Vol. 18 no. 3

RUSSIAN PSYCHOLOGICAL JOURNAL

Russian Psychological Journal

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Russian Psychological Journal welcomes submissions from established researchers, young scholars, educators, and practitioners making significant contributions to thematic fields of the journal.

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Research article

UDC 159.922:159.942.5

https://doi.org/10.21702/rpj.2021.3.6

A Study on the Effectiveness of Psychotherapeutic Interventions in Different Age Groups of Anxious Children and Adolescents

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Abstract

Introduction. Mental health of the young generation is one of today's most urgent problems. This study examines the impact of various psychotherapeutic interventions on anxiety in children and adolescents. **Methods**. The study sample comprised 83 school students aged 7–16 years. We assessed anxiety using (a) the projective test by R. Tamml, M. Dorkey, and V. Amen (group 1), (b) the Multidimensional Anxiety Scale for Children, MASC (groups 2–4), and (c) the Spielberger–Khanin scale (group 5). We used the following psychotherapeutic interventions: cognitive-behavioral training (CBT), biofeedback (BFB), sandtray therapy, and fairytale therapy. **Results**. In the group of first-graders aged 7.1 ± 0.07 years (group 1), we found a significant ($p < 0.01$) 1.6-point decrease in anxiety levels after psychotherapeutic sessions. In group 2 (9.3 ± 0.14 years), there was a 1.5–4-point decrease in anxiety levels for the MASC scales 1, 2, 5, 6, 7, 9, and 10 ($p < 0.01$). In group 3, school students aged 10.5 ± 0.09 years showed a significant 0.5–2-point decrease in anxiety levels for the MASC scales 1, 3, 4, 7, and 10. After 8 months of CBT in the group of school students aged 12.4 ± 0.11 years (group 4), we observed a 1–3-point decrease in anxiety levels for 9 MASC scales ($p < 0.01$). After 1.5 months of biofeedback training in group 5, adolescents aged 15.5 ± 0.17 years demonstrated a significant decrease in the levels of state anxiety and trait anxiety (up to average levels). **Discussion**. Situations related to examinations, self-expression, and judgments by others are the most stressful for school students. In general, any psychotherapeutic interventions represent an effective way to reduce anxiety levels in children and adolescents and to improve their emotional states and school adaptation.

Keywords

children, adolescents, anxiety, psychotherapeutic interventions, cognitive-behavioral training, sandtray therapy, fairytale therapy, biofeedback, anxiety prevention, school adaptation

Highlights

➢ Psychotherapeutic work with high-anxious children and adolescents led to a decrease in anxiety levels and to an improvement in their psycho-emotional states.
➢ In the groups in which we used the MASC to diagnose anxiety, there was a tendency – a longer duration of psychotherapy resulted in more intense changes.
➢ To achieve greater efficiency in psychotherapy, specialists should take into account children's individual and typological characteristics and implement such interventions as biofeedback and sandtray therapy in individual work with them.

For citation

Introduction

In the context of increasing stress associated with the use of innovative technologies, mental health of school students is a problem in today's society (Hoge, Bickham, & Cantor 2017; Belousova, Karpov, Utkuzova, Prusakov, & Ostudin, 2019). Many researchers note that in the process of schooling children and adolescents experience psycho-emotional stress, increased anxiety, and a decrease in the functional capabilities of the body (Tarasova & Osnitsky, 2015; Nesterovskii, Zavadenko, Shipilova, & Suvorinova, 2017; Gribanov, Nekhoroshkova, Deputat, Pankov, & Kozhevnikova, 2019). High anxiety may result in psychosomatic disorders (Groen, van Gils, Emerencia, Bos, & Rosmalen, 2021), which may contribute to depression and suicidal tendencies (Cummings, Caporino, & Kendall, 2014). The onset of anxiety in childhood and adolescence may escalate into full-blown anxiety disorders, deviant behavior, and problems with school and social adjustment (Prikhozhan, 2000; Barlow, 2002; Van Ameringen, Mancini, & Farvolden, 2003; Beesdo, Knappe, & Pine, 2009; Bartosh, Bartosh, Mychko, & Dorokhova, 2018).

In terms of anxiety, early school age is the most vulnerable age (Romitsyna, 2006; Beesdo et al., 2009), when a child adapts to new social conditions. Anxiety may manifest itself in educational situations; it is associated with the expectation of negative judgments by adult referent others (parents and teachers). Elementary school students constantly feel insecure and doubt the correctness of their behaviors. During adolescence, peer and social interactions become important (Chiu, Clark, & Leigh, 2021). Anxiety has a negative impact on many areas of activity, social adaptation and causes negative changes in the functional state and personal structure as a whole, and also reduces stress resistance (Keeton, Kolos, & Walkup, 2009; Murray, Creswell, & Cooper, 2009; Bartosh et al., 2018).

Therefore, there is a need for preventive measures at school that would reduce anxiety levels, affect successful school adaptation, academic performance, personality formation, and the child's emotional well-being. Biofeedback has been shown to be effective when working with high-anxious children and children with various disabilities (Gevensleben, Heinrich, Moll, & Rothenberger, 2011; Bartosh & Bartosh, 2018; Bartosh & Bartosh, 2020). Sandtray therapy is optimal in relieving internal tension in children and discovering new developmental pathways (Kalff, 1991; Zinkevich-Evstigneeva & Grabenko, 2005; Kwak, Ahn, & Lim, 2020). Scientists have

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shown the effectiveness of cognitive behavioral therapy for high anxiety and anxiety disorders in children and adolescents (Vopel, 2004; James, James, Cowdrey, Soler, & Choke, 2015; Wolk, Kendall, & Beidas, 2015).

This study *aims* to examine the impact of psychotherapeutic interventions on anxiety in different age groups of children and adolescents.

Methods

Research design: stage 1 – assessment of students and identification of high-anxious individuals; stage 2 – a course of psychotherapeutic sessions; and stage 3 – repeated assessment after the course. Our study involved students from different age groups who studied at three schools in the city. We formed 5 groups.

We carried out all the assessments and psychotherapeutic sessions during the winter–spring period, in the first half of the day, in a manner consistent with the Declaration of Helsinki. The Ethics Committee of Biomedical Research at the NSC FEB RAS (Protocol No. 1 dated 29/03/2019) approved the legitimacy of the research procedure.

Anxiety assessment instruments

To examine anxiety in *group 1*, we used the Choose the Right Person projective anxiety test by R. Tamml, M. Dorkey, and V. Amen) (Yasyukova, 2008). In a certain sequence, we presented children drawings depicting certain situations typical for primary school students. There were 14 situations. Verbal statements and children's choices were recorded in the protocol; then we calculated anxiety index (AI) for all the children. AI = the number of negative emotional choices multiplied by 100 %. Schoolchildren were divided into three subgroups according to anxiety levels as follows: (a) high level of anxiety (AI = more than 50 %); (b) average level of anxiety (AI = 20–50 %); and (c) low level of anxiety (AI = 0–20 %). In *groups 2–4*, we used the standardized Multidimensional Anxiety Scale for Children, MASC, (Romitsyna, 2006), which was originally developed by B. N. Phillips (Phillips, 1978). The MASC differentiates an individual's anxiety according to 10 scales, with a maximum score of 10 for each scale. The scores were classified as follows: 1–2 – low anxiety, 4–5 – pronounced anxiety, and 7–10 – high anxiety. Integral anxiety index (IAI) was the sum of all the scales.

In *group 5*, we used the Spielberger–Khanin scale (Khanin, 1976) to study state anxiety (SA) and trait anxiety (TA). The scores were classified as follows: 30 – low anxiety, 31–45 – moderate anxiety, and over 46 – high anxiety.

Psychotherapeutic interventions

We used the following psychotherapeutic interventions: cognitive-behavioral training (CBT), biofeedback (BFB), sandtray therapy, and fairytale therapy.

Cognitive-behavioral training (CBT) aims at gaining social and psychological experience. In our work with children, we applied psychological games that help develop self-knowledge and communicating skills, relieve emotional and muscle tension, rally the class, and develop volitional regulation. The participants sat in a circle.

The *biofeedback method* was developed at the Research Institute of Molecular Biology and Biophysics, Siberian Branch of the Russian Academy of Medical Sciences, Novosibirsk (Stark & Schwartz, 2002). The BFB-Pulse gaming computer simulator was developed to acquire self-regulation

skills. The heart rate (HR) was recorded from the nail phalanx of the finger. In our study we used the Vira and Rally games. The sessions were held twice a week for 20–30 minutes.

Sandtray therapy consisted in playing in a psychological sandbox with miniature figurines. Thus, children built their fairytale 'sandy worlds', drew parallels with their real lives, learned to control their motives, to express them in a symbolic form, and to find a way out of similar situations (Kalff, 1991; Zinkevich-Evstigneeva & Grabenko, 2005). Interaction with sand also has a relaxing effect.

Fairytale therapy was based on reading stories or fairy tales, analyzing the actions of the characters, and searching for solutions in overcoming difficulties.

The course of training sessions in group 1 (7.1 ± 0.07 years, n = 15). There were 6 CBT sessions, 4 sessions of group fairytale therapy, and 10 biofeedback training sessions. The course lasted 2.5 months.

The course of correctional sessions in group 2 (9.3 ± 0.14 years, n = 12). For the entire class, regardless of the level of anxiety, we conducted 10 weekly cognitive-behavioral training sessions; each training session lasted 1 hour. All the high-anxious children additionally participated in individual sandtray therapy sessions (3–4 sessions). Moreover, high-anxious children took a self-regulation course using the BFB-Pulse simulator (8–12 sessions, twice a week). The entire therapeutic course lasted 4 months.

The course of training sessions in group 3 (10.5 ± 0.09 years, n = 14). A total of 7 cognitive-behavioral training sessions were carried out 1–2 times a month. Each student completed 5-6 sessions using the BFB-Pulse simulator 1–2 times a week. The entire therapeutic course lasted 3 months.

The course of training sessions in group 4 (12.4 ± 0.11 years, n = 12). CBT lasted almost the entire academic year. The school students took part in 20 training sessions. The course lasted 8 months (2–3 times a month, each session lasted 1 hour).

The course of training sessions in group 5 (15.5 ± 0.17 years, n = 30). During 1.5 month, each student completed 8–12 sessions using the BFB-Pulse computer simulator.

Relaxation techniques (Jacobson's progressive muscle relaxation technique, visualization, and breathing exercises) were used in conjunction with the biofeedback method (Kamattari & Baskakov, 2012). School students mastered relaxation techniques, chose their own strategies, and used them in virtual stressful situations in order to control their psychophysiological states.

Statistical processing
We used the Statistica 6.0 software and parametric and nonparametric methods for statistical data processing. The groups were compared using a paired two-sample t-test for mean values for dependent samples and the parametric Student's t-test for dependent and independent samples. The critical level of significance was $p < 0.05$.

Results
Assessing anxiety in group 1
After psycho-correctional sessions in group 1, first-graders demonstrated a significant ($p < 0.01$) decrease in anxiety scores (by 1.6 points) (Table 1).

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Table 1

School students' anxiety levels before and after psycho-correction (Me 25th, 75th percentile; M ± m)

Group, age (years), n	Anxiety test / anxiety index (score)	Me (C_{25}; C_{75}) before after	(M±m) before after	$P_{before-after}$
Group 1 7.1 ± 0.07; n = 15	Tamml, Dorkey, and Amen test	6 (6; 6) 5 (4; 5)	6.33 ± 0.19** 4.73 ± 0.23	t = 5.5; p < 0.01
Group 5 15.5 ± 0.17; n = 30	Spielberger–Khanin scale: SA TA	49.0 (41.3; 53.0) 38.0 (35.3; 45.8) 51.0 (48.3; 56.0) 44.0 (39.0; 53.5)	47.3 ± 1.60** 40.6 ± 1.45 52.6 ± 1.26** 45.2 ± 1.70	t = 92; p < 0.01 t = 38.5; p < 0.01

Assessing anxiety in group 2

After training sessions in group 2 (Table 2), we observed a significant decrease in anxiety scores for 7 out of 10 MASC scales – 1, 2, 5, 6, 7, 9, and 10. Anxiety decreased from a high to an average level by 1.5 – 4 points (p < 0.05 – p < 0.01). However, with a detailed individual examination of the anxiety scores in the interquartile range, Me (C25; C75), the scores remained high.

