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Personality-Environment Interaction: A Study of Russian Young Adults' Value Orientations and Psychological System of Activity

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Abstract

Introduction. There is a need to comprehensively investigate the issue of personality-environment interaction at the present stage. This study aims to comparatively analyze value orientations (cultural dimensions and basic values) and parameters of the psychological system of activity among university students residing in four Russian cities. **Methods**. The study sample comprised 735 university students studying in St. Petersburg, Kaliningrad, Tomsk, and Irkutsk. We used a battery of questionnaires grouped according to the following three research vectors: (a) value orientations at the cultural level (assessment tools by G. Hofstede and R. Inglehart), (b) value orientations at the individual level (SEBVR), and (c) parameters of the psychological system of activity – self-determination, needs for achievement and affiliation, personal readiness for activity (goal setting, planning, reflection, and life satisfaction), and innovative personality traits. Statistical analysis involved descriptive statistics, factor analysis, and analysis of variance (ANOVA). **Results**. Factor analysis revealed the main parameters for personality-environment interaction among university students. These include the urban environment potential, personal readiness for activity, and traditional values. In the subsamples, value orientations differed both at the cultural level (long-term orientation and traditional values) and at the individual level (subjective evaluation of basic metavalues realizability, which serves as a measure of the urban environment potential). Our analysis also revealed an environmental specificity of the parameters of the psychological system of activity (planning, need for relatedness with others, index of self-determination, and need for achievement). **Discussion**. In this study we implemented an integrated approach to the analysis of personality-environment interaction in the context of university youth's personal and professional development. Our analysis revealed the main characteristics of Russian students' value orientations, parameters of their psychological system of activity, and specific features of these characteristics related to the city of residence. The study results should be taken into account when organizing psychological and educational support for the process of university students' personal and professional development.

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Keywords
value orientations, readiness for activity, university youth, realizability of values, cultural dimensions, environmental potential, urban environment, traditional values, self-determination, innovativeness

Highlights
- The urban environment potential, personal readiness for activity, and traditional values are the main characteristics that determine the relationship between Russian university students' value orientations and parameters of their psychological system of activity.
- This study revealed city-related differences in Russian university students' value orientations at the cultural level.
- This study highlighted the specifics of Russian university students' subjective evaluation of basic metavalues realizability in relevant environmental conditions.
- City-related differences in personal characteristics (planning, need for relatedness with others, self-determination index, and need for achievement) are in good agreement with the characteristics of value orientations.

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Introduction
In a rapidly changing world, qualitative changes in people's psychology determine the need for studying personality-environment interaction. Young adults are of particular interest, since researchers and specialists associate them with the potential for the society's further development (Bokhan et al., 2011; Kwon, Heflin, & Ruef, 2013; Bogomaz, Kozlova, & Atamanova, 2015; Fedotova, 2017). Leading economists pay attention to the issue of human capital and emphasize the need for studying the so-called 'sociocultural codes', i.e. various factors that lead to the implementation of certain behavioral attitudes through the hierarchy of values (Auzan & Kelimbetov, 2012; Auzan 2015). We have successfully studied personality-environment interaction in the context of personal and professional development of university students (Bogomaz et al., 2015; Bogomaz & Atamanova, 2017; Atamanova, Kozlova, Bogomaz, Zalevsky, & Neyaskina, 2018; Buravleva & Bogomaz, 2020; Perikova, Atamanova, & Bogomaz, 2020; Perikova, Byzova, Atamanova, & Bogomaz, 2020).

This study *aims* to conduct a comparative analysis of value orientations (at the cultural and individual levels) and parameters of the psychological system of activity among university students residing in four Russian cities.

At the cultural level, the analysis of value orientations is based on the studies of Geert Hofstede, a Dutch sociologist, social psychologist, and anthropologist. These studies carried out in the 1960s and 1970s examined cross-cultural differences. Thus, Hofstede developed the theory of cultural dimensions, that was based on value orientations of national cultures (Hofstede, 1991; Hofstede, 2014). Today, researchers actively use Hofstede's cultural dimensions (or cultural values) in the field of business, management, and organizational psychology (Soares, Farhangmehr, & Shoham, 2007; De Mooij & Hofstede, 2010; Savchenko, Eminova, & Baturin, 2015; Dubina & Ramos, 2019). This

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theory is applied in education (Cronjé, 2011), personality psychology (Hofstede & McCrae, 2010; Chien, Sycara, Liu, & Kumru, 2016), and health psychology (Tekeş, Üzümcüoğlu, Hoe, & Özkan, 2019).

Some studies have reported intra-national differences in cultural values (Minkov & Hofstede, 2012; Minkov, Bond, & Blagoev, 2015; Latova, 2016). These studies have shown that such differences may be observed among various regions of a particular state and be related to the level of their socio-economic development (Minkov & Hofstede, 2012). Researchers also note that such variables as profession and education can make their own adjustments in the manifestation of value orientations when assessing cultural dimensions at the intra-national level (Minkov et al., 2015). A study by Latova (2016) revealed the cultural specificity of Russians, indicating the heterogeneity of such cultural dimensions as 'masculinity vs femininity' and 'uncertainty avoidance'. Therefore, Hofstede's cultural dimensions should be taken into account in our analysis of value orientations of university students in four Russian cities in the context of our investigation of personality-environment interaction.

Furthermore, many years of research on values in various cultural realities enabled Ronald Inglehart to highlight the universals of social transformations (Inglehart, 1997; Inglehart & Welzel, 2005). "Intergenerational changes in values occur in the process of modernization, accompanied by economic development and an increased sense of safety, provided that new generations take survival for granted, with a certain time lag – namely, the transition from materialistic values to post-materialistic ones..., from the values of survival to the values of self-expression..., from traditional values to secular-rational ones" (Govorova, 2018, p. 82). Analyzing Inglehart's concept, Gutorov notes that "cultural differences continue to determine the response of various societies to the challenges of economic modernization" (Gutorov, 2018, p. 204). Our studies show the existence of a relationship between adherence to traditional values and personal readiness for activity among university students (Buravleva & Bogomaz, 2020). Besides, there is an environmental specificity in the degree of such an adherence and a negative impact on the innovative style of responding to changes (Perikova, Byzova et al., 2020).

