour, including the creative behaviour; and one of the factors playing the crucial role in how the culture regulates social behaviour is how well an individual apprehends and uses the values of the given culture, and then, how individual values are formed. Identification of cultural values is currently one of the essential questions in psychological science in Russia and worldwide. As noted by N. Lebedeva, and later by L. Cherkasova, in spite of large amounts of research in creativity, the analysis of cultural peculiarities is frequently omitted. This is why, when planning the steps for developing innovations, one has to take into account the cultural factors in the presence of which these innovations will be introduced and spread [Lebedeva 2009; Cherkasova 2012]. Now, an entire series of research papers demonstrates the existence of a connection between cultural values and the tendency of the bearers of the culture to bring and accept innovations, but this connection has not yet been sufficiently studied. To the present moment, just a few solitary instances of such research have been carried out in Russia [Lebedeva, Gizatulina 2008; Lebedeva, Yasin 2009; Lebedeva 2008, 2009; Lebedeva, Bushina, 2013; Lebedeva, Grigoryan, 2014]. In the West, research papers on the subject of the connection of cultural values and the attitude to innovations are published more frequently [Venkataraman, MacMillan, McGrath, 1992; Herbig and Dunphy, 1998; Herbig and Jacobs, 1998; Herbig and Kramer, 1994; Jones and Herbert, 2000; Westwood and Low, 2003], but their number is still insufficient to get the whole picture.

## **Theoretical background**

### **Theoretical and methodological approaches to defining and measuring cultural values in psychology**

In scientific literature, one can observe a variety of approaches to the studies of culture. Hundreds of definitions of “culture” have been given by outstanding psychologists, philosophers, historians, sociologists, cultural specialists, ethnographers, etc. In its broadest sense, culture is defined as “that complex whole which includes knowledge, belief, art, law, morals, custom, and any other capabilities and habits acquired by man as a member of society” [Schwartz, 1992]. Hofstede defines culture as “the collective programming of the mind distinguishing the members of one group or category of people from others”, a [Hofstede, 1980]. A more strict definition is given by Geertz: “culture is a historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed in symbolic forms by means of which men communicate, perpetuate, and develop their knowledge” [Geertz, 1973]. Scholars in the field of cross-cultural psychology tend to believe that culture has its impact on many characteristics, such as economic behaviour [Smith, 1776], state politics [Fukuyama, 1995], national institutions and business systems [Fukuyama, 1995; Geertz, 1973], economy growth [Fukuyama, 2001]. However, we may nowadays observe rather few papers dedicated to the problem of how the culture impacts people’s attitude towards innovation.

As noticed by Matsumoto, one of the struggles of psychology is the question of how to conceptualize the culture and measure it in psychology. Culture is, above all, the values [Hofstede, 1980]. Consequently, culture fulfills itself through values that are, in their turn, the basis of any culture. The values determine an individual’s relationship with the society, the nature, the closest environment and the individual themselves; they form goals, group convictions and actions. The notion of value is polysemantic by itself. Social and cultural values are built together with the personality, and their building is formed by the culture and the society. Sociocultural value orientations are the stem of our lives and are most often revealed in the way a personality thinks and acts. Currently, numerous theoretical and methodological approaches exist, among which one can name approaches developed by S. Schwartz, F. Trompenaars and C. Hampden-Turner, G. Hofstede, C. Kluckhohn and F. Strodbeck, E. Hall etc. In this research work, the most attention will be paid to Schwartz’s approach, since his method of measuring values is in the basis of the used methodological inventory.

## **The problem of interrelation between cultural values and innovative attitudes**

Our research is based on the idea that the general propensity to innovation can be shaped by cultural values, and that the attitude towards innovation can be revealed at the individual level and is expressed through specific innovational attitudes. The ability to create and manage innovation in general and the aptitude to specific kinds of innovation in specific fields is, as many authors think, a peculiarity of a nation, its cultural features, since they are connected with culture [Shane, 2008]. Culture is one of the major factors that determine human behaviour, including creative behaviour; and one of the decisive factors in the culture's regulating the social behaviour is how well the individual has assimilated the values of this specific culture, and then, how individual values have formed on this background. S. Arieti stipulates that [Arieti, 1976, p. 303] some cultures encourage creativity more than others, so he refers to those cultures as to "creativogenic". He believed that people became creative due to the impact of three factors (stimulating culture, genes and proper interaction).

In 1995, Shane and his co-authors conducted a study in which they tried to reveal a connection between culture and the innovation strategy. 1228 respondents from 30 countries took part in the research. To measure national culture, the authors used three of the Hofstede's dimensions (uncertainty avoidance, individualism, and power distance). In collectivist cultures, people seek for support when innovation is brought into life. According to the authors, the society needs individuals that are ready to take personal risks for introducing and implementing any innovation in the organization [Van de Ven, 1986]. It is obvious that such individuals possess certain personality traits that evidently distinguish them from the others. It is highly probable that the innovativeness index is bound with the prevalence of such people in a country. The attitude towards innovation reflects, in our opinion, not only psychological preparedness for novelty, but also the individuals' willingness to generate innovation and novelty by themselves.