Table 2

Dynamics of multidimensional assessment of anxiety levels among school students of different ages in the process of psycho-correction (Me 25th, 75th percentile)

MASC, point	Group 2, age 9,3 ± 0,14 (n = 12); Me (C_{25}; C_{75}) before after	$P_{before-after}$ Wilcoxon's criterion	Group 3, age 10,5 ± 0,09 (n = 14); Me (C_{25}; C_{75}) before after	$P_{before-after}$ Wilcoxon's criterion	Group 4, age 12,4 ± 0,11 (n = 12); Me (C_{25}; C_{75}) before after	$P_{before-after}$ Wilcoxon's criterion
1.	6.5 (5.5; 8.0) 3.0 (1.8; 5.3)**	t = 1; p < 0.01	6.0 (5.0; 7.0) 4.0 (3.0; 5.0)**	t = 4.5; p < 0.01	5.0 (4.8; 6.3) 4.0 (3.8; 5.0)**	t = 3.0; p < 0.01
2.	6.0 (5.0; 6.0) 3.0 (2.0; 4.0)**	t = 3.0; p < 0.01	3.5 (2.0; 5.0) 3.5 (1.3; 4.8)	t = 28; p > 0.05	6.0 (5.0; 6.0) 4.0 (3.8; 5.0)**	t = 1.0; p < 0.01
3.	5.5 (4.0; 8.0) 4.0 (3.0; 5.0)	t = 16.0; p > 0.05	5.0 (4.3; 6.8) 4.5 (3.0; 5.0)**	t = 10.0; p < 0.01	6.5 (6.0; 8.0) 5.0 (4.0; 5.3)**	t = 1.0; p < 0.01
4.	5.5 (3.8; 7.3) 4.5 (1.0; 6.0)	t = 14.0; p > 0.05	5.5 (5.0; 7.0) 4.0 (3.3; 4.8)**	t = 8.0; p < 0.01	7.0 (5.0; 8.0) 5.0 (3.8; 5.0)	t = 3.0; p < 0.01
5.	5.0 (3.0; 6.0)** 2.0 (1.0; 4.3)	t = 4.5; p < 0.01	4.5 (3.3; 6.0) 4.0 (3.0; 5.0)	t = 16.5; p > 0.05	5.0 (4.0; 7.3) 4.5 (3.0; 5.3)	t = 15.0; p > 0.05
6.	6.0 (5.0; 7.3) 4.5 (3.0; 5.3)**	t = 2.0; p < 0.01	5.0 (4.3; 6.0) 4.5 (3.0; 5.8)	t = 16.5; p > 0.05	7.0 (6.0; 8.0) 5.0 (4.8; 6.0)**	t = 1.0; p < 0.01

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Table 2

Dynamics of multidimensional assessment of anxiety levels among school students of different ages in the process of psycho-correction (Me 25th, 75th percentile)

MASC, point	Group 2, age 9,3 ± 0,14 (n = 12); Me $(C_{25}; C_{75})$ before after	$P_{before-after}$ Wilcoxon's criterion	Group 3, age 10,5 ± 0,09 (n = 14); Me $(C_{25}; C_{75})$ before after	$P_{before-after}$ Wilcoxon's criterion	Group 4, age 12,4 ± 0,11 (n = 12); Me $(C_{25}; C_{75})$ before after	$P_{before-after}$ Wilcoxon's criterion
7.	7.0 (5.8; 9.0) 3.0 (2.0; 5.3)**	t = 6.0; p < 0.01	6.0 (5.3; 7.0) 5.0 (3.3; 5.0)**	t = 3.0; p < 0.01	7.0 (5.8; 8.0) 4.5 (4.0; 5.0)**	t = 4.7; p < 0.01
8.	6.0 (5.0; 6.3) 5.0 (3.8; 6.3)	t = 13.0; p > 0.05	7.0 (5.3; 8.0) 6.0 (6.0; 7.0)	t = 7.5; p > 0.05	7.0 (6.0; 8.0) 5.0 (4.8; 6.0)**	t = 1.0; p < 0.01
9.	6.0 (4.8; 6.3) 4.0 (1.0; 5.3)*	t = 8.0; p < 0.05	5.0 (4.0; 5.8) 5.0 (3.3; 6.0)	t = 18.5; p > 0.05	5.5 (4.0; 6.3) 3.0 (3.0; 4.3)**	t = 3.0; p < 0.01
10.	6.0 (4.5; 7.0) 2.5 (0.0; 4.3)**	t = 6.0; p < 0.01	5.0 (3.3; 7.5) 3.0 (1.3; 5.5)**	t = 2.0; p < 0.01	4.5 (4.0; 6.0) 2.5 (2.0; 4.0)**	t = 1.0; p < 0.01
IAI	56.0 (50.3; 64.3) 38.0 (27.0; 43.0)**	t = 1.0; p < 0.01	54.0 (47.0; 58.3) 39.0 (33.3; 50.0)**	t = 3.3; p < 0.01	64.0 (56.0; 67.0) 44.0 (39.0; 50.0)**	t = 5.8; p < 0.01

Note: the MASC scales – 1) general anxiety; 2) anxiety in relationships with peers; 3) anxiety related to judgments by others; 4) anxiety in relationships with teachers; 5) anxiety in relationships with parents; 6) anxiety related to academic performance; 7) anxiety related to self-expression; 8) anxiety related to examinations; 9) decreased mental activity associated with anxiety; and 10) increased vegetative reactivity associated with anxiety; IAI – integral anxiety index.

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Assessing anxiety in group 3
We applied cognitive-behavioral training 1–2 times per month. In total, we held 7 sessions. Each student completed 5–6 sessions using the BFB-Pulse simulator 1–2 times per week. The entire therapeutic course lasted 3 months.

Group cognitive-behavioral trainings and individual sessions using the BFB-Pulse simulator determined the results in this group – anxiety levels reduced by 0.5–2 points ($p < 0.01$) for scales 1, 3, 4, 7, and 10 (Table 2). Scales 1, 3 and 7 are associated with general anxiety, anxiety related to others' judgments, and anxiety that occurs in situations of self-expression. These scales correspond to the anxiety block, which is associated with a child's personality traits. A decrease in anxiety levels on these scales confirms the appropriateness of psycho-correctional interventions and their effectiveness.

Assessing anxiety in group 4
After 8 months of CBT in group 4, we observed a decrease in anxiety levels by 1–3 points for 9 MASC scales ($p < 0.01$) (Table 2). After 8 months of applying cognitive-behavioral therapy in the adolescent group, we reduced anxiety levels for all its structural directions. An exception is scale 5, which is associated with anxiety in relationships with parents. There was an insignificant decrease in this scale scores. Apparently, the training program did not emphasize parent-child interaction, which is important to consider in subsequent studies. Moreover, the parents did not participate in these activities.

Assessing anxiety in group 5
After a complex application of biofeedback sessions using the BFB-Pulse system, Jacobson's progressive muscle relaxation technique, and breathing exercises ($p < 0.01$), we found a decrease in SA and TA (Table 1). During trainings adolescents learned how to consciously manage their functional states using these interventions, which had a favorable effect. Thus, the mean SA indices decreased by 5.3 points, and the mean TA indices – by 7.4 ($p < 0.01$).

Discussion
During the adaptation period, elementary school students exhibit school-related anxiety, which may negatively affect their performance (Lyutova, 2007). At this age, the issue of examination-related anxiety is very important, which was confirmed by our research. This should be taken into account when children start to adapt to the educational process.

Our studies demonstrated that the use of CBT, sandtray therapy, fairytale therapy, and biofeedback training among elementary school students help reduce their anxiety levels, improve their emotional states, and acquire the skill of self-knowledge. During therapy, children could train themselves in anxiety-related situations, which provided an outlet for aggression and helped acquire the skill for joint communication with classmates. During games and discussions, children and adolescents learned to understand their emotional states and those of their peers.

Our results indicate the formation of children's positive self-esteem, self-acceptance, and the acceptance of their own capabilities. In the process of interacting with peer and adult referent others, sensitivity to their judgments decreased. At this age, special attention should be paid to teachers' and parents' carelessness in value judgments. For a highly anxious child with increased vulnerability, this may worsen the situation and lead to traumatic consequences.

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In result of our correctional work, younger adolescents (group 4) acquired the skill for effective communication with each other. We observed a decrease in levels of anxiety related to examinations and self-presentation, a decrease in anxiety-related vegetative reactivity, which affects the child's adaptation to stressful situations. After participating in this training, adolescents with deviant behaviors communicated with a psychologist more easily; they desired to improve their behaviors and to learn to control it.

In groups 2–4, where we used the MASC to assess anxiety, there was a tendency – a longer duration of psychotherapy resulted in more intense changes. Thus, in group 3, where psycho-correctional sessions lasted 3 months, anxiety levels decreased for 5 out of 10 scales; the integral anxiety index (IAI) decreased by 15 points ($p < 0.01$). In group 2, where the sessions lasted 4 months, anxiety levels decreased for 7 scales; IAI decreased by 18 points ($p < 0.01$). In group 4, where CBT lasted 8 months, there was a decrease in anxiety levels for 9 MASC scales; IAI decreased by 20 points ($p < 0.01$).

We should note that in the adolescent group (group 5), school students achieved a decrease in the levels of state anxiety and trait anxiety within a short period of psycho-correction (1.5 months). We know that to reduce state anxiety, individuals should acquire the skill for conscious managing their emotional experiences and states. This skill was acquired during the biofeedback training sessions. This indicates the advisability of using biofeedback training sessions among high-anxious adolescents.

In general, our work has shown the effectiveness of using such psycho-correction interventions as cognitive-behavioral training, biofeedback, fairytale therapy, and sandtray therapy. Today's teaching trends negatively affect mental states of children and adolescents and require huge personal resources. When choosing preventive psycho-correctional interventions, specialists should take into account the state of the nervous system and the age of the child. That may help students learn how to effectively overcome school problems and to improve their psycho-emotional states and academic performance.

Conclusion
Therefore, to improve the psycho-emotional states of children and adolescents, it is necessary to discuss the possibilities of introducing correctional classes that may use various interventions. For their greater efficiency, it is necessary to consider children's individual-typological characteristics and to involve individual work with them. The longer psychotherapeutic work with anxious children lasts, the more effective it is. Psychological work should be aimed at acquiring self-regulation skills, relieving muscle tension, increasing self-esteem and, as a consequence, increasing the level of school adaptation.

References

Barlow, D. H. (2002). *Anxiety and its disorders – The nature and treatment of anxiety and panic*. New York: The Guilford Press. https://doi.org/10.1002/smi.941

Bartosh, O. P., & Bartosh, T. P. (2018). Corrective measures for the prevention of high anxiety and attention disorders in junior schoolchildren. *Profilakticheskaya meditsina*, *21*(2), 34–39. https://doi.org/10.17116/profmed201821234-39 (in Russ.).

Bartosh, O. P., Bartosh, T. P., Mychko, M. V., & Dorokhova, A. S. (2018). Psychological profile of adolescent girls with high anxiety and the effectiveness of correction management. *Reproduktivnoe zdorov'e detey i podrostkov (Pediatric and Adolescent Reproductive Health)*, *14*(3), 113–122. https://doi.org/10.24411/1816-2134-2018-13009 (in Russ.).

Bartosh, O. P., & Bartosh, T. P. (2020). The effectiveness of various types of psychological correction of anxiety in primary school. *Behavioral Sciences*, *10*(1), 20. https://doi.org/10.3390/bs10010020

Beesdo, K., Knappe, S., & Pine, D. S. (2009). Anxiety and anxiety disorders in children and adolescents: Developmental issues and implications for DSM-V. *Psychiatric Clinics of North America*, *32*(3), 483–524. https://doi.org/10.1016/j.psc.2009.06.002

Belousova, M. V., Karpov, A. M., Utkuzova, M. A., Prusakov, V. F., & Ostudina, A. A. (2019). Mental health of schoolchildren today: Recognition of threats and the prospects of their elimination. *Prakticheskaya meditsina (Practical Medicine)*, *17*(5), 16–21. https://doi.org/10.32000/2072-1757-2019-5-16-21 (in Russ.).

Chiu, K., Clark, D. M., & Leigh, E. (2021). Prospective associations between peer functioning and social anxiety in adolescents: A systematic review and meta-analysis. *Journal of Affective Disorders*, *279*, 650–661. https://doi.org/10.1016/j.jad.2020.10.055

Cummings, C. M., Caporino, N. E., & Kendall, P. C. (2014). Comorbidity of anxiety and depression in children and adolescents: 20 years after. *Psychological Bulletin*, *140*(3), 816–845. https://doi.org/10.1037/a0034733

Gevensleben, H., Heinrich, H., Moll, G., & Rothenberger, A. (2011). The usage of neurofeedback in children with ADHD: The method and its evaluation. *Praxis der Kinderpsychologie und Kinderpsychiatrie*, *60*(8), 666–676. https://doi.org/10.13109/prkk.2011.60.8.666

Gribanov, A. V., Nekhoroshkova, A. N., Deputat, I. S., Pankov, M. N., & Kozhevnikova, I. S. (2019). Cerebral energy metabolism in high-anxious children living in the artic region. *Yakutskii meditsinskii zhurnal (Yakut Medical Journal)*, 4, 86–88. https://doi.org/10.25789/YMJ.2019.68.24 (in Russ.).

Groen, R. N., van Gils, A., Emerencia, A. C, Bos, E. H., & Rosmalen, J. G. M. (2021). Exploring temporal relationships among worrying, anxiety, and somatic symptoms. *Journal of Psychosomatic Research*, *146*. https://doi.org/10.1016/j.jpsychores.2020.110293

Hoge, E., Bickham, D., & Cantor, J. (2017). Digital media, anxiety, and depression in children. *Pediatrics*, *140*(2), S76–S80. https://doi.org/10.1542/peds.2016-1758G

James, A. C, James, G., Cowdrey, F. A., Soler, A., & Choke, A. (2015). Cognitive behavioral therapy for anxiety disorders in children and adolescents. *Cochrane Database of Systematic Reviews*, 2. https://doi.org/10.1002/14651858.CD004690.pub4

Kalff, D. M. (1991). Introduction to sandplay therapy. *Journal of Sandplay Therapy*, *1*(1).