We also believe that the study of value orientations at the individual level, carried out through subjective evaluation of basic values realizability in a certain sociocultural environment, is a promising direction for examining the potential of this environment in the context of university students' personal and professional development (Bogomaz et al., 2015; Bogomaz & Atamanova, 2017; Atamanova et al., 2018).

Another vector of our comprehensive analysis of personality-environment interaction involves investigating the psychological system of activity. This seems important because "being in certain environmental conditions, people can transform the objective resources of this environment into their subjective abilities and then implement them into concrete results, achieving individual goals" (Atamanova et al., 2018, p. 91).

Methods

The study sample comprised Russian students (N = 735; mean age 20.1 ± 2.2 years; females – 54.2 %, males – 45.8 %) enrolled in universities in various areas of training. The study was conducted in 2018–2019. The research procedure involved filling in paper-and-pencil versions of questionnaires. Participation in the study was voluntary. After excluding 13 papers from consideration (for certain questionnaires the forms were not filled in), the distribution of the sample by cities was as follows: St. Petersburg (N = 164), Kaliningrad (N = 256), Tomsk (N = 177),

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and Irkutsk (N = 125). Therefore, the final sample was made up of 722 study participants.

We used a battery of questionnaires (Atamanova & Bogomaz, 2018) grouped according to the following three research vectors:

1. We examined *value orientations at the cultural level* as cultural dimensions of the society's socio-economic development using (a) Hofstede's Values Survey Module (VSM 2013) with the scales of 'power distance', 'individualism vs collectivism', 'masculinity vs femininity', 'uncertainty avoidance', 'long-term vs short-term orientation', and 'indulgence vs restraint' (Hofstede & Minkov, 2013; Hofstede, 2014); (b) Inglehart's World Values Survey modified by R. K. Khabibulin with the scales of 'traditional vs secular-rational values' and 'survival values vs self-expression values' (Inglehart & Welzel, 2005; Khabibulin, 2015).

2. We examined *value orientations at the individual level*, which can be applied to assess the urban environment potential in terms of one's personal and professional development, using the Subjective Evaluation of Basic Values Realizability questionnaire, SEBVR, developed by S. A. Bogomaz. We calculated the following four metavalues: 'values of personal life', 'values of professional self-realization', 'individual values', and 'values of self-affirmation' (Bogomaz & Atamanova, 2017; Bogomaz and Atamanova, 2018).

3. *Parameters of the psychological system of activity*:

– *assessment of need satisfaction* using the parameters of the 'need for autonomy', 'need for competence', and 'need for relatedness with others' of the Balanced Measures of Psychological Needs scale, BMPN, by K. M. Sheldon and J. C. Hilpert. We calculated the arithmetic mean of these three factors as the 'self-determination index' (Sheldon & Hilpert, 2012; Osin, Suchkov, Gordeeva, & Ivanova, 2015). We also used parameters of the 'need for achievement' and 'need for affiliation' of the Personal Research Form, PRF, by D. N. Jackson modified by I. M. Kondakov (Jackson, 1984; Kondakov, 1998).

– *assessment of personal readiness for activity* using the 'purposefulness' and 'planning' parameters of the Self-Organization of Activity Questionnaire (Mandrikova, 2010), the 'systemic reflection' parameter of the Differential Test of Reflexivity (Leontiev & Osin, 2014), and Satisfaction with Life Scale, SWLS, modified by D. A. Leontiev and E. N. Osin (Diener, Emmons, Larsen, & Griffin, 1985; Osin & Leontiev, 2008). In the Personal Readiness for Activity questionnaire, PRA, being developed by us, we renamed these subscales, respectively, into 'goal setting', 'planning', 'reflection', and 'satisfaction with life'. We calculated the 'index of personal readiness for activity' as the arithmetic mean of the subscales mentioned (Atamanova & Bogomaz, 2018; Buravleva & Bogomaz, 2020).

– *assessment of personality innovativeness* using the parameters of 'creativity', 'taking risk for achievement', 'orientation to the future', and 'personality innovativeness index' of the Self-Assessment of Personality's Innovative Qualities scale, SPIQ, developed by N. M. Lebedeva and A. N. Tatarko (Lebedeva, 2012).

Statistical analysis was carried out using the Statistica 10.0 software package. We used descriptive statistics (mean, standard deviation, skewness, and kurtosis), factor analysis (principal component analysis with Varimax-rotation, Cattell's scree test), and one-way ANOVA with post-hoc tests for pairwise multiple comparisons using the Bonferroni criterion.

We chose the cities for our study because of the differences in their status, territorial and demographical characteristics, and the level of socio-economic development. *St. Petersburg* is a city of federal significance, administrative center of the Northwestern Federal District, which is unofficially considered as the northern capital of Russia. It is a large metropolis with a population

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of 5,398,064 people (hereinafter, as of January 01, 2020, according to the site http://www.statdata.ru). The city plays an important role in the economic, scientific, educational, and cultural spheres both inside the country and abroad. *Kaliningrad* is also located in the Northwestern Federal District; it is the administrative center of the Kaliningrad region. The city with a population of 489,359 people occupies a specific position due to its proximity to European countries and is characterized by active internal migration processes, being a major industrial center and transport hub with a rich cultural heritage and well-developed tourist infrastructure. *Tomsk* is the administrative center of the Tomsk region and a part of the Siberian Federal District. The city with a population of 576,624 people is a recognized scientific, educational, and innovation center of the country. *Irkutsk* is also a part of the Siberian Federal District and is the administrative center of the Irkutsk region; the city's population is 623,562 people. The proximity to Lake Baikal and its rich history make Irkutsk an attractive tourist destination. The city is considered as a large industrial, scientific, and educational center of Eastern Siberia.