Smith and Bond, on the grounds of empirical research, have established the connection between the personality characteristics related to creativity and cultural values [Smith and Bond, 1993]. Their research was based on Hofstede's dimensions [1980, 1982]. Creativity is bound to "Openness to change" and introversion. Creativity related to scientific developments correlates to low conformity and work ethics; when related to art, it comes along with emotional instability and a low level of conscientiousness. Masculine culture concurs with personality traits that are most advantageous for creative work.

**Tab. 1. Correlation of culture and individual personality traits**

<b>Cultural dimension</b>	<b>Individual quality [personality trait]</b>
Uncertainty Avoidance	Low level of openness to change Emotional stability
Masculinity	Consciousness [work ethics] Low conformity
[High] Power Distance	Conscientiousness [work ethics] Conformity
Individualism	Extraversion
Confucian dynamism [later, Short/Long Term Orientation]	Emotional stability

It is supposed that a high degree of individualism, bound to other values such as freedom of initiative, autonomy, independence, is important for creativity [Jones and Herbert, 2000]. Hofstede (1980) made another affirmation, a more global one, that the high level of innovation activity can be observed in a culture with a high level of individualism and a low level of power distance. Jones and Herbert [Jones, Herbert, 2000] suppose that cultures with a low level of power distance are more open to innovation, as they give more freedom to individuals. The authors say that in cultures with a low level of power distance, there is a tendency to a strict hierarchy, centralization, general compliance with rules and norms. Jones and Herbert assume that positive innovational results will be, most probably, observed in a culture having (a) a high level of individualism, (b) a low power distance, (c) a low level of uncertainty avoidance, and (d) a high or medium level of masculinity [Jones and Herbert, 2000].

T. Rinne and her co-authors tried to find out how Hofstede's cultural dimensions (individualism, uncertainty avoidance, power distance) correlated with innovational success of a country [Rinne, Steel, Fairweather; 2012]. Using multiple linear regression, they calculated a strong negative correlation between the power distance and the Global innovation index (GII), and a positive correlation between individualism and the GII. Besides that, Hofstede's (1980) cultural dimensions of individualism and power distance correlate with the number [per capita] of patents for inventions [Shane, 1992], while individualism, power distance and uncertainty avoidance correlate with the number of trademarks. High power distance may detain innovation. A positive correlation between individualism and innovation demonstrates that autonomy,

independence, freedom and beliefs are necessary for the culture to become innovational. A positive correlation between uncertainty avoidance and innovation supposedly shows that the tendency to risk and the openness to change are essential for introducing and implementing new developments.

The research conducted in the USA by S. Dollinger and the co-authors has shown that students with more apparent creativity have a different set of values compared to their less creative classmates: a strong correlation has been found between the success in completing the test tasks in a creative way and the preference to such values as Self-Direction, Stimulation, and Universalism in the older version of S. Schwartz's theory of ten values [Dollinger, 2005, 2006].

In Russian psychology, the problem of innovation is the object of attention with specialists of various disciplines: sociology, economy, management, social psychology etc. Thus, Russian psychologists have conducted empirical studies of psychological readiness for innovation, which resulted in a distinction of the following social and psychological types: "active reformers", "passive reformers", "passive supporters of innovation", "self-overcoming", "inefficient", "temporizing", "blind executants", "passive opponents", "active opponents" [Zhuravlev, 1993]. The obtained results point to the fact of a multi-factor nature of the innovations and the psychological readiness of various social categories of citizens for social innovation. One may suppose that representatives of different generations of Russians can also be relegated to a certain social and psychological type based on their dominant values and their attitudes towards innovation.

L. Cherkasova was trying to define value determinants of creative behaviour in Russia. The method of her study utilized S. Schwartz's Portrait Values Questionnaire (PVQ-R) to work out the prevailing values, and S. Dollinger's method of assessing creative behaviour [Dollinger, Burke, Gump; 2007]. The survey was taken by students of Moscow institutions of higher education (n=353). As a result of this research, it was found that creative behaviour correlated to the block of values associated with "Openness to change", and that there was a positive correlation of creative behaviour and attitudes to innovation with such values as "Self-Direction Thought", "Self-Direction Action", "Stimulation", "Benevolence Care" and "Universalism Nature". The innovativity index revealed itself correlated to the values of "Hedonism", "Achievement", "Power Resources", "Power Dominance", and negatively correlated to the "Conformity Rules" value orientation [Cherkasova, 2012].