Kamattari, Dzh., & Baskakov, V. (2012). *10 + 1 relaxation techniques*. Moscow: Institute for General Humanitarian Research. (in Russ.).

Bartosh, Bartosh
A Study on the Effectiveness of Psychotherapeutic Interventions...
RUSSIAN PSYCHOLOGICAL JOURNAL, 2021, Vol. 18, No. 3, 6–17. **doi**: 10.21702/rpj.2021.3.1

CLINICAL PSYCHOLOGY

Keeton, C. P., Kolos, A. C., & Walkup, J. T. (2009). Pediatric generalized anxiety disorder: Epidemiology, diagnosis, and management. *Pediatric Drugs*, *11*, 171–183. https://doi.org/10.2165/00148581-200911030-00003

Khanin, Yu. L. (1976). *A brief guide to the use of a scale of reactive and personal anxiety by Ch. D. Spielberger*. Leningrad: LNIIFK. (in Russ.).

Kwak, H. J., Ahn, U. K., & Lim, M. H. (2020). The clinical effects of school sandplay group therapy on general children with a focus on Korea Child & Youth Personality Test. *BMC Psychology*, *8*, 9. https://doi.org/10.1186/s40359-020-0378-9

Lyutova, E. K., & Monina, G. B. (2007). *Cheat sheet for parents: Psycho-correctional work with hyperactive, aggressive, anxious, and autistic children*. St. Petersburg: Rech'. (in Russ.).

Murray, L., Creswell, C., & Cooper, P. J. (2009). The development of anxiety disorders in childhood: An integrative review. *Psychological Medicine*, *39*(9), 1413–1423. https://doi.org/10.1017/S0033291709005157

Nesterovskii, Yu. E., Zavadenko, N. N., Shipilova, E. M., & Suvorinova, N. Yu. (2017). School maladjustment in the practice of a pediatrician and neurologist. *Consilium Medicum*, *19*(2.3. Neurology and Rheumatology), 28–33. (in Russ.).

Phillips, B. N. (1978). *School stress and anxiety: Theory, research, and intervention*. New York: Human Sciences Press.

Prikhozhan, A. M. (2000). *Anxiety in children and adolescents: psychological nature and age dynamics*. Moscow: Moscow Psychological and Social Institute; Voronezh: MODEK. (in Russ.).

Romitsyna, E. E. (2006). *Multidimensional Assessment of Child Anxiety*. St. Petersburg: Rech'. (in Russ.).

Stark, M. B. & Schwartz, M. S. (2002). Certain aspects of biofeedback as interpreted by the editors (instead of a preface). In M. B. Shtark & M. S. Schwartz (Eds.), *Biofeedback-4. Theory and practice* (pp. 3–7). Novosibirsk: CERIS. (in Russ.).

Tarasova, S. Yu., & Osnitsky, A. K. (2015). Physiological and behavioral indicators of school anxiety. *Psikhologicheskaya nauka i obrazovanie (Psychological Science and Education)*, *20*(1), 59–68. https://doi.org/10.17759/pse.2015200107 (in Russ.).

Van Ameringen, M., Mancini, C., & Farvolden, P. (2003). The impact of anxiety disorders on educational achievement. *Journal of Anxiety Disorders*, *17*(5), 561–571. https://doi.org/10.1016/S0887-6185(02)00228-1

Vopel, K. (Trans.). (2004). *Training technology: Theory and practice* (2nd ed.). Moscow: Genezis. (in Russ.).

Wolk, C. B., Kendall, P. C., & Beidas, R. S. (2015). Cognitive-behavioral therapy for child anxiety confers long-term protection from suicidality. *Journal of the American Academy of Child & Adolescent Psychiatry*, *54*(3), 175–179. https://doi.org/10.1016/j.jaac.2014.12.004

Yasyukova, L. A. (2008). *Methodology for determining readiness for school. Prediction and prevention of learning problems in primary school: A methodological guide*. St. Petersburg: GP IMATON. (in Russ.).

Zinkevich-Evstigneeva, T. D., & Grabenko, T. M. (2005). *Miracles in the sand. Sand game therapy*. St. Petersburg: Rech'. (in Russ.).

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O. P. Bartosh contributed to the research design, developed the theoretical framework, collected the data, carried out the statistical data analysis, and wrote the text of the manuscript.

T. P. Bartosh contributed to the research design, developed the theoretical framework, carried out the statistical data analysis, and edited the manuscript.

The authors declare no conflicts of interest.

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Research article

Internalized Stigma and Narcissistic Regulation Among Patients With Endogenous Psychoses

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Abstract

Introduction. Self-stigma in mentally ill patients is an urgent problem in psychiatry. In literary sources, the impact of personal characteristics of patients with psychosis on the formation of internalized stigma remains insufficiently studied. This study aims to examine the mutual influence of narcissistic self-regulation and self-stigma factors as well as to identify protective characteristics of narcissistic regulation related to the minimization of internalized stigma. **Methods**. The study sample comprised 81 psychiatric in-patients, 62 of whom had ICD-10 F2 disorders and 19 had ICD-10 F3 disorders. The study used the following assessment tools: (a) the Internalized Stigma of Mental Illness (ISMI) scale and (b) the Index of Self-system Functioning (ISSF). Statistical procedures were as follows: descriptive statistics, analysis of variance (Mann–Whitney U test), and calculation of the effect size with Cohen's d. **Results**. In the surveyed sample, the ISSF results indicated significant decrease in narcissistic regulation for all the subscales and the total ISSF score (21.1 ± 4), compared to the normative value for an ideally strong personality (0). The mean self-stigma level of the surveyed patients was low (2.4 ± 0.24); the threshold of 2.5 points was exceeded among 30 patients (37 %), which indicates a highly intense of self-stigma. We compared the features of narcissistic regulation in patients with high and low levels of self-stigma and observed significant relationship between manifestations of internalized stigma and factors of personal strengths. Cohen's d effect sizes for eight subscales (Self1, Self2, Self3, Self5, Self6, Self7, Self12, Self18) were 1.1–1.8 at p ≤ 0.05, which indicates a significant decrease in narcissistic regulation among patients with a high level of self-stigma. **Discussion**. The characteristics of the system of narcissistic regulation determine the decrease in personal strengths, which may contribute to social maladjustment and to the formation of internalized stigma. The individualized profiles related to deficiency of adequate defense mechanisms may be valuable in focused psychotherapeutic interventions.

Keywords

psychosis, stigma, internalized stigma, psychiatry, protective factors, personal strengths, Self-system regulation, narcissistic self-regulation, endogenous psychoses, psychotherapeutic intervention

Highlights

➢ Patients suffering from severe mental disorders are characterized by a pronounced dysregulation of the Self-system.
➢ Combined with the data from literary sources, the totality of impairments indicates the probable premorbid vulnerability of patients with endogenous psychoses in relation to personality regulation.
➢ Understanding the characteristics of psychotic patients' personality regulation that contribute to the incorporation of internalized stigma is essential for planning effective individualized psychotherapeutic interventions.

For citation

Introduction

Among the many consequences of psychiatric stigma, self-stigma (internalized stigma) of consumers of psychiatric services is one of the most urgent problems in psychiatric health care (Lutova, Sorokin, Petrova, & Vid, 2016; Lutova et al., 2019; Biernat & Dovidio, 2000; Barney, Griffiths, Christensen, & Jorm, 2009). Manifestations of social stigma and associated experiences result in patients' distancing from society (Serebriyskaya, Yastrebov, & Enikolopov, 2002), which reduces the number of those seeking psychiatric care. This provokes relapses of psychotic states and repeated hospitalizations, intensifies the experience of self-stigma, and, therefore, may create a vicious circle (Lutova et al., 2019; Sorokin, 2016; Brohan, Elgie, Sartorius, & Thornicroft, 2010; Lysaker, Roe, Ringer, Gilmore, & Yanos, 2012; Thorrington, 2013).

The search and development of approaches for overcoming and resisting internalized stigma have raised considerable interest in studying the personal structures of patients that contribute or hinder the development of self-stigma (Kashdan & Rottenberg, 2010; Thorrington, 2013). Among the factors predisposing individuals to the internalization of social stigma, the authors mentioned the following ones: patients' personal anxiety, pessimism, and low self-esteem (Thorrington, 2013), the presence of anxious expectations of refusal and condemnation (Lysaker et al., 2012), and their own prejudices in relation to persons with mental disorders (Lutova, Sorokin, Novikova, Portenier, & Vid, 2020; Sorokin, 2016). On the other hand, psychological flexibility may inhibit the formation of internalized stigma (Biglan, Hayes, & Pistorello, 2008; Kashdan & Rottenberg, 2010; Thorrington, 2013). Such findings make further search for personal characteristics that underlie the individual's responding to the disease and the formation of internalized stigma a promising research direction.

Since the introduction of the concept of 'narcissism' by Z. Freud, its essence and psychological content have remained a subject of discussion, generating a certain terminological confusion, including the synonymous use of the concepts of 'narcissism', 'Self', and 'ego-strength'. In the relevant literature, there is a lack of a unified phenomenological understanding of narcissism, methods of its research, and even a generally accepted definition. In current psychological literature, authors postulate that narcissism is an integral part of each individual's development, which turns into a narcissistic core of personality, related to self-consciousness (Stolorow, 1999; Kohut,

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2017; Sokolov, 2009). However, in general psychology the concept of narcissism goes beyond the unconscious processes described in psychoanalytic theories and includes conscious components (cognitive and adaptive mechanisms), such as search, perception, and critical assessment of self-relevant information (Zlokazov, Leonov, & Porozov, 2018). Thus, the introduction of the concept of 'Self', or personal strengths, is a compromise attempt to combine the conscious and mediated unconscious self-perception, which is demonstrated in the assessment tool by Deneke (1994).

The mechanisms of self-regulation that support the biopsychosocial integrity of the individual represent the most important dimension in the formation of optimal individual narcissism. The regulation of the state occurs at an unconscious level and includes a conscious level of behavior control. Balanced self-regulation within the concept of 'Self' is important for maintaining an individual's affective balance, his/her sense of inner stability, value, and well-being; at a conscious level it ensures goal setting and the achievement of planned results (Henseler, 2000; Shamshikova & Klepikova, 2011; Morosanova, 2013; Yakeley, 2018). A disturbance in the system of narcissistic regulation is associated with a tendency to maladaptive responses to stressful events and phenomena (Coleman, Pincus, & Smyth, 2019). Therefore, on the one hand, for a mentally ill person, the perception and experience of social stigma may be based on immature narcissistic structures of the individual and morbid disorders of the Self-system, and on the other hand, lead to non-adaptive coping, becoming a considerable obstacle to the implementation of adaptive defense mechanisms.

This *study aims* (a) to investigate connections of overall self-stigma and its various factors with the parameters of narcissistic self-regulation in patients suffering from severe mental disorders and (b) to identify specific features of narcissistic regulation that can prevent the formation of stigma.

Methods

The reference group comprised of F2 and F3 patients of both genders undergoing treatment for acute exacerbation of a severe mental illness in the clinic of V. M. Bekhterev National Medical Research Center for Psychiatry and Neurology. Patients with affective disorders (F3) were included in the study if they had experienced psychotic symptoms.

We selected patients according to the following inclusion criteria: (a) individuals who signed voluntary informed consent to participate in the study after reading it. (b) Participants were no younger than 18 years and no older than 65 years. (c) In the study, patients receiving inpatient treatment on a voluntary basis were interviewed at the stage of clinical remission on medication. (d) They should have had no pronounced negative symptoms and/or pronounced cognitive impairments that would interfere with the study procedures. We excluded (a) patients who withdrew consent to participate in the study at any stage; (b) patients with any other diagnosis apart from schizophrenia, schizotypal and delusional disorders, and affective disorders according to ICD-10; (c) patients whose condition changed and required enhanced monitoring or restrictive measures; and (d) patients with severe apathetic-abulic symptoms or impaired cognitive functioning. The study was carried out in two directions – clinical-psychopathological and clinical-psychological.

We used the Index of Self-system Functioning (ISSF) to assess narcissistic regulation and the Internalized Stigma of Mental Illness (ISMI) scale to examine the phenomenon of self-stigma.

The ISMI scale, which assesses patients' subjective experience of internalized stigma (Ritsher & Phelan, 2004; Ritsher, Otilingam, & Grajales, 2003), includes 5 subscales (described in Table 2). Each subscale contains several questions describing the phenomenon of self-stigma (n = 29 for

the entire inventory). The internal consistency of the ISMI scale in different studies is 0.87–0.9, according to Cronbach's α. For each subscale and the total score, the values corresponded to high (M (x) ≥ 2.5, further in bold in the tables), or low (M (x) < 2.5) levels of internalized stigma. The values from the Stigma Resistance subscale were interpreted inversely. Thus, higher values indicated lower resistance to the incorporation of stigma.