Results

We calculated descriptive statistics for a range of parameters and indices. We obtained means, standard deviations, skewnesses, and kurtoses for the parameters and indices under study, that helped us assess the quality of the sample for further analysis (Table 1). We should note that we calculated the cultural dimensions of Hofstede's Values Survey Module using the formulas proposed by Hofstede & Minkov (2013), without using constants.

Table 1
The degree of manifestation of the parameters under study among Russian university youth (N = 722)

Parameters and indices	Mean	Standard deviation	Skewness	Kurtosis
Hofstede: Power distance	3.22	58.8	–0.01	0.22
Hofstede: Individualism vs collectivism	50.32	70.2	0.01	0.82
Hofstede: Masculinity vs femininity	–7.27	61.4	0.20	0.52
Hofstede: Uncertainty avoidance	–20.60	67.5	0.20	0.14
Hofstede: Long-term vs short-term orientation	15.51	62.4	–0.19	0.18
Hofstede: Indulgence vs restraint	63.07	66.6	–0.29	1.94

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The degree of manifestation of the parameters under study among Russian university youth (N = 722)

Parameters and indices	Mean	Standard deviation	Skewness	Kurtosis
Inglehart: Traditional vs secular-rational values	4.12	0.85	–0.04	0.11
Inglehart: Survival values vs self-expression values	4.37	0.75	0.15	0.02
SEBVR: Values of personal life	5.42	1.47	–1.10	0.64
SEBVR: Individual values	4.87	1.10	–0.19	–0.01
SEBVR: Values of professional self-realization	5.53	1.19	–0.82	0.17
SEBVR: Values of self-affirmation	5.33	1.25	–0.51	–0.52
PRA: Index of personal readiness for activity	3.59	0.52	–0.18	0.35
SIPT: Personality innovativeness index	3.47	0.59	–0.06	0.32
BMPN: Self-determination index	0.45	0.40	0.41	0.46
PRF: Need for achievement	3.99	0.70	–0.71	0.88
PRF: Need for affiliation	3.97	0.81	–0.79	0.44

Further, we used the principal component analysis with Varimax-rotation and Cattell's scree test and carried out a factor analysis (variables N = 15, factors N = 5). We explained 61.2 % of the variance of the original correlation matrix. We used a factor loading of more than 0.40. Table 2 shows the factors revealed.

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Table 2
Factor analysis of the parameters and indices under study (N = 722)

Parameters and indices	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
SEBVR: Values of self-affirmation	**0.907**	0.079	0.080	0.012	–0.005
SEBVR: Values of professional self-realization	**0.873**	0.066	0.011	0.018	–0.066
SEBVR: Values of personal life	**0.846**	–0.071	0.060	0.072	0.023
SEBVR: Individual values	**0.765**	0.214	–0.006	–0.018	0.038
PRF: Need for achievement	0.051	**0.775**	0.144	–0.084	–0.020
PRA: Index of personal readiness for activity	0.089	**0.695**	0.294	0.211	–0.014
SIPT: Personality innovativeness index	0.101	**0.689**	–0.163	0.146	0.032
BMPN: Self-determination index	0.080	**0.431**	0.114	**0.526**	–0.048
Hofstede: Long-term vs short-term orientation	–0.012	0.101	**0.763**	–0.145	0.027
Inglehart: Traditional vs secular-rational values	0.109	0.154	**0.748**	0.136	–0.011
Hofstede: Individualism vs collectivism	–0.042	0.269	**–0.451**	0.121	**0.431**
Hofstede: Power distance	0.026	–0.056	0.103	–0.015	**–0.670**
Hofstede: Masculinity vs femininity	–0.037	0.156	–0.143	–0.036	**–0.755**

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Table 2
Factor analysis of the parameters and indices under study (N = 722)

Parameters and indices	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Hofstede: Indulgence vs restraint	0.037	0.166	–0.128	**0.618**	0.252
Hofstede: Uncertainty avoidance	0.015	0.047	0.004	**–0.806**	0.060
Eigenvalues	2.930	1.970	1.550	1.443	1.282
Proportion of the total variance	0.195	0.131	0.103	0.096	0.085

Factor 1. Realizability of metavalues was the most significant factor; it includes the values of self-affirmation (0.907, hereinafter the factorial load is indicated in parentheses), the values of professional self-realization (0.873), values of personal life (0.846), and individual values (0.765). This factor is associated with the respondents' subjective evaluation of basic values realizability in the relevant urban environment. The values of self-affirmation (0.907) and the values of professional self-realization (0.873) make the most significant contribution.

Factor 2. This factor combined the parameters of the psychological system of activity that characterize the respondents' needs ('need for achievement' (0.775) and 'self-determination index' (0.431)), their personal readiness for activity ('index of personal readiness for activity' (0.695)), and innovative qualities ('personality innovativeness index' (0.689)). The respondents' need for achievement is the leading parameter in this factor.

Factor 3. This factor involves value orientations at the cultural level ('long-term vs short-term orientation' (0.763), 'traditional vs secular-rational values' (0.748), and 'individualism vs collectivism' (–0.451)). The parameters of this factor characterize respondents in the context of their adherence to traditional values, orientation towards the future, and group cohesion.

Factor 4. This factor includes value orientations at the cultural level ('uncertainty avoidance' (–0.806), 'indulgence vs restraint' (0.618)) and 'self-determination index' (0.526). The leading parameter of this factor is associated with uncertainty acceptance, which contributes to the overall process of self-determination.

Factor 5. This factor combined the cultural dimensions of Hofstede's Values Survey Module, namely 'individualism vs collectivism' (0.431), 'masculinity vs femininity' (–0.755), and 'power distance' (–0.670). The respondents' orientation towards the values of feminine-type societies makes the most significant contribution to this factor.

Furter, we identified differences in the manifestation of the parameters and indices under study among Russian students, depending on the city of their residence.