Another study, performed by O. Kovalyova, made a distinction between two groups of people: innovators and conservators. It also contained an attempt to reveal a correlation between values and the attitude towards innovations [Lebedeva, 2009]. The results of the performed

multiple regression analysis showed that typical values for *innovators* are **Self-Direction** (related to creativity) and **Hedonism** (related to the personality innovational index). For *conservators*, attitudes to innovation correlate with **Stimulation** and **Security** (which correlates with the general innovativity index of the personality and their orientation to the future).

N.M. Lebedeva guided a research exploring the influence of the values on the attitude towards innovations in Russia and in China [Lebedeva, 2010]. The research demonstrated cultural differences in individual values of Russian and Chinese students: specifically, Russian students have a preference for values that convey interests of an individual [**Openness to Change** and **Self-Enhancement**]. The results of the multiple regression analysis of the correlation between values and attitudes towards innovation evidenced that the **Openness to Change** values favour the positive attitude to innovation, while the **Conservation** values discourage it [Lebedeva, 2010].

So, culture is an important factor determining human behaviour, including creative behavior. One of the elements playing the major role in the culture's regulating social behaviour is how well the individual has assimilated the values of this culture, and then, how individual values are formed. At the present moment, identification of values is one of the most important problems in foreign and Russian psychology. The author's approach consists in the ideas that, firstly, the general tendency to innovation and new developments may be conditioned by the values. Secondly, the attitude towards innovation is revealed, above all, on the individual level and is expressed in specific innovational attitudes. Thirdly, the period in which the individual's values had formed has a significant impact on the attitude towards innovation, which means that the values and innovational ideas of young people are different from those of adult people.

## **Present Study: Research Questions and Hypothesis**

### *Research Hypothesis:*

1. There are differences within individual values: young people prefer values that express the interests of an individual and the adult generation lays weight on the values pursuing the interests of a group.
2. Attitudes towards innovations differ from generation to generation: attitudes of young Russian people are more positive than those of the older generation. "Creativity" and "Risk for success", the "General Innovativity Index" of a personality would be higher for young Russians than for their adult generation.



3. Individual values (“Self-Direction Action”, “Self-Direction Thought”, “Stimulation”, “Universalism”, “Hedonism”, “Achievement”, “Power Dominance”) are positively related to positive attitude towards innovation among *young generation* of Russians.
4. Values, which form a basis for the interpersonal behaviour in collectivist culture (“Humility”, “Conformity Rules”, “Security” and “Traditions”) have a negative correlation with positive attitude to innovation by the older generation of Russians.

## **Method**

### **Participants**

380 respondents, young and adult representatives of the Russian population, took part in the research. The respondents belonged to the younger generation (under 25 years old) or to the adult generation (over 45 years old). In our study we use the following sample: college students from Moscow, Perm, St. Petersburg, Nizhny Novgorod and the adult residents of these cities. The sample embraced 203 college students from:

1. National Research University Higher School of Economics, Moscow, Russia, N=47
2. National Research University Higher School of Economics, Perm, Russia, N=58
3. National Research University Higher School of Economics, St. Petersburg, Russia, N=37
4. Perm State University, Perm, Russia, N=28
5. Perm National Research Polytechnic University, Perm, Russia, N=33.

Students from HSE-Perm, Perm State University and Perm National Research Polytechnic University filled out questionnaires in the presence of the researcher, students from other universities were provided on-line questionnaires.

The sample embraced 177 adults from the above-mentioned universities (academic staff, students of second higher education) and the staff of the Ministry of Culture (Perm region).

### **Instruments**

The principal instrument used was the method of questionnaires. The methodic inventory consists of three main blocks oriented to the study of the following constructs: *the PVQ-R method of measuring individual values* (Schwartz et al., 2012) and *the method of “Self-assessment of innovative qualities of a personality”* (Lebedeva, Tatarko, 2009).

**1. The PVQ-R individual values measuring method.** To study the structure of values at the individual level, we used the renewed version of S. Schwartz’s questionnaire (PVQ-R). This

method contains 57 questions that allow assessing the manifestation of 19 values: Self-Direction Thought; Self-Direction Action; Stimulation; Hedonism; Achievement; Power Dominance; Power Resources; Face; Security Personal; Security Societal; Traditions; Conformity Rules; Conformity Interpersonal; Humility; Benevolence Dependability; Benevolence Care; Universalism Concern; Universalism Nature; Universalism Tolerance.

2. *The method of «Self-assessment of innovative qualities of a personality» (Lebedeva N.M., Tatarko A.N).* This method represents a questionnaire that contains 15 affirmations, with a 5-points scale for assessing the agreement or disagreement: 1 – Strongly disagree, 2 – Somewhat disagree, 3 – I don't know, I'm not sure, 4 – Somewhat agree, 5 – Strongly agree. Then, according to the key, points are calculated for each of the 3 scales that were found by means of exploratory factor analysis, using the method of principal component analysis and varimax rotation of the correlation matrix (Creativity, Risk for Success, Orientation to the Future). The mean value of the named 3 scales became the integral “Innovativity index of a personality”.