The ISSF describes the narcissistic ways of regulating the individual's ideas about himself/herself and assesses their decrease (Zalutskaya, Vuks, & Vid, 2003; Vid, 2008). This assessment tool consists of 163 statements that form 18 subscales associated with narcissistic regulation. The statements are evaluated from 1 (completely wrong) to 5 (completely correct) points. Using the mathematical formula, we calculated the values and obtained the composite index of Self-system functioning (ISSF). Further, we compared it to the normative value (0). A higher deviation from this value indicates a decrease in personal strengths. Besides, the guidelines provide normative values for each of the 18 subscales separately.

The data obtained were analyzed statistically using SPSS 23.0. The Kolmogorov–Smirnov test was used as a criterion for normality when checking the distribution of the sample. We determined differences in ordinal scales using the Mann–Whitney U test. Additionally, we calculated effect sizes using Cohen's d formula (absent ≤ 0.19, weak 0.2–0.49, average 0.5–0.79, strong ≥ 0.8) in statistically different groups $p ≤ 0.05$. The significance level of statistical data was 95 %.

Results

We interviewed 81 patients. For the most part, the reference group comprised patients with schizophrenia spectrum disorders (F2 in ICD 10, n = 62; 76.5 %); fewer patients had affective pathology (F3 in ICD 10, n = 19; 23.5 %). The mean age of the interviewed patients was 37 ± 9 years. The analysis of gender composition of the reference group showed the predominance of females (31 males (38.3 %) and 50 females (61.7 %)). In our sample, 24 patients (29.6 %) had permanent employment, 31 patients (38.3 %) had various types of disability, and 26 patients (32.1 %) were dependent on relatives; 18 respondents were married. The study of clinical and anamnestic data showed that for the examined patients the average number of cases of inpatient treatment was 4 ± 3, with an average disease duration of 10.2 ± 9.8 years.

Not all the data corresponded to the normal distribution. Therefore, we calculated descriptive statistics for all the parameters (arithmetic means, standard deviations, and interquartile intervals) (Tables 1, 2, 3).

Table 1 presents results for the assessment of narcissistic regulation using the Index of Self-system Functioning (ISSF).

Table 1

Narcissistic regulation for the entire sample (the ISSF)

ISSF structure	M(x) ± SD	Criterion of decrease in personal strengths	Quartiles		
			Q25	Median	Q75
Self1	2.5 ± 0.88*	> 1	1.7	2.3	3.2
Self2	2.6 ± 0.87*	> 2	2	2.6	3.2

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Table 1

Narcissistic regulation for the entire sample (the ISSF)

ISSF structure	M(x) ± SD	Criterion of decrease in personal strengths	Quartiles		
			Q25	Median	Q75
Self3	1.8 ± 0.87*	> 1	1.2	1.7	2.3
Self4	3.5 ± 0.61*	< 5	3.2	3.5	3.8
Self5	2.8 ± 0.75*	> 2	2.3	2.7	3.3
Self6	1.9 ± 0.85*	> 1	1.2	1.7	2.3
Self7	2.8 ± 0.72*	> 2	2.4	2.8	3.3
Self8	3 ± 0.72*	> 2	2.6	3.1	3.5
Self9	2.9 ± 0.65*	< 4	2.5	2.9	3.3
Self10	3.5 ± 0.64*	> 2	3.1	3.6	4
Self11	3 ± 0.67*	> 2	2.6	3	3.4
Self12	2.6 ± 0.75*	> 2	2.2	2.6	3.2
Self13	3 ± 0.55*	< 4	2.8	3	3.8
Self14	2.7 ± 0.68*	> 2	2.4	2.8	3.3
Self15	3.3 ± 0.58*	< 4	3	3.4	3.7
Self16	3.8 ± 0.56*	> 2	3.5	3.8	4.2
Self17	2.7 ± 0.72*	> 2	2.2	2.6	3.2
Self18	3.3 ± 0.99*	> 2	2.6	3.4	4
ISSF	21.1 ± 4.5*	> 0	17.8	19.8	23.2

Note: * significant differences, $p \leq 0.01$.

The data indicated a statistically significant decrease in all the ISSF parameters ($p \leq 0.01$) in the entire sample of the examined patients. Moreover, compared to normative values, the scores for subscales Self1, Self3, Self6, Self8, Self10, Self11, Self16 were reduced by 1.5 times or more. The data indicated a general decrease of narcissistic regulation in patients with severe mental disorders.

Table 2 shows the distribution of the levels of internalized stigma (ISMI) among patients with severe mental disorders.

Table 2

Distribution of the levels of self-stigma among psychotic patients

| | Self-stigma levels | | Quartiles | | | M(X) ± SD |
	High ≥ 2.5, n (%)	Low < 2.5, n (%)	Q25	Me	Q75	
Self-stigma resistance (SSR)	52 (65)	29 (35)	2.2	2.6	2.9	2.7 ± 0.41
Alienation (A)	40 (49)	41 (51)	2.2	2.5	2.8	2.5 ± 0.45
Social self-isolation (CS)	29 (36)	52 (64)	1.8	2.3	2.5	2.4 ± 0.36
Discrimination experience (DE)	19 (24)	62 (76)	2	2.2	2.6	2.3 ± 0.32
Acceptance of stereotypes (AS)	12 (15)	69 (85)	1.7	2	3.5	2.1 ± 0.51
ISMI	30 (37)	51 (63)	2.1	2.4	2.6	2.4 ± 0.24

Table 2 shows that the mean ISMI total score was low (2.4 points) for the entire sample. However, 37 % of the examined patients had a high level of internalized stigma. We should note that about half of the surveyed had high scores (≥ 2.5 points) for the following subscales: 'alienation' (49 %) and 'resistance to self-stigma' (65 %), which determined their high scores in the entire sample. More than one third of patients had high scores on the 'social isolation' subscale (36 %), and one quarter of patients had high scores on the 'experience of discrimination' subscale (24 %).

To identify the features of narcissistic self-regulation, we compared the ISSF factors in the subgroups of patients with high and low self-stigma (between each other and with normative values). Table 3 presents the results.

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Table 3

Narcissistic regulation in subgroups of patients with high and low self-stigma (the ISSF)

ISSF structure	Criterion of decrease in personal strengths	Narcissistic regulation in subgroups of patients with high and low self-stigma							
		Low level (< 2.5)				High level (≥ 2.5)			
		M(x) ± SD	Q25	Me	Q75	M(x) ± SD	Q25	Me	Q75
Self1	> 1	$2.0 \pm 0.6^{2*3*}$	1.5	2.1	2.3	$3.3 \pm 0.7^{1*}$	2.9	3.2	3.7
Self2	> 2	$2.3 \pm 0.7^{3*}$	1.8	2.2	2.8	$3.2 \pm 0.9^{1*}$	2.6	3.4	4.0
Self3	> 1	$1.5 \pm 0.7^{3*}$	1.0	1.3	1.8	$2.2 \pm 1.0^{1*}$	1.3	2.0	3.0
Self4	< 5	$3.6 \pm 0.6^{2*}$	3.2	3.5	4.0	$3.4 \pm 0.6^{1*}$	3.0	3.4	3.8
Self5	> 2	$2.4 \pm 0.5^{3*}$	2.1	2.4	2.7	$3.4 \pm 0.6^{1*}$	3.1	3.4	3.8
Self6	> 1	$1.5 \pm 0.6^{3*}$	1.0	1.4	1.9	$2.6 \pm 0.9^{1*}$	1.9	2.3	3.1
Self7	> 2	$2.5 \pm 0.6^{3*}$	2.1	2.5	2.9	$3.3 \pm 0.5^{1*}$	2.9	3.3	3.5
Self8	> 2	$2.8 \pm 0.7^{2*}$	2.3	2.9	3.2	$3.4 \pm 0.7^{1*}$	3.1	3.4	3.9
Self9	< 4	$2.8 \pm 0.6^{2*}$	2.4	2.8	3.3	$3.1 \pm 0.6^{1*}$	2.6	3.2	3.6
Self10	> 2	$3.4 \pm 0.7^{2*}$	3.0	3.4	3.8	$3.9 \pm 0.4^{1*}$	3.6	3.8	4.1

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Table 3

Narcissistic regulation in subgroups of patients with high and low self-stigma (the ISSF)

ISSF structure	Criterion of decrease in personal strengths	Narcissistic regulation in subgroups of patients with high and low self-stigma							
		Low level (< 2.5)				High level (≥ 2.5)			
		M(x) ± SD	Q25	Me	Q75	M(x) ± SD	Q25	Me	Q75
Self11	> 2	2.8 ± 0.7[2*]	2.4	2.8	3.1	3.4 ± 0.5[1*]	3.1	3.4	3.6
Self12	> 2	2.4 ± 0.7[3*]	1.9	2.4	2.8	3.1 ± 0.7[1*]	2.6	3.2	3.7
Self13	< 4	3.1 ± 0.5[2*]	2.8	3	3.3	3.0 ± 0.6[1*]	2.6	3.0	3.5
Self14	> 2	2.6 ± 0.7	2.2	2.6	3.0	3.1 ± 0.6[1*]	2.6	3.1	3.4
Self15	< 4	3.3 ± 0.6[2*]	2.9	3.3	3.8	3.5 ± 0.6	3.1	3.4	3.9
Self16	> 2	3.7 ± 0.6[2*]	3.5	3.8	4.1	4.0 ± 0.5[1*]	3.7	3.9	4.4
Self17	> 2	2.5 ± 0.8	2	2.4	2.8	3.1 ± 0.7[1*]	2.6	3.0	3.4
Self18	> 2	3 ± 0.9[2*3*]	2.2	3.2	3.8	4.0 ± 0.7[1*]	3.6	4.0	4.2
ISSF	> 0	19.1 ± 3.1[2*3*]	17.1	18.4	19.9	24.6 ± 4.5[1*]	20.9	23.9	26.2

Note: differences in the narcissistic regulation scores – [1*] normative values in patients with high self-stigma; [2*] normative values in patients with low self-stigma; [3*] in patients with high and low self-stigma; $p \le 0.01$.

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Compared to normative values (p ≤ 0.01), in the subgroup of patients with a high level of self-stigma narcissistic regulation showed a significant weakening for all the ISSF subscales, except for the Self15 subscale.

When comparing the mean ISSF scores with normative values for 10 subscales (Self1, Self4, Self8, Self9, Self10, Self11, Self13, Self15, Self16, Self18) in the group of patients with a low level of internalized stigma, we observed a significant decrease in self-regulation abilities (p ≤ 0.01). The results obtained for other 8 subscales did not significantly differ from the normative values, which indicates the relative safety of the narcissistic regulation system in this subgroup of patients.

The comparison of the ISSF scores in the groups of patients with different levels of internalized stigma showed significant differences (p ≤ 0.01) for 8 ISSF subscales (Self1, Self2, Self3, Self5, Self6, Self7, Self12, Self18), which indicates a greater decrease in personality strengths and, accordingly, greater instability of defense mechanisms in the group of patients with high self-stigma.

The additionally calculated Cohen's d effect sizes (Table 3) indicated associations of self-stigma with the following ISSF subscales: Self1 (3.3 ± 0.7 and 2.0 ± 0.6, respectively, p ≤ 0.05; Cohen's d = 1.8), Self2 (3.2 ± 0.9 and 2.3 ± 0.7, respectively, p ≤ 0.05; Cohen's d = 1.1), Self3 (2.2 ± 1.0 and 1.5 ± 0.7, respectively, p ≤ 0.05; Cohen's d = 0.7), Self5 (3.4 ± 0.6 and 2.4 ± 0.5, respectively, p ≤ 0.05; Cohen's d = 1.8), Self6 (2.6 ± 0.9 and 1.5 ± 0.6, respectively, p ≤ 0.05; Cohen's d = 1.4), Self7 (3.3 ± 0.5 and 2.5 ± 0.6, respectively, p ≤ 0.05; Cohen's d = 1.4), Self12 (3.1 ± 0.7 and 2.4 ± 0.7, respectively, p ≤ 0.05; Cohen's d = 1.1), and Self18 (4.0 ± 0.7 and 3.0 ± 0.9, respectively, p ≤ 0.05; Cohen's d = 1.2).

Discussion

The results obtained in our study showed that the examined patients with severe mental disorders experience internalized stigma of varying intensity. In particular, our data on the severity of overall self-stigmatization and its components ('acceptance of stereotypes' and 'alienation') in patients with endogenous mental disorders are comparable with the data obtained from a survey of patients from 14 European countries (Brohan et al., 2010). We should note that in our sample, only 37 % of patients had a high level of internalized stigma. Meanwhile, in the study by Brohan et al. (2010), the number of psychiatric patients who demonstrated high scores of self-stigma was 50.7 %.