Our *assessment of value orientations at the cultural level* using the modified Hofstede's Values Survey Module did not reveal statistically significant differences, except for the 'long-term vs short-term orientation' parameter ($p = 0.00001$).

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Table 3 presents the results of the analysis of variance. The distribution of the parameter mentioned above by cities is noteworthy. We obtained its lowest scores for university students from St. Petersburg (1.6 ± 62.7), which may be interpreted as the least degree of their long-term orientation. Next come the cities of Kaliningrad (10.6 ± 60.9 points) and Tomsk (20.3 ± 63.4). The highest degree of expression of long-term orientation was found among university students from Irkutsk (37.0 ± 57.9).

Table 3
Analysis of variance of the manifestation of Hofstede's cultural dimensions (scores)

Cultural dimensions	Saint Petersburg (N = 164)		Kaliningrad (N = 256)		Tomsk (N = 177)		Irkutsk (N = 125)	
	M	SD	M	SD	M	SD	M	SD
Power distance	9.4	56.3	2.1	64.2	2.6	55.4	–1.7	55.0
Individualism vs collectivism	60.0	74.9	52.6	67.4	42.9	65.8	43.4	74.3
Masculinity vs femininity	–3.0	58.5	–7.5	64.5	–10.1	63.6	–8.4	55.8
Uncertainty avoidance	–32.5	71.3	–14.0	67.5	–19.3	67.1	–20.4	61.5
Long-term vs short-term orientation	**1.6**	**62.7**	**10.6**	**60.9**	**20.3**	**63.4**	**37.0**	**57.9**
Indulgence vs restraint	65.5	74.5	66.2	67.1	60.3	60.6	57.3	62.8

Note: *M* – mean; *SD* – standard deviation; statistically significant differences are in bold; *p = 0.00001*.

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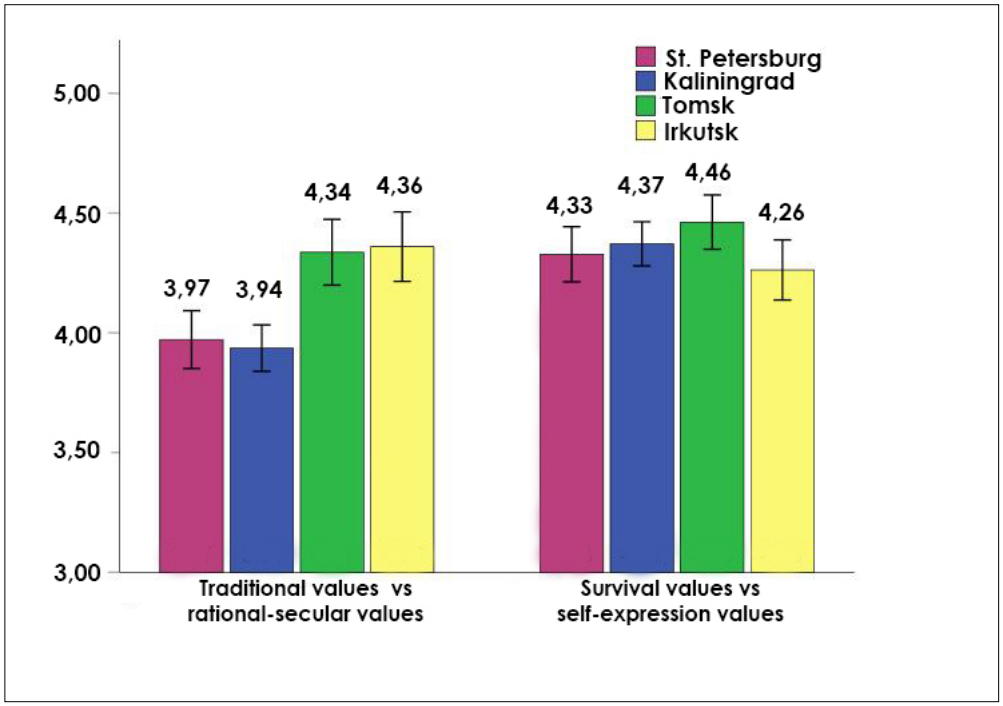

Figure 1. City-related differences in value orientations at the cultural level, modified Inglehart's World Values Survey (scores)

Further, we obtained statistically significant differences ($p = 0.0000001$) for the parameter of 'traditional vs secular-rational values' (Inglehart's World Values Survey) (Fig. 1). The highest degree of adherence to traditional values is observed in the cities of Irkutsk (4.36 ± 0.82) and Tomsk (4.34 ± 0.93). The lowest scores for this parameter were observed in the samples of St. Petersburg (3.97 ± 0.78) and Kaliningrad (3.94 ± 0.79). Such differences in the manifestation of the orientation towards traditional values may be explained by the territorial location of these cities and their status. Note that we discussed specific characteristics of the cities in the Methods section; a detailed interpretation of the results will be presented below in the Discussion section).

Assessment of value orientations at the individual level. The analysis of variance showed that the respondents significantly differed in their subjective evaluation of basic metavalues realizability (SEBVR): values of personal life ($p = 0.0001$), individual values ($p = 0.0000001$), values of professional self-realization ($p = 0.0000001$) and values of self-affirmation ($p = 0.0000001$).

A comparative analysis of the subjective evaluation of basic metavalues realizability in the cities under study (Fig. 2) suggests that university students from Irkutsk see much fewer opportunities for the realization of basic values in their city. Compared to other cities, university students from St. Petersburg highly appreciate the potential of this city in terms of the realizability of the values of professional self-realization (5.99 ± 1.00), values of self-affirmation (5.57 ± 1.15), and individual values (5.13 ± 1.12). The cities of Kaliningrad and Tomsk contribute to the realization of the values of personal life to a greater extent (5.75 ± 1.06 and 5.73 ± 1.08, respectively). The subjective evaluation of basic metavalues realizability is quite balanced among university students from Tomsk.