## Results

### Intergenerational differences in the individual values and attitude towards innovations

The descriptive statistics for the PVQ-R scales are presented in table 2.

**Tab. 2. Intergenerational differences in the individual values (using t - test)**

Scale	Adults		Young Russians		Effect size Cohen's d
	M	SD	M	SD	
Self-Direction Action	5,21	0,63	4,89	0,59	0,16**
Self-Direction Thought	4,35	0,69	4,87	0,64	0,35***
Stimulation	3,97	0,79	4,54	0,61	0,39***
Hedonism	4,46	0,63	4,80	0,50	0,33***

Achievement	4,46	0,75	4,98	0,60	0,29***
Power Resources	4,65	,0,89	4,70	0,89	0,12
Power Dominance	3,95	0,84	4,69	0,88	0,37***
Face	4,93	0,59	4,72	0,66	0,16**
Security Societal	5,00	0,59	4,54	0,81	0,63
Security Personal	5,83	0,69	5,28	0,61	0,15***
Conformity Rules	4,57	0,84	4,25	0,65	0,13***
Conformity Interpersonal	4,84	0,75	4,29	0,84	0,69
Tradition	4,26	0,78	3,98	0,78	0,19***
Humility	5,32	0,60	4,88	0,48	0,18**
Benevolence Dependability	4,87	0,56	4,91	0,70	0,08**
Benevolence Care	5,43	0,53	5,35	0,56	0,09**
Universalism Concern	4,89	0,64	3,54	0,08	0,62
Universalism Nature	4,47	0,71	4,21	0,92	0,17
Universalism Tolerance	3,95	0,64	4,19	0,76	0,15**

Note: \*\*\* -  $p < 0,001$ , \*\* -  $p < 0,01$ , \* -  $p < 0,05$

One can see that, at the individual level, differences may be observed for the following blocks of values: “Self-Direction Action”, “Self-Direction Thought”, “Stimulation”, “Hedonism”, “Achievement”, “Power Dominance”, “Face”, “Security Personal”, “Traditions”, “Humility”, “Benevolence Dependability”, “Benevolence Care”, “Universalism Tolerance”. In this case, the values of “Self-Direction Thought”, “Hedonism”, “Achievement”, “Power Dominance”, “Security Personal”, “Benevolence Dependability”, “Universalism Tolerance”, “Stimulation” have proved to be higher with young respondents.

The significance of the differences are presented in Table 3.

**Tab. 3. Intergenerational differences in the innovational attitudes (using t - test)**

Scale	Adults		Young Russians		Effect size Cohen's d
	M	SD	M	SD	
Creativity	3,41	0,72	3,9	0,74	0,18
Risk for success	<b>3,45</b>	0,65	<b>3,96</b>	0,59	0,37***
Orientation for the future	<b>3,36</b>	0,63	<b>3,93</b>	0,62	0,49***
General innovativity index	<b>3,21</b>	0,70	<b>3,97</b>	0,56	0,48***

Note: \*\*\* -  $p < 0,001$ , \*\* –  $p < 0,01$ , \* –  $p < 0,05$

From the obtained data, we can conclude that there are significant differences between the groups of young and adult respondents for the following innovational attitudes: “Risk for success”, “Orientation for the future”, the “General innovativity index of a personality”. These parameters are more important for young respondents that feel comfortable in an instable environment, are ready to risk for the sake of success and to invest funds into innovation.

### **Interrelation between values and attitudes towards innovation**

The results presented in Table 4 show the correlation between values and attitudes towards innovation among the adult generation of Russians.

**Tab. 4. Correlation of values and attitudes towards innovation: results of correlation analysis (adult generation)**

Values	Creativity	Risk for success	Orientation for the future	General innovativity index
Self-Direction Action	0,17*	0,21**	0,11	0,16*
Self-Direction Thought	0,40**	0,60**	0,52**	0,43**
Stimulation	0,61**	0,57**	0,55**	0,57**
Hedonism	0,46**	0,56**	0,40**	0,51**
Achievement	0,61**	0,55**	0,54**	0,68**
Power Resources	0,46**	0,49**	0,39**	0,45**
Power Dominance	0,62**	0,65**	0,54**	0,60**
Security Societal	0,22**	0,21**	-0,18	0,19**
Security Personal	-0,15*	-0,12*	0,56	0,13
Conformity Rules	0,18	0,29**	-0,37	0,11
Humility	0,22**	0,16*	0,29	0,17**
Benevolence Dependability	0,23**	-0,19	0,55	0,25**
Universalism Nature	0,17*	0,16*	0,28**	0,24**
Universalism Tolerance	0,49**	0,29**	0,42**	0,52**

Note: \*\*\* -  $p < 0,001$ , \*\* -  $p < 0,01$ , \* -  $p < 0,05$

The correlation analysis of the survey sample of adult respondents has provided evidence of significant positive correlations between “Creativity” and “Self-Direction Action”, “Self-Direction Thought”, “Stimulation”, “Hedonism”, “Achievement”, “Power Resources”, “Power Dominance”, “Security Societal”, “Humility”, “Benevolence Dependability” “Universalism Nature”, “Universalism Tolerance”. Values of “Self-Direction Thought”, “Stimulation”, “Hedonism”, “Achievement”, “Power Resources”, “Power Dominance”, “Universalism Nature”, “Universalism Tolerance” have a positive correlation with the “Risk for success”, “Orientation for the future”, and “General innovativity index”. “Risk for success”, just like “Creativity”, are negatively correlated to the personal security.