In our study there was a greater number of patients demonstrating a high level of decrease in 'self-stigma resistance' (65 %), compared to foreign data (49.2 %) (Brohan et al., 2010; Vidović, Brečić, Vilibić, & Jukić, 2016; Vidojevic, Dragojevic, Toskovic, & Popovic, 2014). In our study the number of patients with low scores for the 'acceptance of stereotypes' subscale (85 %) was greater compared to the data obtained by Brohan et al. (72.3 %) (2010). However, our results were comparable with the results obtained by Vidović et al. (87.3 %) (2016). These discrepancies may be explained by the lack of information about the formats of therapy of respondents from previous studies. In our study all the patients voluntarily received complex treatment (psychopharmacotherapy and psychosocial interventions), which made it possible to level the intensity of internalized stigma through participation in a psychoeducational program.

The ISSF scores demonstrated a decrease of the overall narcissistic self-regulation and its individual components among all the examined patients, which confirms the data obtained by Zalutskaya et al. (2003) about its impairment in mental patients. An interesting finding was the difference in the overall narcissistic self-regulation, indicating its severe impairment, among

patients with a high level of self-stigma, compared with the group of patients demonstrating a low level of internalized stigma. In particular, in the group of patients demonstrating a low level of internalized stigma, the overall scores approached those obtained for the parents of patients with mental disorders (Zalutskaya et al., 2003).

We should note that the indicators related to the individual's vulnerable self-image occupy a special place in the decrease of the processes of narcissistic self-regulation in patients experiencing pronounced self-stigma (Klepikova & Nesterova, 2011). This is accompanied by experiences of their own fragility and vulnerability to the outside world, as well as a pronounced anxiety and an intense feeling of loneliness, which according to Loeffler, Huebben, Radke, Habel, & Derntl (2020) is associated with depressive experiences and anhedonia. Lysaker et al. (2012) presented similar findings that describe stereotypical anxious and depressive reactions, blocking the possibility of reducing internalized stigma. Moreover, our findings resonate with those presented by other authors regarding psychological characteristics that create vulnerability of personal identity, making it permeable to social stigma (Shi et al., 2018; Lutova et al., 2019; Holubova et al., 2016; Kashdan & Rottenberg, 2010; Ritsher & Phelan, 2004).

The subscales of 'basic potential for hope' (Self4), 'thirst for praise and confirmation' (Self11) and 'grandiose Self' (Self9), designated in the study by Klepikova and Nesterova (2011) as "self-confidence, supported by approval from the social environment", also showed a significant decrease among the interviewed patients. Thus, the ability to maintain optimism and self-reliance as counteraction to painful experiences and loss of self-esteem is reduced in psychotic patients. Our results are also supported by the studies describing the characteristics of protective mechanisms and coping behavior in patients with endogenous psychoses due to rigidity when choosing coping (Holubova et al., 2016).

In our study, it is self-doubt and vulnerability that are highly associated with the experience of internalized stigma. On the contrary, self-confidence associated with social approval does not demonstrate significant associations with self-stigma and, being a premorbid personality characteristic, has a certain protective property regarding the development of internalized stigma.

Specific characteristics of self-regulation disorders, including a significant increase in personal vulnerability and the inability to use protective components of regulation, reduce the ability to maintain a dynamic balance that provides biopsychosocial personal integrity in psychotic patients.

Research limitations

Our study had several potentially important limitations, including (a) an uneven gender composition of our study participants, which was associated with the gender composition of patients in the mixed psychiatric department. (b) The data were obtained for a sample of patients undergoing voluntary treatment at the stage of clinical remission on medication. (c) We examined patients with schizophrenic spectrum disorders and affective patients who have experienced psychotic symptoms.

Conclusion

The overwhelming majority of patients with endogenous mental disorders experience self-stigma of varying severity. Therefore, advances in our understanding of personal characteristics that underlie and support internalized stigma are especially important for the development of programs for its overcoming. We established that the pathogenic effect of self-stigma is not

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diffuse and chaotic; it has its own specific profile. With an increase in self-stigma, the individual's perception of personal strengths (including the somatic level) and the clarity of his/her perception of himself/himself and the environment decrease, the control of emotions and the situational adequacy of behavior are impaired. Communication with others is limited; such retroactive protection as taking advantage of the disease is more often used. Moreover, expansive forms of self-affirmation are paralyzed (optimism, heightened self-esteem, the search for ideal social objects, the ideal of self-sufficiency, and the expectation of praise and protection in a patronizing symbiotic relationship).

An important practical consequence of this main finding is that if such a decrease in coping resources is caused by a patient's subjective maladaptive psychological reaction to stigma (instead of negative psychopathological symptoms), this opens up the possibility of expanding coping resources through targeted individualized psychotherapeutic correction of self-stigma.

References

Barney, L. J., Griffiths, K. M., Christensen, H., & Jorm, A. F. (2009). Exploring the nature of stigmatising beliefs about depression and help-seeking: Implications for reducing stigma. *BMC Public Health*, 9, 61. https://doi.org/10.1186/1471-2458-9-61

Biernat, M., & Dovidio, J. F. (2000). Stigma and stereotypes. In T. F. Heatherton, R. E. Kleck, M. R. Hebl, J. G. Hull (Eds.), *The social psychology of stigma* (pp. 88–125). New York: Guilford Press.

Biglan, A., Hayes, S. C., & Pistorello, J. (2008). Acceptance and commitment: Implications for prevention science. *Prevention Science*, 9, 139–152. https://doi.org/10.1007/s11121-008-0099-4

Brohan, E., Elgie, R., Sartorius, N., & Thornicroft, G. (2010). Self-stigma, empowerment and perceived discrimination among people with schizophrenia in 14 European countries: The GAMIAN-Europe study. *Schizophrenia Research*, 122(1–3), 232–238. https://doi.org/10.1016/j.schres.2010.02.1065

Coleman, S. R. M., Pincus, A. L., & Smyth, J. M. (2019). Narcissism and stress-reactivity: A biobehavioural health perspective. *Health Psychology Review*, 13(1), 35–72. https://doi.org/10.1080/17437199.2018.1547118

Deneke, F.-W. (1994). *Das Narzissmusinventar: Handbuch* (F.-W. Deneke, B. Higenstock, R. Müller, Eds.). Bern: Huber.

Henseler, H. (2000). *Narzissische Krisen: Zur Psychodynamik des Selbmordes*. Weisbaden: Westdeuche Verlang. https://doi.org/10.1007/978-3-322-80833-2

Holubova, M., Prasko, J., Hruby, R., Latalova, K., Kamaradova, D., Marackova, M., … Gubova, T. (2016). Coping strategies and self-stigma in patients with schizophrenia-spectrum disorders. *Patient Preference and Adherence*, 10, 1151–1158. https://doi.org/10.2147/PPA.S106437

Kashdan, T. B., & Rottenberg, J. (2010). Psychological flexibility as a fundamental aspect of health. *Clinical Psychology Review*, 30(7), 865–878. https://doi.org/10.1016/j.cpr.2010.03.001

Klepikova, N. M., & Nesterova, S. B. (2011). Inter-determination of expressiveness of narcissistic personality traits, narcissistic ways of self-representation regulation and self-evaluation levels. *Mir nauki, kul'tury, obrazovaniya (The World of Science, Culture, and Education)*, 3, 146–151. (in Russ.).

Kohut, H. (2017). *The restoration of the self*. Moscow: Kogito-Tsentr. (in Russ.).

Loeffler, L. A. K., Huebben, A. K., Radke, S., Habel, U., & Derntl, B. (2020). The association between vulnerable/grandiose narcissism and emotion regulation. *Frontiers in Psychology*, 11. https://doi.org/10.3389/fpsyg.2020.519330

Lutova, Makarevich, Vid, Novikova, Sorokin
Internalized Stigma and Narcissistic Regulation Among Patients With Endogenous Psychoses
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CLINICAL PSYCHOLOGY

Lutova, N. B., Makarevich, O. V., Sorokin, M. Yu., Novikova, K. E., Abramchik, S. S., & Vid, V. D. (2019). Psychiatric stigma: Clinical-demographic or cultural factors. *Sotsial'naya i klinicheskaya psikhiatriya (Social and Clinical Psychiatry)*, *11*(4), 665–675. https://doi.org/10.34883/PI.2020.11.4.001 (in Russ.).

Lutova, N. B., Sorokin, M. Yu., Novikova, K. E., Portenier, S. N., & Vid, V. D. (2020). Adverse childhood experience as a factor of self-stigmatization of patients with schizophrenia. *Psikhiatriya, psikhoterapiya i klinicheskaya psikhologiya (Psychiatry, Psychotherapy, and Clinical Psychology)*, *11*(4), 665–675. https://doi.org/10.34883/PI.2020.11.4.001 (in Russ.).

Lutova, N. B., Sorokin, M. Yu., Petrova, Yu. I., & Vid, V. D. (2016). The structure of psychiatric stigma in our days. *Psikhicheskoe zdorov'e (Mental Health)*, *14*(8), 44–50. (in Russ.).

Lysaker, P. H., Roe, D., Ringer, J., Gilmore, E. M., & Yanos, P. T. (2012). Change in self-stigma among persons with schizophrenia enrolled in rehabilitation: Associations with self-esteem and positive and emotional discomfort symptoms. *Psychological Services*, *9*(3), 240–247. https://doi.org/10.1037/a0027740

Morosanova, V. I. (2013). Self-regulation and personality. *Procedia – Social and Behavioral Sciences*, *86*, 452–457. https://doi.org/10.1016/j.sbspro.2013.08.596

Ritsher, J. B., & Phelan, J. C. (2004). Internalized stigma predicts erosion of morale among psychiatric outpatients. *Psychiatry Research*, *129*(3), 257–265. https://doi.org/10.1016/j.psychres.2004.08.003

Ritsher, J. B., Otilingam, P. G., & Grajales, M. (2003). Internalized stigma of mental illness: Psychometric properties of new measure. *Psychiatry Research*, *121*(1), 31–49. https://doi.org/10.1016/j.psychres.2003.08.008

Serebriiskaya, L. Ya., Yastrebov, V. S., & Enikolopov, S. N. (2002). Socio-psychological factors of stigmatization of mental patients. *Zhurnal nevrologii i psikhiatrii im. S. S. Korsakova (The Korsakov's Journal of Neurology and Psychiatry)*, *9*, 59–68. (in Russ.).

Shamshikova, O. A., & Klepikova, N. M. (2011). Operationalization of the concept of "narcissism" within the mental norm. *Mir nauki, kul'tury, obrazovaniya (The World of Science, Culture, and Education)*, *3*, 151–158. (in Russ.).

Shi, J., Yao, Y., Zhan, C., Mao, Z., Yin, F., & Zhao, X. (2018). The relationship between Big Five Personality Traits and psychotic experience in a large non-clinical youth sample: The mediating role of emotion regulation. *Frontiers in Psychiatry*, *9*, 648. https://doi.org/10.3389/fpsyt.2018.00648

Sokolov, S. E. (2009). On interrelation between narcissistic manifestations of a personality and development of its self-awareness. *Izvestiya Rossiiskogo gosudarstvennogo pedagogicheskogo universiteta im. A. I. Gertsena (Izvestia: Herzen University Journal of Humanities & Sciences)*, *105*, 205–212. (in Russ.).

Sorokin, M. Yu. (2016). Prevalence of social stigmatization in psychiatric patients and its correlation with motivation for treatment. *Nevrologicheskii vestnik (Neurological Bulletin)*, *48*(2), 73–77. (in Russ.).

Stolorow, R. (1999). *Clinical psychoanalysis: An intersubjective approach* (R. Stolorow, B. Brandschaft, J. Atwood, Eds.). Moscow: Kogito-Tsentr. (in Russ.).

Thorrington, S. (2013). *Implicit and explicit self-stigma, psychological flexibility and outcomes in first episode psychosis* (Doctoral dissertation). Canterbury Christ Church University, Canterbury.

Vid, V. D. (2008). *Psychotherapy of schizophrenia* (3rd ed.). St. Petersburg: Piter. (in Russ.).

Vidojevic, I. M., Dragojevic, N., Toskovic, O., & Popovic, M. (2014). Internalized stigma among people with mental illness in Serbia and the psychometric properties of the ISMI Scale. *Academic Journal of Interdisciplinary Studies*, *3*(3), 153–162. https://doi.org/10.5901/ajis.2014.v3n3p153

Lutova, Makarevich, Vid, Novikova, Sorokin
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CLINICAL PSYCHOLOGY

Vidović, D., Brečić, P., Vilibić, M., & Jukić, V. (2016). Insight and self-stigma in patients with schizophrenia. *Acta Clinica Croatia*, *55*(1), 23–28. https://doi.org/10.20471/acc.2016.55.01.4

Yakeley, J. (2018). Current understanding of narcissism and narcissistic personality disorder. *BJPsych Advances*, *24*(5), 305–315. https://doi.org/10.1192/bja.2018.20

Zalutskaya, N. M., Vuks, A. Ya., & Vid, V. D. (2003). *The index of self-system functioning (based on the test for assessing narcissism): A manual for doctors*. St. Petersburg: V. M. Bekhterev Institute. (in Russ.).

Zlokazov, K. V., Leonov, N. I., & Prozorov, R. Yu. (2018). The role of self-relevant information in individuals' representations of the self. *Russian Psychological Journal*, *15*(4), 70–96. https://doi.org/10.21702/rpj.2018.4.4 (in Russ.).