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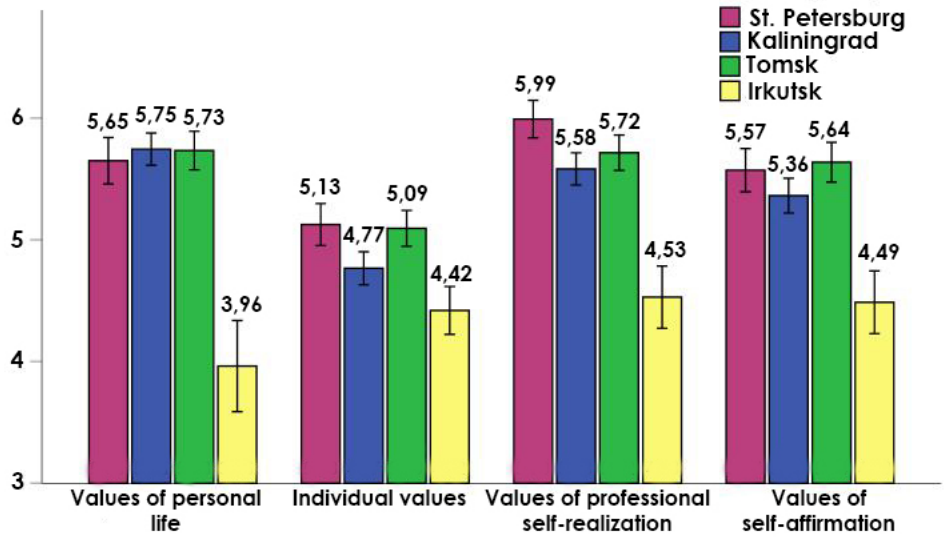

Figure 2. City-related differences in subjective evaluation of basic metavalues realizability, SEBVR (scores)

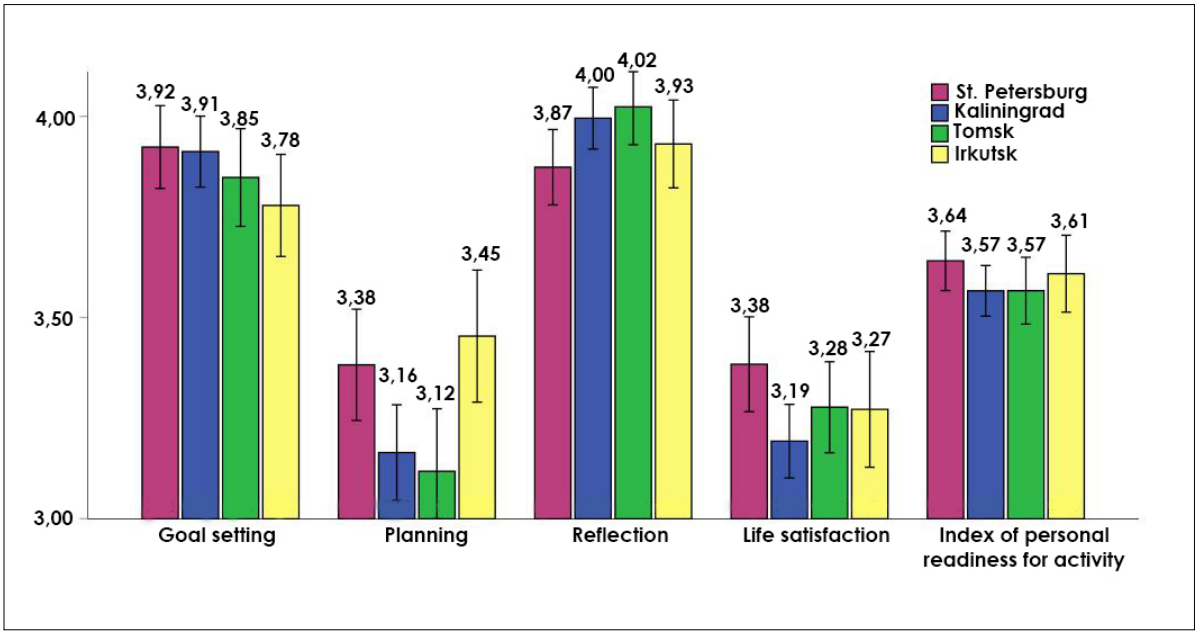

Figure 3. City-related differences in the parameters of personal readiness for activity

The third vector of our research was associated with *assessment of the parameters of the psychological system of activity*. The analysis of variance revealed statistically significant differences for certain parameters. In particular, the respondents differed significantly in the 'planning'

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parameter (p = 0.003, Fig. 3) with the following distribution by points: 3.38 ± 0.90 in St. Petersburg, 3.16 ± 0.96 in Kaliningrad, 3.12 ± 1.04 in Tomsk, and 3.45 ± 0.93 in Irkutsk.

We also observed statistically significant city-related differences in the parameters of self-determination (Fig. 4), namely relatedness with others (p = 0.036) and self-determination index (p = 0.046). Compared to university students from Tomsk (0.36 ± 0.62) and Kaliningrad (0.35 ± 0.56), those from St. Petersburg (0.50 ± 0.65) and Irkutsk (0.48 ± 0.63) demonstrate a greater degree of manifestation of the need for relatedness with others. The self-determination index was also higher among students studying in St. Petersburg (0.52 ± 0.44); the lowest scores were observed among university students from Kaliningrad (0.41 ± 0.36).