Also we test the relations between values and innovative attitudes among adult generation using multiple regression analysis. The results are presented in table 5-9.

**Tab. 5. Results of multiple regression analysis (adult generation)**

Independent variables	Dependent variables			
	Creativity	Risk for success	Orientation for the future	General innovativity index
Self-Direction Action $\beta$	0,13	0,38**	0,44	0,32
Self-Direction Thought $\beta$	0,86	0,63**	0,74***	0,54*
Stimulation $\beta$	0,78**	0,25	0,55	0,64**
R <sup>2</sup>	0,56	0,09	0,19	0,24
F	21,88***	7,26**	9,63	19,56**

Note: \*\*\* -  $p < 0,001$ , \*\* –  $p < 0,01$ , \* –  $p < 0,05$

**Tab. 6. Results of multiple regression analysis (adult generation)**

Independent variables	Dependent variables			
	Creativity	Risk for success	Orientation for the future	General innovativity index
Hedonism $\beta$	0,17	0,66**	-0,01	0,87**
Achievement $\beta$	0,74***	0,28	0,02	0,64**
Power Resources $\beta$	0,58**	0,62*	0,31	0,53**
R <sup>2</sup>	0,23	0,04	0,18	0,17
F	14,26**	6,43*	7,51**	11,29*

Note: \*\*\* -  $p < 0,001$ , \*\* -  $p < 0,01$ , \* -  $p < 0,05$

**Tab. 7. Results of multiple regression analysis (adult generation)**

Independent variables	Dependent variables			
	Creativity	Risk for success	Orientation for the future	General innovativity index
Security Societal $\beta$	0,13	0,3*	0,11	0,08
Security Personal $\beta$	-0,29*	-0,35*	0,27	0,06
Humility $\beta$	0,38**	0,37*	0,15	0,13
R <sup>2</sup>	0,09	0,24	0,11	0,02
F	13,71*	22,47**	14,84	13,79

Note: \*\*\* -  $p < 0,001$ , \*\* -  $p < 0,01$ , \* -  $p < 0,05$

**Tab. 8. Results of multiple regression analysis (adult generation)**

Independent variables	Dependent variables			
	Creativity	Risk for success	Orientation for the future	General innovativity index
Benevolence Dependability $\beta$	0,38*	0,21	0,11	0,27*
Universalism Nature $\beta$	0,24*	0,07	0,3*	0,47**
Universalism Tolerance $\beta$	0,56*	0,42*	0,73**	0,34
R <sup>2</sup>	0,17	0,09	0,13	0,25
F	23,54***	11,22**	12,78**	28**

Note: \*\*\* -  $p < 0,001$ , \*\* -  $p < 0,01$ , \* -  $p < 0,05$

At the closing stage of our work, we studied correlation between values and attitudes towards innovation among the younger generation of Russians.

**Tab. 9. Correlation of values and attitudes towards innovation: results of correlation analysis (young generation)**

Values	Creativity	Risk for success	Orientation for the future	General innovativity index
Self-Direction Action	0,32**	0,16*	0,21	0,23**
Self-Direction Thought	0,29**	0,46**	0,60**	0,51**
Stimulation	0,43**	0,55**	0,62**	0,62**
Hedonism	0,20**	-0,77	0,19**	0,21**



Achievement	0,35**	0,35**	0,23**	0,36**
Power Resources	0,48**	0,44**	0,43**	0,53**
Power Dominance	0,39**	0,52**	0,54**	0,56**
Face	0,20**	-0,18*	-0,21**	0,14
Security Societal	-0,16*	-0,16*	-0,24**	-0,21**
Security Personal	0,39**	0,29	0,33	0,23**
Conformity Rules	0,16*	0,15*	0,28**	0,22**
Conformity Interpersonal	-0,25**	-0,43**	-0,29**	-0,37**
Humility	0,28**	0,24	0,25**	0,23**
Benevolence Dependability	0,19	-0,27**	0,11	-0,48
Benevolence Care	0,42**	0,65	-0,32	0,22**
Universalism Concern	-0,32**	-0,42**	-0,17*	-0,35**
Universalism Nature	0,21	-0,27**	0,15	-0,15*
Universalism Tolerance	-0,54	-0,13	0,25**	0,29

Note: \*\*\* -  $p < 0,001$ , \*\* -  $p < 0,01$ , \* -  $p < 0,05$

The values of “Self-Direction Thought”, “Stimulation”, “Achievement”, “Power Resources”, “Power Dominance”, “Conformity Rules” are in a positive correlation with “Creativity”, “Risk for success”, “Orientation for the future” and the “General innovativity index”. Besides this, “Security Societal”, “Conformity Interpersonal”, and “Universalism Concern” have a negative correlation with all innovational attitudes. “Hedonism” and “Self-Direction Thought” are positively correlated with creativity and the general innovativity index. So, the hypothesis can be confirmed that these values encourage positive attitude towards innovations.