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Author Contributions

N. B. Lutova made the main contribution to the theoretical framework and research design, to the final analysis of the data, to writing literature overview, to the discussion of results, and to the approval of the final manuscript for publication.

O. V. Makarevich contributed to the research design, developed the theoretical framework, collected the data, analyzed and interpreted findings, and contributed to discussion.
V. D. Vid analyzed and interpreted findings.
K. E. Novikova contributed to the research design, developed the theoretical framework, collected the data, and analyzed findings.
M. Yu. Sorokin collected the data, interpreted findings, and prepared the final version of the manuscript for publication.

The authors declare no conflicts of interest.

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Research article

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.

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.

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

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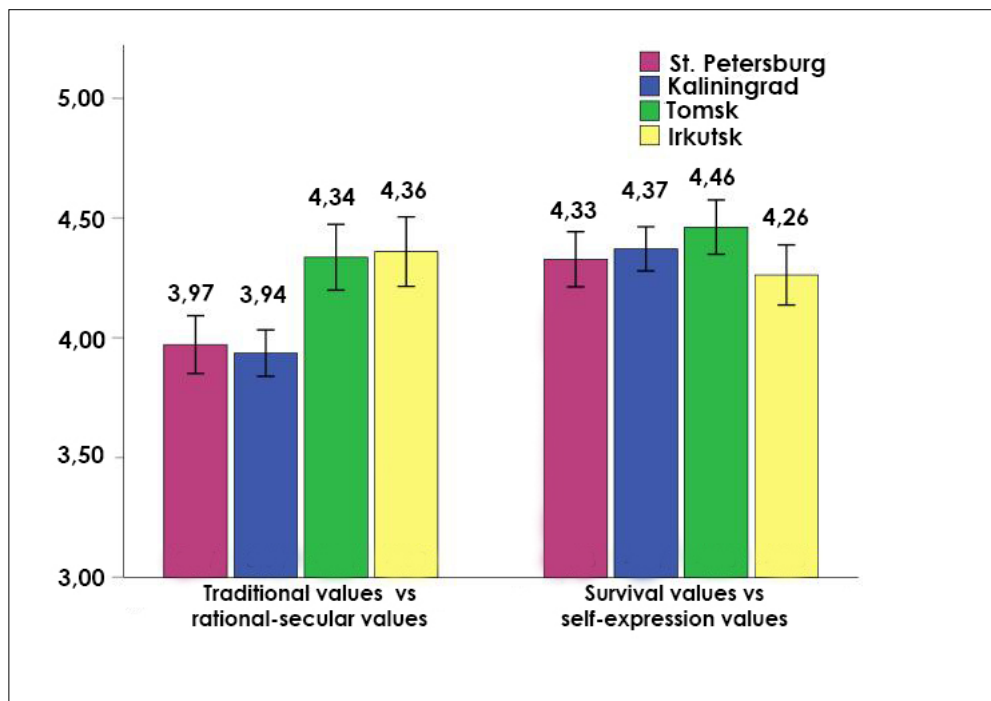
Figure 1. City-related differences in value orientations at the cultural level, modified Inglehart's World Values Survey (scores)

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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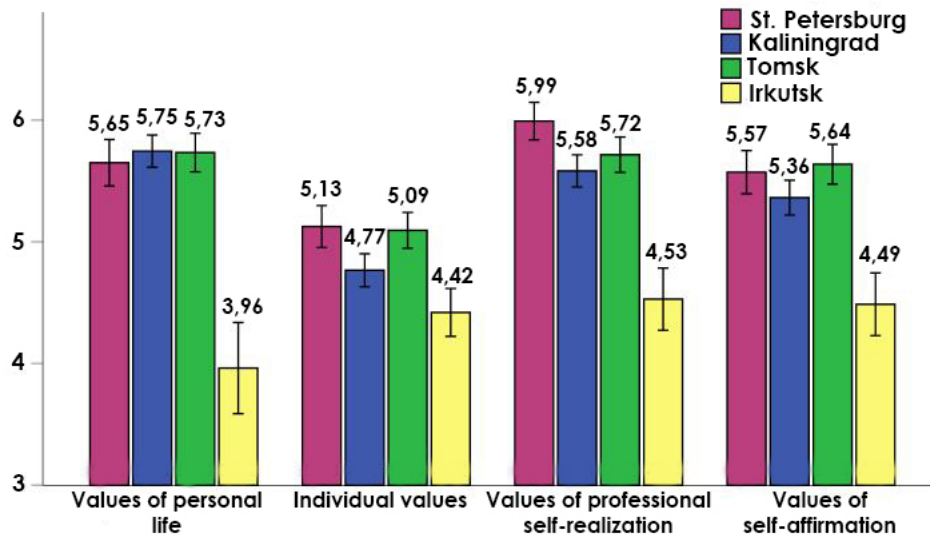
Figure 2. City-related differences in subjective evaluation of basic metavalues realizability, SEBVR (scores)
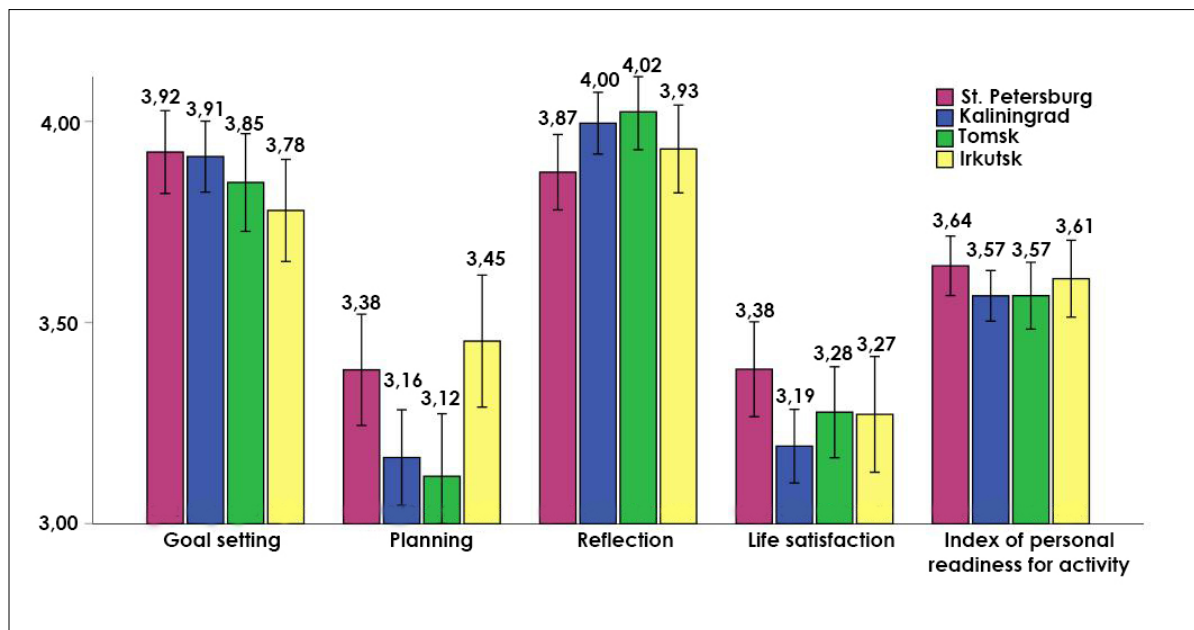
Figure 3. City-related differences in the parameters of personal readiness for activity

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'

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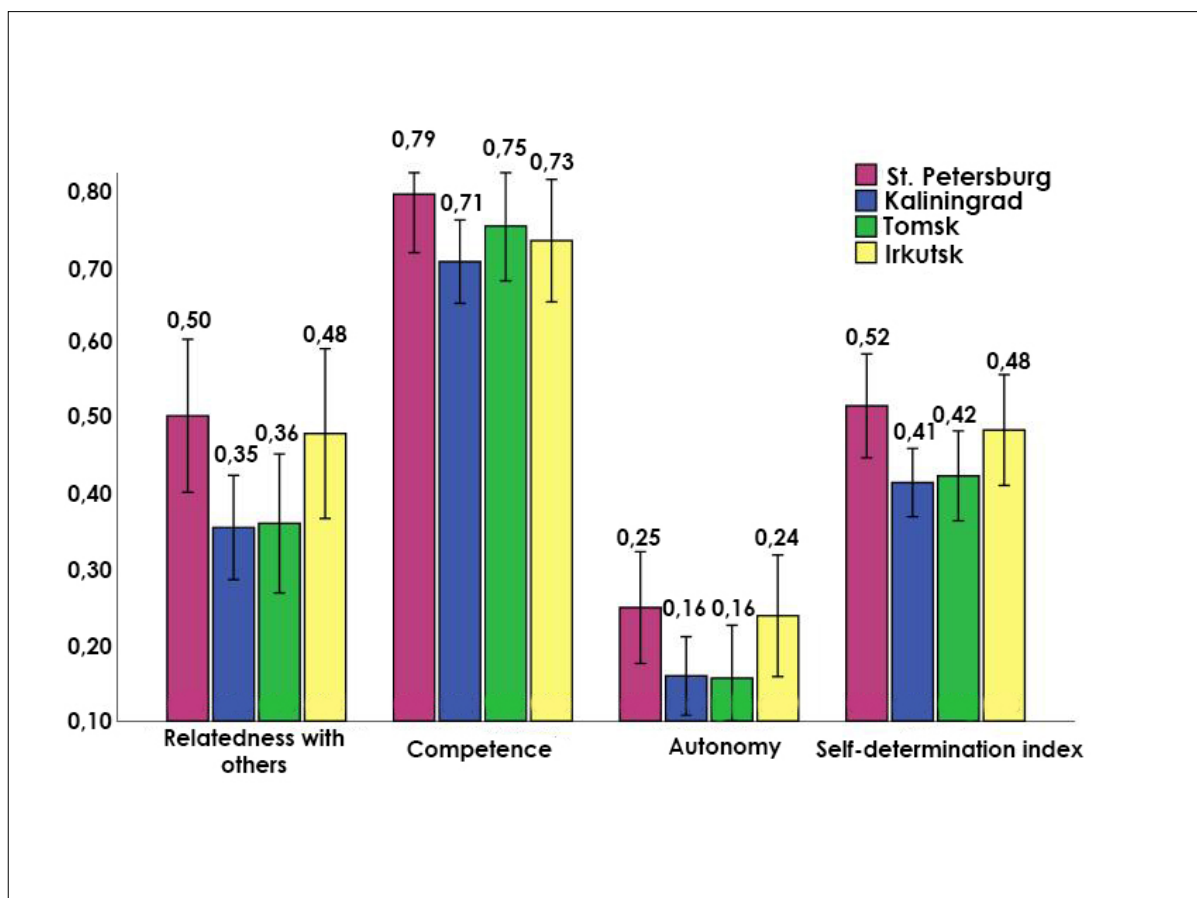
Figure 4. City-related differences in self-determination parameters (scores)

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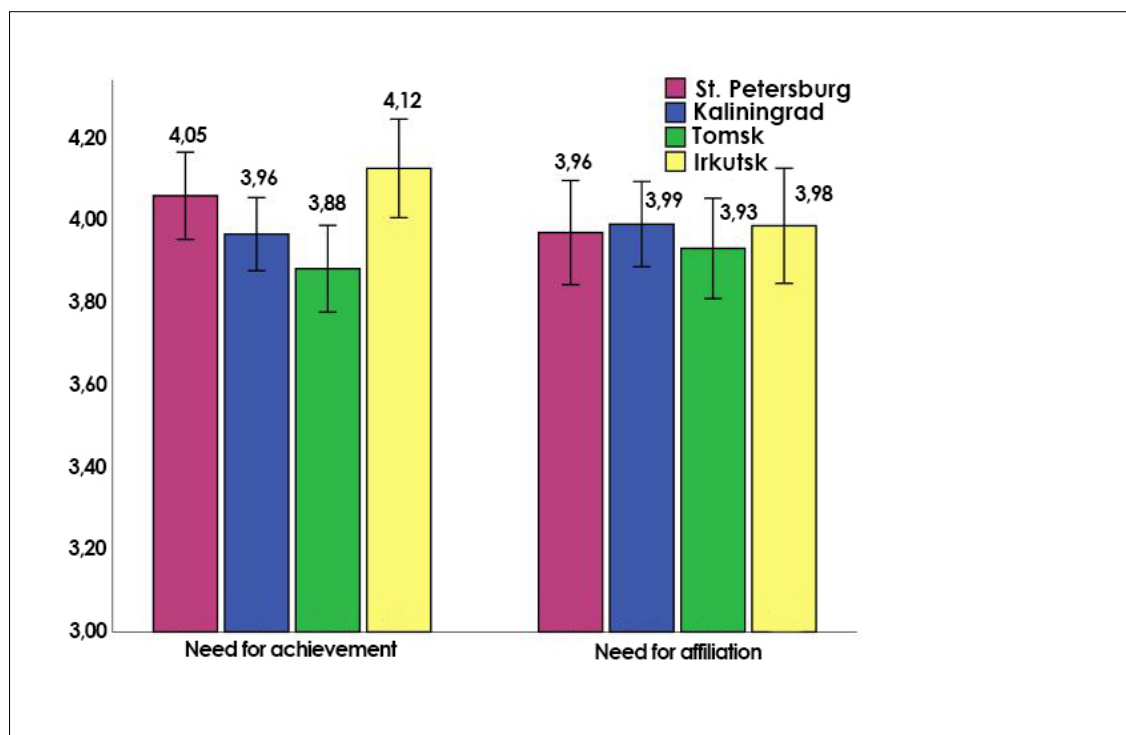
Figure 5. City-related differences in the needs for achievement and affiliation, PRF (scores)

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

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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.