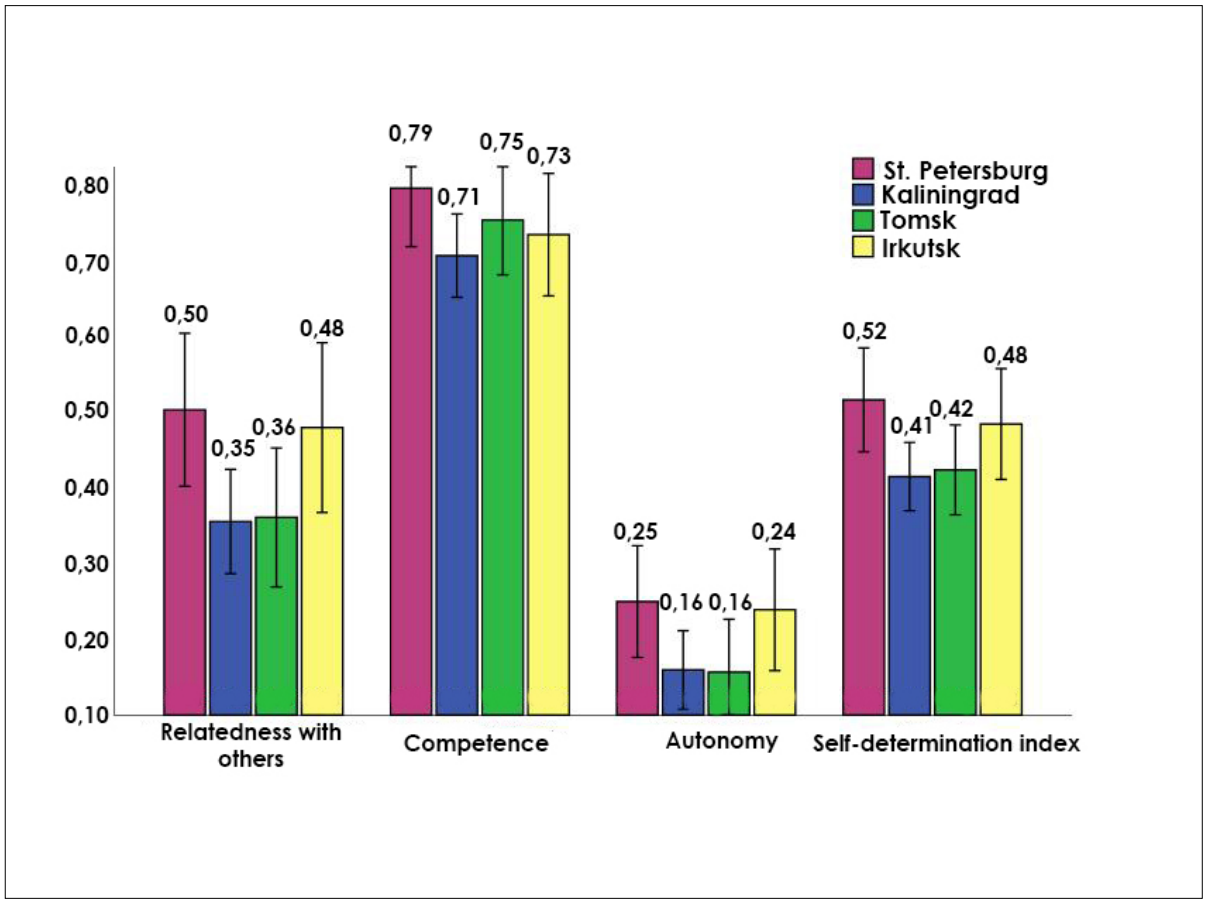

Figure 4. City-related differences in self-determination parameters (scores)

The analysis of variance also revealed statistically significant differences (Fig. 5) in the need for achievement (PRF) (p = 0.036) with the following distribution of scores: 4.05 ± 0.68 in St. Petersburg, 3.96 ± 0.71 in Kaliningrad, 3.88 ± 0.71 in Tomsk, and 4.12 ± 0.67 in Irkutsk. University students from Irkutsk have a stronger need for achievement in comparison with those from other cities. The lowest scores were observed among students studying in Tomsk.

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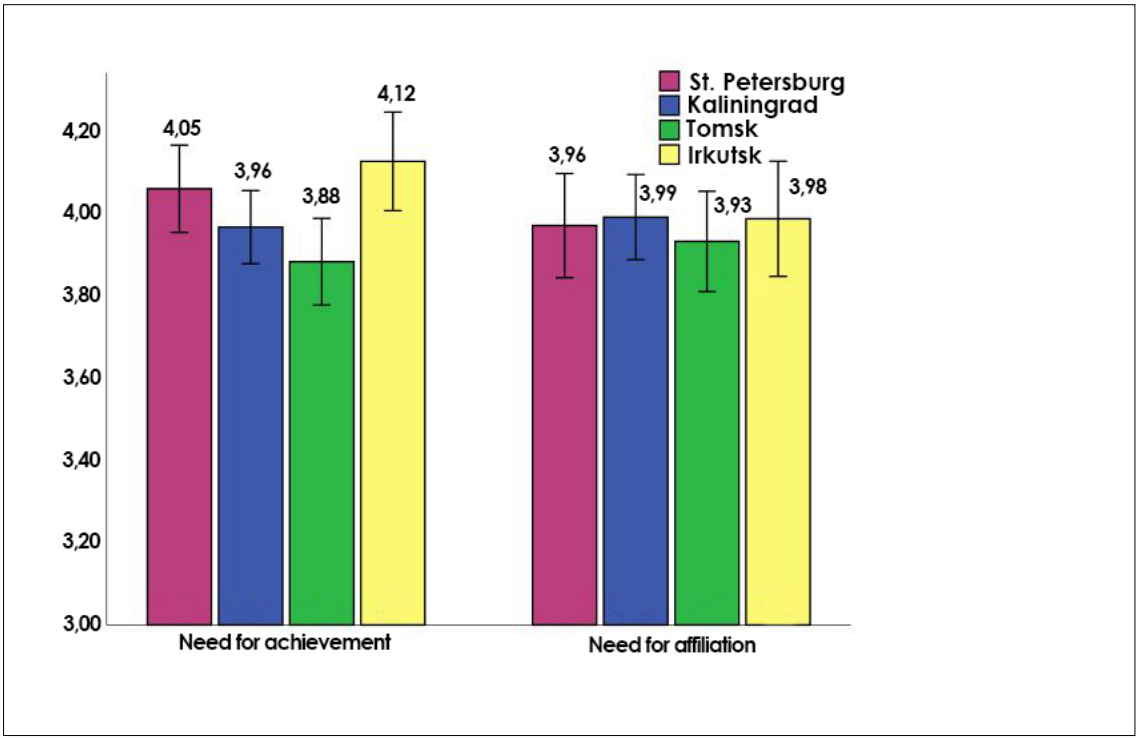