After that we test the relations between values and innovative attitudes among young generation using multiple regression analysis. The results are presented in table 10-15.

**Tab. 10. Results of multiple regression analysis (young generation)**

Independent variables	Dependent variables			
	Creativity	Risk for success	Orientation for the future	General innovativity index
Self-Direction Action $\beta$	0,45**	0,28**	0,45	0,37**
Self-Direction Thought $\beta$	0,34	0,11	0,84**	0,58**
Stimulation $\beta$	0,09	0,7**	0,75**	0,64**
R <sup>2</sup>	0,14	0,26	0,23	0,29
F	10,09*	21,47**	18,53***	25,18

Note: \*\*\* -  $p < 0,001$ , \*\* -  $p < 0,01$ , \* -  $p < 0,05$

**Tab. 11. Results of multiple regression analysis (young generation)**

Independent variables	Dependent variables			
	Creativity	Risk for success	Orientation for the future	General innovativity index
Universalism Nature $\beta$	0,07	-0,34*	0,61	0,76
Hedonism $\beta$	0,3*	0,18	0,38	0,38*
Achievement $\beta$	0,47*	0,5*	0,09	0,46**
R <sup>2</sup>	0,11	0,18	0,03	0,11
F	5,74**	10,23*	7,98	6,65*

Note: \*\*\* -  $p < 0,001$ , \*\* -  $p < 0,01$ , \* -  $p < 0,05$

**Tab. 12. Results of multiple regression analysis (young generation)**

Independent variables	Dependent variables			
	Creativity	Risk for success	Orientation for the future	General innovativity index
Power Resources $\beta$	0,64*	0,55	0,74*	0,68**
Power Dominance $\beta$	0,14	0,57*	0,45	0,68*
Face $\beta$	0,06	0,11	0,15	-0,36**
R <sup>2</sup>	0,24	0,12	0,24	0,18
F	19,36*	4,89*	19,85*	19,73**

Note: \*\*\* -  $p < 0,001$ , \*\* -  $p < 0,01$ , \* -  $p < 0,05$

**Tab. 13. Results of multiple regression analysis (young generation)**

Independent variables	Dependent variables			
	Creativity	Risk for success	Orientation for the future	General innovativity index
Security Societal $\beta$	-0,36*	0,81	-0,42*	-0,34*
Security Personal $\beta$	0,44**	0,34	0,01	0,04
Humility $\beta$	0,24**	0,13	0,64	0,48**
R <sup>2</sup>	0,14	0,07	0,23	0,15
F	8,72**	8,47	16,79*	9,82***

Note: \*\*\* -  $p < 0,001$ , \*\* -  $p < 0,01$ , \* -  $p < 0,05$

**Tab. 14. Results of multiple regression analysis (young generation)**

Independent variables	Dependent variables			
	Creativity	Risk for success	Orientation for the future	General innovativity index
Conformity Interpersonal $\beta$	-0,37*	-0,52*	0,19	-0,44*
Conformity Rules $\beta$	0,13	0,27	0,63	0,35*
Benevolence Dependability $\beta$	0,67*	0,76	0,22	0,32**
$R^2$	0,21	0,18	0,05	0,09
F	13,45***	14,49***	7,92	10,63*

Note: \*\*\* -  $p < 0,001$ , \*\* -  $p < 0,01$ , \* -  $p < 0,05$

**Tab. 15. Results of multiple regression analysis (young generation)**

Independent variables	Dependent variables			
	Creativity	Risk for success	Orientation for the future	General innovativity index
Universalism Concern $\beta$	-0,45**	-0,6**	0,77	0,49**
Universalism Nature $\beta$	0,03	-0,34*	0,54	0,26
$R^2$	0,07	0,15	0,33	0,16
F	4,76*	9,82**	8,49**	10,70**