References

Atamanova, I. V., & Bogomaz, S. A. (2018). Modern university youth's personal readiness for activity. In Yu. P. Povarenkov (Ed.), *Systemogenesis of educational and professional activity: Part I: Proceedings of the VIII All-Russian Theoretical and Practical Conference* (pp. 134–137). Yaroslavl: Yaroslavl State Pedagogical University. (in Russ.).

Atamanova, I. V., Bogomaz, S. A., Boyko, E. A., Ivanova, E. A., & Perikova, E. I. (2019). Specificity of personality-environment interaction: A comparative analysis of value orientations of modern Russian youth. In A. D. Karnyshev and V. A. Karnyshev (Eds.), *Interdisciplinary resources of economic psychology in the formation of ethno-regional identity and a positive image of a*

small motherland: Proceedings of the All-Russian Theoretical and Practical Conference with International Participation (pp. 297–303). Irkutsk: Irkutsk State University. (in Russ.).

Atamanova, I., Bogomaz, S., & Filippova, T. (2019). Modern youth's value orientations and activity in a cross-cultural context. In U. Berkis, L. Vilka (Eds.), *7th International Interdisciplinary Scientific Conference "Society. Health. Welfare". SHS Web of Conferences*, *68*, 01005. https://doi.org/10.1051/shsconf/20196801005

Atamanova, I. V., Kozlova, N. V., Bogomaz, S. A., Zalevsky, V. G., & Neyaskina, Yu. Yu. (2018). Specificity of personality-environment interaction on the example of students from three Russian cities. *Vestnik Tomskogo gosudarstvennogo universiteta–Filosofiya–Sotsiologiya–Politologiya (Tomsk State University Journal of Philosophy, Sociology, and Political Science)*, *41*, 90–105. https://doi.org/10.17223/1998863X/41/11 (in Russ.).

Auzan, A. A. (2015). On the possibility of transition to an economic strategy based on the specifics of human capital in Russia. *Zhurnal Novoi ekonomicheskoi assotsiatsii (Journal of the New Economic Association)*, *2*, 243–248. (in Russ.).

Auzan, A., & Kelimbetov, K. (2012). A socio-cultural formula for economic modernization. *Voprosy ekonomiki*, *5*, 37–44. (in Russ.).

Bazarov, T. Yu., & Sycheva, M. P. (2012). Development and approbation of Change Response Styles questionnaire. *Psikhologicheskie issledovaniya, 5*(25), 12. Retrieved from http://psystudy.ru (in Russ.).

Bogomaz, S. A., & Atamanova, I. V. (2017). Assessment of perceiving the urban and university environment by measuring values. In A. L. Zhuravlev, V. A. Kol'tsova (Eds.), *Fundamental and applied research of modern psychology: Results and development prospects* (pp. 646–651). Moscow: Institute of Psychology RAS. (in Russ.).

Bogomaz, S. A., & Atamanova, I. V. (2018). Analysis of the modern youth values in the context of their psychological system of activity. In V. V. Znakov and A. L. Zhuravlev (Eds.), *Psychology of man as a subject of knowledge, communication, and activity* (pp. 431–438). Moscow: Institute of Psychology RAS. (in Russ.).

Bogomaz, S., Kozlova, N., & Atamanova, I. (2015). University students' personal and professional development: The socio-cultural environment effect. *Procedia – Social and Behavioral Sciences*, *214*, 552–558. https://doi.org/10.1016/j.sbspro.2015.11.759

Bokhan, T. G., Balanev, D. Yu., Matsuta, V. V., Shchetkina, N. N., Taskina, I. A., & Frokol, A. S. (2011). Personal availability of Siberian youth to innovative behavior. *Vestnik Tomskogo gosudarstvennogo universiteta (Tomsk State University Journal)*, *348*, 110–114. (in Russ.).

Buravleva, N. A., & Bogomaz, S. A. (2020). Readiness for innovative activities among students of technical universities. *Russian Psychological Journal*, *17*(3), 30–43. https://doi.org/10.21702/rpj.2020.3.3 (in Russ.).

PSYCHOLOGY OF PERSONALITY

Chien, S.-Y., Sycara, K., Liu, J.-S., & Kumru, A. (2016). Relation between trust attitudes toward automation, Hofstede's cultural dimensions, and Big Five personality traits. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, *60*(1), 841–845. https://doi.org/10.1177/1541931213601192

Cronjé, J. C. (2011). Using Hofstede's cultural dimensions to interpret cross-cultural blended teaching and learning. *Computers & Education*, *56*(3), 596–603. https://doi.org/10.1016/j.compedu.2010.09.021

De Mooij, M., & Hofstede, G. (2010). The Hofstede model: Applications to global branding and advertising strategy and research. *International Journal of Advertising*, *29*(1), 85–110. https://doi.org/10.2501/S026504870920104X

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, *49*(1), 71–75. https://doi.org/10.1207/s15327752jpa4901_13

Dubina, I. N., & Ramos, S. D. (2019). An effect of national culture on creativity, innovativeness and entrepreneurship. *Menedzhment v Rossii i za rubezhom (Management in Russia and Abroad)*, *1*, 91–101. (in Russ.).

Fedotova, V. A. (2017). Age-related differences in values and economic attitudes among Russians. *Psychology in Russia: State of the Art*, *10*(1), 105–116. https://doi.org/10.11621/pir.2017.0108

Govorova, A. D. (2018). Inglehart R. Cultural evolution: How human motivations change and how it changes the world. *INTER-Encyclopedia: Interaction. Interview. Interpretation*, *10*(16), 81–84. (in Russ.).

Gutorov, V. A. (2018). On some actual aspects of interpretation of the theory of modernization. *Vestnik Rossiiskogo universiteta druzhby narodov. Seriya: Politologiya (RUDN Journal of Political Science)*, *20*(2), 193–214. https://doi.org/10.22363/2313-1438-2018-20-2-193-214 (in Russ.).

Hofstede, G. (1991). *Cultures and organizations: Software of the mind*. London, New York: McGraw-Hill.

Hofstede, G. (2014). Dimensionalizing cultures: The Hofstede model in context. *Yazyk, kommunikatsiya i sotsial'naya sreda (Language, Communication, and Social Environment)*, *12*, 9–49. (in Russ.).

Hofstede, G., & McCrae, R. R. (2010). Personality and culture revisited: Linking traits and dimensions of culture. *Sotsiologicheskii zhurnal (Sociological Journal)*, *4*, 9–41. (in Russ.).

Hofstede, G., & Minkov, M. (2013). *Values Survey Module 2013: Manual*. Geert Hofstede BV. Retrieved from https://geerthofstede.com/wp-content/uploads/2016/07/Manual-VSM-2013.pdf

Inglehart, R. (1997). Modernization, postmodernization and changing perceptions of risk. *International Review of Sociology*, *7*(3), 449–459. https://doi.org/10.1080/03906701.1997.9971250

Inglehart, R., & Welzel, C. (2005). *Modernization, cultural change, and democracy: The human development sequence*. New York: Cambridge University Press.

Jackson, D. N. (1984). *Personality Research Form manual* (3rd ed.). Port Huron: Sigma Assessment Systems.

Atamanova, Perikova, Shchekoturov, Bogomaz
Personality-Environment Interaction: A Study of Russian Young Adults'…
Russian Psychological Journal, 2021, Vol. 18, No. 3, 32–53. **doi**: 10.21702/rpj.2021.3.3

PSYCHOLOGY OF PERSONALITY

Khabibulin, R. K. (2015). *Characteristics of the Russian state power authority in the citizens' minds* (Doctoral dissertation). St. Petersburg State University. St. Petersburg. (in Russ.).

Klochko, V. Ye., & Galazhinskiy, E. V. (2009). Innovative potential of a personality: System anthropological context. *Vestnik Tomskogo gosudarstvennogo universiteta (Tomsk State University Journal)*, *325*, 146–151. (in Russ.).

Kondakov, I. M. (1998). Assessment of motivational characteristics in schoolchildren. *Zhurnal prikladnoi psikhologii (Journal of Applied Psychology)*, *24*, 99–113. (in Russ.).

Kwon, S.-W., Heflin, C., & Ruef, M. (2013). Community social capital and entrepreneurship. *American Sociological Review*, *78*(6), 980–1008. https://doi.org/10.1177/0003122413506440

Latova, N. V. (2016). Russians' cultural specificity (an ethnometrical analysis based on Geert Hofstede's concept). *Vestnik Instituta sotsiologii (Bulletin of the Institute of Sociology), 19*, 155–179. https://doi.org/10.19181/vis.2016.19.4.433 (in Russ.).

Latova, N. V., & Latov, Iu. V. (2013). "Capital cities centrism" as the cause of social inequality in the Russian system of higher education. *Russian Education & Society*, *55*(6), 53–83. https://doi.org/10.2753/RES1060-9393550605

Lebedeva, N. M. (2012). Cultural values and implicit theories of innovation. *Obshchestvennye nauki i sovremennost' (Social Sciences and Contemporary World)*, *5*, 25–40. (in Russ.).

Lebedeva, N. M., & Tatarko, A. N. (2019). The vectors of development of the countries in a combined space of cultural dimensions. *Psikhologicheskii zhurnal*, *40*(6), 99–111. https://doi.org/10.31857/S020595920007368-0 (in Russ.).

Leont'ev, D. A., & Osin, E. N. (2014). 'Good' and 'bad' reflection: From an explanatory model to differential assessment. *Psikhologiya. Zhurnal Vysshei shkoly ekonomiki (Psychology. Journal of the Higher School of Economics)*, *11*(4), 110–135. (in Russ.).

Mandrikova, E. Yu. (2010). Development of the Questionnaire of Activity Self-organization (QAS). *Psikhologicheskaya diagnostika (Psychological Diagnostics)*, 2, 59–83. (in Russ.).

Minkov, M., & Hofstede, G. (2012). Is national culture a meaningful concept?: Cultural values delineate homogeneous national clusters of in-country regions. *Cross-Cultural Research*, *46*(2), 133–159. https://doi.org/10.1177/1069397111427262

Minkov, M., Bond, M. H., & Blagoev, V. (2015). Do different national samples yield similar dimensions of national culture? *Cross Cultural Management: An International Journal*, *22*(2), 259–277. https://doi.org/10.1108/CCM-06-2014-0065

Osin, E. N., & Leont'ev, D. A. (2008). Testing Russian-language versions of two scales of rapid assessment of subjective well-being. In *Proceedings of 3rd All-Russian Sociological Congress*. Moscow: Institute of Sociology RAS. Retrieved from http://www.isras.ru/abstract_bank/1210190841.pdf (in Russ.).

Osin, E. N., Suchkov, D. D., Gordeeva, T. O., & Ivanova, T. Yu. (2015). Basic psychological need

PSYCHOLOGY OF PERSONALITY

satisfaction as a source of work motivation and subjective well-being in Russian employees. *Psikhologiya. Zhurnal Vysshei shkoly ekonomiki (Psychology. Journal of the Higher School of Economics)*, *12*(4), 103–121. (in Russ.).

Perikova, E. I., Atamanova, I. V., & Bogomaz, S. A. (2020). Specific features of psychological readiness for innovative activity (with the main focus on young adults in St. Petersburg and Tomsk). *Science for Education Today*, *10*(1), 62–78. https://doi.org/10.15293/2658-6762.2001.04 (in Russ.).

Perikova, E. I., Byzova, V. M., Atamanova, I. V., & Bogomaz, S. A. (2020). Change response styles in the structure of the psychological system of activity in youth from St. Petersburg and Tomsk. *Psikhologicheskie Issledovaniya (Psychological Studies)*, *13*(70), 3. Retrieved from http://psystudy.ru/index.php/num/2020v13n70/1741-perikova70.html (in Russ.).

Savchenko, A. I., Eminova, E. A., & Baturin, A. V. (2015). Problems of organizational structures with different cultural backgrounds. *Vestnik Udmurtskogo universiteta. Seriya Ekonomika i pravo (Bulletin of Udmurt University. Series Economics and Law)*, *25*(7), 173–181. (in Russ.).