Figure 5. City-related differences in the needs for achievement and affiliation, PRF (scores)

Discussion

The factor analysis revealed that Russian university students' subjective evaluation of basic metavalues realizability in relevant environmental conditions represent the leading factor. We should note that the factor analysis was carried out on the total sample to identify the most significant combinations of the psychological parameters in question and their further understanding. In this context, a significant contribution is made by values of self-affirmation and values of professional self-realization, which is consistent with the results obtained in our previous studies (Atamanova, Bogomaz, Boiko, Ivanova, & Perikova, 2019). This factor confirms the need for taking into account university students' value orientations at the individual level when analyzing personality-environment interaction.

The second most important factor linked the parameters of the psychological system of activity, which characterize needs (including the need for self-determination), personal readiness for activity, and innovative qualities of Russian university students. Such a combination of the parameters may be explained by the existence of a relationship between one's personal readiness for activity, innovative qualities, and a desire for self-determination in terms of the realization of one's need for achievement. This factor represents a compound complex of psychological parameters, as it contains three parameters which are themselves integral characteristics ('index of personal readiness for activity', 'index of personality innovativeness', and 'self-determination index'). If we consider this factor in terms of Russian university students' readiness for innovative activity, the

needs for achievement play a leading role. This may indicate their readiness for the so-called 'traditional' activity. Compared to innovative activity, this 'traditional' view of activity may be explained from the standpoint of the confrontation between 'an intense need' and 'an intense opportunity'. Klochko and Galazhinskiy (2009) emphasize that "in the phenomena of innovative behavior, a special form of transition of opportunity into reality, inherent only in man, manifests itself" (p. 147), in contrast to the "traditionally" understood activity, the source of which is "an intense need" (p. 146). Buravleva and Bogomaz (2020) also note that, according to the results of the regression analysis conducted on the Tomsk sample, the personal readiness for activity among engineering student is associated with their innovative qualities, adherence to traditional values, and with the preservation of the usual order of things and stability. The regression model obtained by the researchers shows that the innovative style of responding to changes is inversely related to personal readiness for activity. The style of responding to changes is a characteristic of habitual behavior in a situation of choice (Bazarov & Sycheva, 2012), that speaks in favor of our assumption of a 'traditionally' understood activity.

Factor 3 united value orientations at the cultural level; it may be considered as a factor explaining the orientation of Russian university students towards the future, group cohesion, and adherence to traditional values. The resulting combination of value orientations is more consistent with the characteristics of collectivist-type societies (Inglehart & Welzel, 2005; Lebedeva & Tatarko, 2019).

Factor 4 describes associations between self-determination and value orientations at the cultural level, which characterize the degree of uncertainty avoidance (negative contribution to the factor) and the desire to satisfy needs. The satisfaction of needs for autonomy, competence, and relatedness with others is conditioned by the possibilities that people find in relevant environmental conditions (Sheldon & Hilpert, 2012). Therefore, the leading parameter of this factor is associated with the acceptance of situations of uncertainty, that, apparently, contributes to the overall process of self-determination. According to Latova (2016), a tolerant attitude towards situations of uncertainty enables people to see much more opportunities for their personal growth and professional development, that is essential for our understanding of the processes of personal and professional development of university students in certain environmental conditions.

Factor 5 demonstrates associations between the respondents' orientation towards values of individualism, their adherence to the values of feminine-type cultures, and the desire for equality and respect for the individual, which corresponds to the characteristics of societies with a higher level of economic development in terms of innovative one (Hofstede, 2014). This may reflect both the specificity of the sample (university youth) and a certain degree of orientation towards individualistic values, which is currently observed in the Russian society (Lebedeva, 2012; Latova, 2016).

The analysis of variance confirms our assumption that different cities of our country are characterized by a certain specificity of personality-environment interaction, which is implemented at the level of value orientations and parameters of the psychological system of activity, in the context of the personal and professional development of university students studying in these cities. As we have noted earlier in the Methods section, the cities under study differ in their status, territory, demography, and the level of socio-economic development.

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A comparative analysis of cultural dimensions (Hofstede's Values Survey Module), which we consider as "socio-economic factors that determine people's values and their behavioral attitudes" (Atamanova & Bogomaz, 2018, p. 134), revealed statistically significant differences for a single parameter, namely 'long-term vs short-term orientation'. On the one hand, it is quite understandable, because the study sample consisted only of Russian students. In contrast, a cross-cultural study that involved university students from Russia and Kazakhstan (Atamanova, Bogomaz, & Filippova, 2019) demonstrated statistically significant differences in such parameters as 'individualism vs collectivism', 'uncertainty avoidance', and 'long-term vs short-term orientation'. Meanwhile, some researchers (Minkov & Hofstede, 2012; Minkov et al., 2015) also note differences in cultural values at the intra-national level. The analysis shows that the lowest degree of orientation towards the long-term perspective is characteristic of university students from St. Petersburg; the highest degree of orientation towards the long-term perspective is characteristic of students studying in Irkutsk. Kaliningrad and Tomsk occupy an intermediate position. We should note that the degree of long-term orientation characterizes the degree of society's readiness to live for the sake of the future (Hofstede, 2014). We believe that the results obtained reflect a certain personality-environment specificity. In particular, students studying at universities in St. Petersburg are more focused on the rapid achievement of their goals; they believe that the city provides them with a wide range of opportunities for personal and professional development. At the same time, students of Irkutsk are more focused on the future and are ready to 'endure' and work for the future. We should also note that in this study, we didn't consider the period of respondents' residence in certain environmental conditions. However, this parameter is worth studying and will be examined in our further studies.