Note: \*\*\* -  $p < 0,001$ , \*\* -  $p < 0,01$ , \* -  $p < 0,05$

## Discussion of Results

At first, we tried to find differences within individual values. Values of “Self-Direction Action”, “Self-Direction Thought”, “Stimulation”, “Hedonism”, “Achievement”, “Power Dominance”, “Face”, “Security Personal”, “Traditions”, “Humility”, “Benevolence Dependability”, “Benevolence Care”, “Universalism Tolerance”. In this case, the values of “Self-Direction Thought”, “Hedonism”, “Achievement”, “Power Dominance”, “Security Personal”, “Benevolence Dependability”, “Universalism Tolerance”, “Stimulation” are higher among young respondents. The main goal of the “Self-Direction” value is the autonomy in choosing ways of action in creativity and research activities. In 2009, Schwartz introduced a few changes into the system of measurement and divided the “Self-Direction” value into two types: “Self-Direction Thought” and “Self-Direction Action”. From the obtained data, it can be observed that the “Self-Direction Action” numbers are higher for adult people, and the “Self-Direction Thought” numbers are higher for the young Russian people. In spite of numerous research works that give witness of independence, autonomy, activity, self-confidence of the young Russian people, many of them still depend on their parents and cannot always act independently, taking into account only their own interests and motives. For this reason, the “Self-Direction Action” value has higher numbers for adults, and the “Self-Direction Thought” value has better representation among the young generation. We also have detected differences in the values of “Hedonism”, “Power Dominance” and “Achievement”, and they are more important for young people than for the adult. The principal thing in the “Hedonism” group of values is delight or material pleasures, while “Achievement” is personal success reached through competence, in the view of existing social standards. As a result, on one hand, representatives of Russian youth long for pleasant pastime; they find it important to enjoy the life’s pleasures and use any opportunity to have fun; on the other hand, they have ambitious goals in life and want to be successful. Then, numbers for the “Security Personal” and “Conformity Rules” blocks of values are higher for young respondents, consequently, it is more important for them to feel protected, to be safe, they try to keep healthy and live an active life. Conformity is a value derived from the requirement to restrain the inclinations that have negative social impact. This value implies self-discipline, politeness, compliance with rules and norms dominating in the society. The importance of such values as “Benevolence Dependability” and “Universalism Tolerance” is also higher for the young, which proves that it is important for them to feel that their acquaintances and relatives fully believe in them and can rely on them and their help. As for tolerance, today’s young Russians mostly have a very different attitude to those who differ

from them by some parameters, for example, to those who belong to minorities of all kinds; young people are much more tolerant to various people and groups. Many representatives of the adult generation still maintain the “soviet” type of thinking that makes them think negatively about those who differ from the others, not to mention people that belong to subcultures, minorities etc. Young people have a more expressed value of “Stimulation” that is understood as craving for new things and deep feelings.

Values that dominate with adult respondents are “Face”, “Traditions”, “Humility” and “Benevolence Care”. For adults, it is more important to maintain their reputation with other people and never be humiliated or dishonored. It cannot be said that this value is not important for younger respondents, but, as we have found, young people are more independent in the choice of their actions, in research activity, more autonomous and self-confident. So, it is possible that the mentioned personality traits exclude explicit social reflection. In other terms, they are much less likely to think how they look and how others judge them. The main goal of the “Tradition” group of values is to accept and respect the customs and ideas that exist in a culture, and to follow them. Traditions may have the form of beliefs, norms of behaviour, and rites of religion. Important components are respect of the traditions, piety and accepting the own destiny. For adult respondents, it is more important to maintain traditional values and views, to follow the family conventions or religious practices, and to honour the traditions of the culture. They are modest in their behaviour and words, try not to boast, not to be arrogant, they do not long for public attention or approval. The goal of the “Benevolence” set of values is to preserve the well-being of people with whom the person is in any kind of relationship. This type of values is derived from the need of positive interaction, and main components of this group of values are honesty, helpfulness, friendship, loyalty, responsibility etc. Later, Schwartz divided this set into two types: “Benevolence Care” and “Benevolence Dependability”. The first type prevails with adult respondents, which means that it is important for them to take care of the loved ones, to help them, to minister to all their needs. Let us remind that the average age of the respondents is 51 years old, and this age is associated with a large number of family members that need care, understanding, help etc. from the elder generation.

Unlike the representatives of the adult generation, young people believe that changes are a way to success, current losses are not necessarily negative for the society, and opportunities are only given to those who actively search for them and show initiative. The general innovativity index is higher among young people: the mean arithmetic value equals 3,9, so, young respondents are more likely to accept and introduce innovation; they believe that changes are a

way to success; they are ready to risk in order to achieve a goal; they appreciate variety in life; they are willing to create and invent new things; they are curious; they are ready to invest into innovations and feel comfortable in an instable environment.

There is interrelation between values and attitude towards innovation among adults. Using correlation and regression analysis we found out that independence in the choice of actions, research activities, autonomy in taking decisions, the desire of power and dominance, of novelty and deep feelings stimulate the development of creativity in adult respondents. It is curious to know that for adult respondents, creativity that means doing everything in an unusual way and inventing new strategies, is positively correlated with modesty, tolerance, the willingness to care for people this person is in a relationship with, and for their well-being. This can be explained by the fact that creativity is just a part of the innovation process, a precursor of innovation; it is a set of personal characteristics that creates a foundation for the creative and original behaviour of the personality; and innovation is the very process of implementing novelty, and it requires very different personal qualities. Personal security discourages creativity with adult respondents.

Independence in planning actions, autonomy in taking decisions, craving for novelty, need of achievements and desire to control other people and resources, along with the tolerance to very different communities, are related to the positive attitude towards innovations and stimulate new inventions and developments. The need to feel protected has a negative impact on the willingness to take risks for achievements and to invest money into innovations. This is to say, a personality that wants stability and feels a strong need of security, is unlikely to take risks in order to achieve a goal. At least, values have the impact on attitude towards innovation among adults. The values of “Humility”, “Conformity Rules”, “Security” and “Traditions” are fundamental for the interpersonal behaviour in collectivist cultures and may prevent the adult generation of Russians from accepting innovation. But the “Security Societal” value, meaning that an individual needs social order and has to be sure that the country is strong and will protect its people in case of a threat, on the contrary, stimulates the acceptance of innovations.

At the closing stage of our work, we studied correlation between values and attitudes towards innovation among the younger generation of Russians. Independence in the choice of actions, autonomy, ambition, the need to be successful, the craving for achievements and the desire to dominate over other people and resources stimulate the acceptance of innovations by the young generation of Russians. The certitude that the country can protect in case of any threat, the idea that it is important to protect weak people in the society, that each person must have

equal opportunities and one should treat everyone in the same way, regardless any factors, and also the personal conviction that it is important not to disturb or irritate other people, – all of these obstruct acceptance and implementation of any innovation.

Other interesting results have been obtained: in particular, “Power Resource” and “Power Dominance” stimulates the acceptance of innovations. “Conformity Interpersonal” and “Face”, on the contrary, interfere with innovations. The desire to keep good reputation, to commit only socially approved actions, to always act in accordance with others’ interests, – all of this has a negative impact on the processes of accepting and implementing innovations among young people.

The research has also revealed difference in the interrelation between values and innovational attitudes among different generations of Russians. The value of “Security Societal” among adult respondents has a positive correlation with positive attitude towards innovation, and in the young group of respondents, a negative correlation. On the contrary, “Security Personal” with the young people is something that obstructs innovation, and for adult respondents, the impact on innovational attitudes is positive.

The study was performed on an unrepresentative sample and its major limitation is the potential non-equivalence of two generation groups.

So, finally we can make the following conclusion:

1. The hypothesis on the presence of differences in individual values of different generations of Russians has been partially confirmed. Young people have more expressed values of “Self-Direction Action”, “Self-Direction Thought”, “Stimulation”, “Universalism” as in “Universalism Tolerance”. For adults, the prevailing values are those expressing the interests of a group: “Traditions”, “Benevolence Care”, and “Humility”.
2. The suggested hypothesis on the presence of intergenerational differences in the attitude towards innovation finds some confirmation: the Russian young people’s attitude is more positive than the older generation’s one. Young people values more such parametres as “Risk for success”, “Orientation to the future”, “General innovativity index of a personality”.
3. The values of “Humility”, “Conformity Rules”, “Security”, “Tradition” constitute a foundation for the interpersonal behaviour in collectivist cultures, and therefore can interfere with the acceptance of innovation by the adult generation of the Russians. The “Security Personal” value prevents adult respondents from accepting innovations.
4. The values of “Self-Direction Thought”, “Stimulation”, “Achievement”, “Power Dominance”, “Power Resource” stimulate young people to accept and implement innovations. “Universalism Concern” and “Conformity Interpersonal”, in their turn, impede the acceptance of



innovations. “Hedonism” and “Self-Direction Action” have a positive connection with creativity and the general innovativity index among youth.

## **Conclusion**

Innovation has always been the pledge of development for the society. Now that the pace of life and the intense competition are as high as never before, innovational development is a necessary condition for survival, not only for standalone events but for the entire society as well. The modern innovational society should not only be open and adapted to innovation, it should constantly generate it. Merely technical innovation is not sufficient anymore; this is why, in the contemporary world, innovational thought which is understood as intellectual and psychological urge for novelty and new developments becomes as important as innovation itself.

This research is based on the idea that the general predisposition for novelty and innovation can be conditioned by individual values. Values are not a static once-built phenomenon; they change with time, and the period in which they were formed means a lot. Individual values exert a significant influence on young people’s attitude towards innovation, and their values and their innovational mindset are different from those of adult Russians. The data obtained as a result of our empirical study can enhance mutual understanding and adaptation skills with people of different ages working for companies and corporations. The results of our research may turn out useful in the work of administrative staff, for instance, to develop a motivational system and to prevent conflicts, should the personnel consist of both young and older staff members. Besides that, if one has an idea of the difference existing in values and innovational attitudes, it will be easier for them to establish certain procedures for adaptation and training of the personnel.

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