Further, statistically significant differences in the parameter of 'traditional vs secular-rational values' (Inglehart's World Values Survey) also indicate regional differences in the degree of Russian university students' adherence to traditional values. We obtained the lowest scores for this parameter in the samples from St. Petersburg and Kaliningrad; the highest scores were observed among students studying in Tomsk and Irkutsk. In Siberia, therefore, university students are more focused on collectivism and are inclined to show respect for the family, clan, and native land, loyalty to the official authorities, and religiosity. Young adults studying in large cities rather adhere to the values of modernism with an orientation towards individualism, which is consistent with the results obtained for the parameter of 'traditional vs secular-rational values'. Kaliningrad occupies a specific position, because of its territorial proximity to Europe and a certain distance from the main Russian territory, that, apparently, influences the development of relevant value orientations.

A comparative analysis of university students' value orientations at the individual level, which makes it possible to assess the potential of the socio-cultural environment in the context of personal and professional development (SEBVR), also indicates the presence of regional differences. In particular, the results obtained for the parameters of basic metavalues realizability in the cities under study indicate that university students from Irkutsk see much fewer opportunities for the realization of basic values in their city. It is also noteworthy that university students from St. Petersburg highly appreciate the potential of this city in terms of realizability of the values

of professional self-realization, the values of self-affirmation, and individual values. According to the respondents, the cities of Kaliningrad and Tomsk are more conducive to the realization of the values of personal life. The situation related to the realizability of basic values in Tomsk is quite balanced. Therefore, the results obtained in this study are in good agreement with those that we have obtained earlier. This may be explained by the features of the "socio-economic situation in Russia, when the main financial and human resources are concentrated in large cities" (Atamanova et al., 2018, p. 95); this is also confirmed by Latova and Latov (2013). In turn, this contributes to the fact that young adults highly appreciate such cities in terms of opportunities that megalopolises provide for professional self-realization, self-affirmation in life, and the realization of the values of individualism. This is clearly observed in the sample of university students from St. Petersburg and is consistent with their greater adherence to the values of modernism and short-term orientation. Therefore, when organizing psychological and educational support of the process of university youth's personal and professional development, specialists should take into account the environmental specificity.

A comparative analysis of the parameters of the psychological system of activity also revealed statistically significant differences. In particular, the cities under study differ in the 'planning' parameter, with its highest scores among university students from Irkutsk and its lowest scores in Tomsk. On the one hand, this is consistent with the long-term orientation of Irkutsk university students. In this sense, planning helps to build their lives strategically. The relatively high scores for this parameter in the sample of St. Petersburg are probably associated with students' need to be aware of their actions in order to achieve goals in the short term. The lowest scores for the 'planning' parameter were obtained in the sample from Tomsk. This may also be related to the environmental characteristics (orientation towards innovative development) of the city, which is a special economic zone of technical and innovative type. Perikova, Byzova et al. (2020) found an inverse relationship between this parameter and the innovative style of responding to changes.

Statistically significant differences in such a parameter of self-determination as relatedness with others indicate that the need for relatedness with others is much more characteristic of university students from St. Petersburg and Irkutsk, compared to those from Tomsk and Kaliningrad. However, we believe that the reasons for this may be different. University students from St. Petersburg may be heterogeneous in terms of the period of residence in this city (we did not take this factor into account in this study, as noted earlier). In this case, a greater degree of the need for relatedness with others may be explained by their isolation from the family and the familiar circle. In Irkutsk, this may be explained by a greater degree of adherence to traditional values, which manifests itself in collectivist aspirations. Higher scores for the self-determination index among university students from St. Petersburg are also in good agreement with the results obtained when analyzing their value orientations at the individual level. Compared to other cities, their subjective evaluation of basic metavalues realizability in the urban environment is higher in terms of professional self-realization, self-affirmation, and the realization of their individual values. This, in turn, presupposes a high degree of "personal maturity determining the measure of people's ability to act relatively freely, regardless of external and internal conditions for the implementation of activities" (Atamanova et al., 2018, p. 100).

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Statistically significant differences in the need for achievement (PRF) show that compared to other cities, university students from Irkutsk have a stronger need for achievement. The lowest scores were found among students studying in Tomsk. This result is in good agreement with a more pronounced adherence to traditional values found in this sample, which may indicate a 'traditional' understanding of activity and life in general.

Thus, we may draw the following *conclusions:*

1. We found the most significant factors characterizing value orientations and parameters of the psychological system of activity among Russian university youth. These include the realizability of basic metavalues in the urban environment (in other words, the urban environment potential), an orientation towards 'traditional' activity, and adherence to the values of collectivist-type cultures.

2. We confirmed the assumption about the environmental specificity of Russian university students' value orientations at the cultural level. Long-term orientation is more pronounced among students studying in Irkutsk (the highest score) and Tomsk, compared to Kaliningrad and St. Petersburg (the lowest score). The greatest adherence to traditional values is observed among university students from Irkutsk. Students studying in St. Petersburg are characterized by the highest degree of adherence to the values of modernism.

3. We revealed the environmental specificity of subjective evaluation of basic metavalues realizability in relevant urban conditions. University students from St. Petersburg see much more opportunities for professional self-realization, self-affirmation, and realization of individual values, compared to their peers from Kaliningrad, Tomsk, and Irkutsk.

4. We found differences in certain parameters of the psychological system of activity, namely planning, need for relatedness with others, self-determination index, and need for achievement. The environmental specificity of personal characteristics is in good agreement with the characteristics of value orientations in relevant urban conditions.

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E. I. Perikova collected the empirical data, analyzed and interpreted findings.
A. V. Shchekoturov collected the empirical data, interpreted findings, and edited the manuscript.
S. A. Bogomaz developed the methodological framework for the study, analyzed and interpreted findings, and edited the manuscript.

The authors declare no conflicts of interest.