Sheldon, K. M., & Hilpert, J. C. (2012). The balanced measure of psychological needs (BMPN) scale: An alternative domain general measure of need satisfaction. *Motivation and Emotion*, *36*, 439–451. https://doi.org/10.1007/s11031-012-9279-4

Soares, A. M., Farhangmehr, M., & Shoham, A. (2007). Hofstede's dimensions of culture in international marketing studies. *Journal of Business Research*, *60*(3), 277–284. https://doi.org/10.1016/j.jbusres.2006.10.018

Tekeş, B., Üzümcüoğlu, Y., Hoe, C., & Özkan, T. (2019). The relationship between Hofstede's cultural dimensions, Schwartz's cultural values, and obesity. *Psychological Reports*, *122*(3), 968–987. https://doi.org/10.1177/0033294118777965

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The authors declare no conflicts of interest.

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Research article

Emotional Intelligence Contributes to the Feeling of Self-Realization: A Case of Russian Young Adults

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Abstract

Introduction. Young adults compose one of the most dynamic social groups, sensitive to changes. Dependent on various personal characteristics and life circumstances, this sensitivity could lead either to successful social adaptation and subsequent life satisfaction or trigger dysfunctional behaviours and psychological maladaptation. Young adults often face the contradiction between profound need for self-realization and limited capacity for achieving it and need psychological resources to overcome this challenge. This study takes to the next new level empirical exploration of the role emotional intelligence plays in shaping self-realization in young adults. **Methods**. The sample of study participants included full- ($N = 52$) and part-time ($N = 60$) university students. They completed demographic forms, Multidimensional Questionnaire on Personality Self-Realization – personal, professional, and social, and the Emotional Intelligence Questionnaire. Correlational and regression analyses were employed for data processing. **Results**. Participants' age, especially in conjunction with the part-time working status was negatively correlated with all three types of self-realization, Hierarchical multiple regression analysis revealed that the general factor of emotional intelligence significantly contributed to self-realization ($p < 0.01$). Furthermore, its interpersonal component was the strongest predictor, uniquely contributing from 7 % to 16 % of explained variability in the criterion variables. **Discussion**. The findings indicate that emotional intelligence is a strong adaptive factor capable of compensating for the negative influence of challenging changes in life circumstances. Implications for further research and applied practice of psychological aid for young adults in their transition from educational to working environments are considered and discussed.

Keywords

self-realization, professional self-realization, personal self-realization, social self-realization, emotional intelligence, interpersonal emotional intelligence, intra-personal emotional intelligence, understanding of emotions, management of emotions, young adults

Highlights
➢ The role of emotional intelligence in three types of self-realization is explored on a sample of 112 Russian young adults – full-time and part-time (working) university students by means of correlational and regression analyses.
➢ Participant's age, especially associated with the part-time status, deprives successful self-realization of all types – professional, social, and personal.
➢ Interpersonal Emotional Intelligence, in particular, uniquely explains 7 %, 11 %, and 16 % of variability in the criterion variables of professional, social, and personal self-realization, respectively.

Introduction
Research in the field of psychology of personality with the focus on discovering and supporting potentials and conditions for comprehensive personal development is currently becoming more and more relevant. High and constantly elevating attention to personality-related psychological issues is based upon clear understanding of the utmost importance for all aspects of social adaptation of the entire spectrum of so-called SELF-phenomena – such personal characteristics as: capacity for self-education, self-development and self-improvements, often subsumed under the umbrella term of self-realization.

The pace of life in modern society, dynamic and stressful, imposes special demands on our cognition and behaviour, and constantly challenges one's capacity for self-realization. The problem is of particular relevance for younger people, whose strive to fulfill their personal and professional potentials is newly shaped, whereas pertinent competencies are just forming and may not be sufficient to adequately face the trials of adult life. Socioeconomic instability and the uncertainty of complex interpersonal relationships form additional barriers on the path of young adults to successful self-realization. Therefore, self-realization requires carefully balancing the ability to take into account ever-changing life circumstances to adapt to them, and ability to form and maintain independent personal goals and consistently act toward achieving them. Often caught in frustration between these two competing necessities, a person needs help to better understand what factors help or hurt in meeting own life hopes and expectations (i.e., factors that either promote or impair successful self-realization). No wonder, psychological research (this study included) targets to discover and describe these factors of influence.

The concept of self-realization has been the focus of research within various psychological frameworks. Many theoretical schools include in their priorities a strong interest in empirical research of self-realization and related concepts and phenomena. Among the most prominent examples of such psychological constructs, researchers have repeatedly attempted to understand and explain, the following could be named: 'self-actualization' in the humanistic theory of personality (e.g., Maslow, 1987), 'self-identity' in the theory of psychosocial development (e.g., Erikson, 1994), or 'self-efficacy' in the social-learning theory (e.g., Bandura, 1977). Despite differences in terminology and diversity of theoretical origins, the overlap in these and some

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related concepts can be quite evident. For example, Brennan & Piechowski (1991) considered the correspondence of the idea and concept of self-actualization with the theory of personality development by Dąbrowski (1972) and empirically demonstrated that self-actualization is nearly identical to the person's ability for the "...deliberate, conscious and self-directed review of life from the multilevel perspective..." (p. 306), i.e., the model's fourth level of personal development.

Though a unifying theoretical concept of self-realization (if ever possible) has yet to be developed, its empirical studies under various frameworks persist. They do face some challenges of insufficient clarity of the respective operational definitions that nevertheless are converging toward some common understanding of the phenomenon. Oxford dictionary of the modern English language defines 'self-realization' as the "fulfillment of one's own potential" (Oxford English and Spanish dictionary..., n.d.). Most likely, this statement refers to achieving maximally possible results, as judged by some objective criteria. It can prove quite difficult to observe self-realization directly and objectively as some degree of match between actual measurable achievements and individual hopes, desires, and expectations (all subjective phenomena, hardly fully recognized by the persons themselves and rarely revealed to outside observers without reservations). Relatively open to observation are just psychological reactions, reflected in cognitive processes of whether and to what degree these personal expectations are met. However, subjective perception by individuals of their own degree of self-realization and subsequent satisfaction/dissatisfaction with it is by no means a less valuable outcome and should be equally in focus of the applied psychological research.

Addressing the issue of self-realization remains very challenging, both from theoretical and empirical perspectives, largely because of the absence of a commonly accepted conceptual paradigm. Even before the advent of the major theories, outlined in the text above, the concept of self-realization and its study, has been for quite a long time embedded within the framework of psychological maturity (Olczak & Goldman, 1975). Moreover, this interest goes back in history as far as to the beginning of 20th century, when Putnam (1915) suggested that person's possibilities are implicitly present throughout the lifetime and are realized (actualized) with the process of psychological maturation.

Connected to that point of view, the process of self-realization is directly linked to a person's internal motivation for self-change dependent on external factors that either promote or obstruct personal development. As a result, a set of related questions have come in focus for our research. Why people are different in achieving self-realization – some fulfilling most of their potential and some struggling with even minor accomplishments? What factors, especially psychological characteristics, are dominant in determining (i.e., predictive of) successful self-realization?

For the purposes of the current study, we used the operational definition of self-realization as outlined within the framework of the systemic approach suggested by Kudinov, Kudinov, Kudinova, & Mikhailova (2017). The framework distinguishes among the following 'instrumental-stylistic' components of self-realization: (1) 'dynamic' (encompasses opposite characteristics of 'activity' and 'inertia'); (2) 'emotional' (represented by opposite characteristics of 'optimistic' and 'pessimistic' attitudes); and (3) 'organizational' (includes opposite characteristics of 'internality' and 'externality'). Together these components describe by what means (i.e., instrumental quality) and how (i.e., stylistic quality) a person approaches the goal of self-realization. The other set of framework components, designated as 'motivational-meaningful' – to reflect driving forces behind actions toward self-realization – features: (1) proper 'motivational' component (contains complementary 'socio-centralized' motivation for self-realization and 'egocentric' motivation for self-fulfillment);

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(2) 'cognitive' component (incorporates balancing qualities of 'creativity' and 'conservatism'); and (3) so-called 'prognostic' component (is comprised of contrasting 'constructive' and 'destructive' qualities). To reflect what is predominant in person's objectives and impediments, the framework also introduces relatively independent 'goal-setting' (distinguishes between 'social' and 'personal' intentions) and 'personal competency' (by analogy, focuses on 'social' as opposed to 'personal' barriers/obstacles to effective self-realization) components.

In terms of areas of application, the framework distinguishes among the following types of self-realization. Activity-oriented or *professional* self-realization is characterized by a person's strive toward accomplishments in various areas of professional activity (career, sport, arts, crafts, etc.) and, as a result, toward achieving higher levels of professional competence. *Personal* self-realization has in its focus the goals of personal growth and development to enhance such qualities as responsibility, tolerance, empathy, curiosity, erudition, creativity, ethics, and integrity. Finally, *social* self-realization manifests itself in pursuing socially sanctioned objectives and values through participation in socially beneficial activities (e.g., political, charitable, humanitarian, pedagogical, etc.).

We would argue that among the most effective means of overcoming both these types of barriers is the development of a sufficient level of emotional intelligence, understood as person's ability to establish constructive interpersonal relations, maintain emotional balance and self-control, understand and account for own and other people's emotions. It is quite possible that personal intellectual abilities impact on the content and quality of self-realization. Supposedly, people with lower levels of intellectual abilities (including underdeveloped emotional intelligence) are typically characterized by limited self-concepts, impeded capacity for overcoming self-realization barriers, and by difficulties in their verbal self-expression. Emotional intelligence not only influences self-realization in general, but selectively affects its particular components.

The first notion of "emotional intelligence" belongs to the works of Beldoch (1964) and Leuner (1966) in the contexts of sensitivity to emotional expressions in interpersonal communications and women studies, respectively. Later Gardner (1993) suggested distinguishing between intrapersonal (with the focus on own emotions) and interpersonal (with the focus on emotions of other people) emotional intelligence. A really detailed conceptualization of the phenomenon was attempted only in 1990 by Salovey and Mayer and then, with the release of the book simply entitled "Emotional intelligence" (Goleman, 1995), the term acquired its popularity in both research and applied psychological literature. Currently, conceptual interpretation of the term is split into two quite distinct categories – ability emotional intelligence and trait emotional intelligence (Petrides & Furnham, 2001). The former, also known as cognitive-emotional ability refers to the ability of a person to recognize, process and meaningfully use emotionally charged information, whereas the latter, also often designated as emotional self-efficacy, describes the collection of behavioural, dispositional, and self-perceptual personal characteristics potentially instrumental in dealing with the same (emotion-related) types of information.

In a sense, the origins of the concept of emotional intelligence can be traced back to the early 20th century, when Thorndike (1920) introduced the idea of 'social intelligence', then understood as the ability to recognize and efficiently deal with others in the social contexts, i.e., to be affluent in interpersonal relations. Thus, it would be only logical to expect that social intelligence and its derivative (as reflected by the evolution in psychological thinking), emotional intelligence, would play one of the key roles in successful self-realization.

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Research literature provides us with a variety of empirical evidence in support of connections between emotional intelligence and self-realization. For example, Kostakova (2014) found statistically significant correlation between professional self-realization and the overall index of emotional intelligence in respondents with moderate and high levels of self-realization. Professional self-realization was also connected to the quality of self-motivation, but only as a tendency. In contrast, respondents with low levels of general self-realization showed only a weak (at a tendency level) link between integral indices of self-realization and emotional intelligence, but a significant negative association of self-realization with a particular component of emotional intelligence designated as 'emotional awareness'. Kostakova explains the latter by suggesting that the knowledge about (awareness of) emotional phenomena alone, without practical components of emotional intelligence (e.g., empathy, mastery of emotional self-control), in fact, may only reduce the applied value of emotional intelligence and weaken professional self-realization.

Another study, carried out by Bar-On (2001), demonstrated that emotional intelligence was highly correlated with a person's ability to successfully employ basic skills. Moreover, emotional intelligence appeared to be more important than cognitive intelligence for personal self-actualization, as being more capable of distinguishing between those high and low in the quality of self-actualization. The link between emotional intelligence and self-actualization also manifests itself in very specific professional contexts, for example, in auditors involved in complex negotiations (Roché, 2009). According to Walter (2015), emotional intelligence is among the strong predictors of teaching ability and professional performance of educators, where teaching self-efficacy mediates the link between the former and the latter. Similarly, a whole array of studies addressed the influence of emotional intelligence on the self-efficacy type of phenomena and performance in higher education and academia. Studies by Ramesh, Samuel Thavaraj, & Ramkumar (2016) and Parker, Duffy, Wood, Bond, & Hogan (2005) reported positive association of emotional intelligence with the academic performance and its subjective perception (i.e., learning self-realization) in college students and in students transitioning from high school to university, respectively.

Indications of some indirect links between emotional intelligence and self-realization are also quite prevalent in the research literature. Foster, Lomas, Downey, & Stough (2018) summarized the findings of many before them to show that emotional intelligence (understood as the ability to regulate and control one's emotions) and mindfulness have links to self-awareness and self-regulation, and then demonstrated that the former are significantly related to wellbeing in Australian adolescents. Gómez-Baya & Mendoza (2018) even suggested emotional education interventions for youth to promote more adaptive reactions to positive and especially negative affects. According to Farnia, Nafukho, & Petrides (2018), emotional intelligence plays an important role in developing and implementing coping strategies to react to challenges of life in general and in career-related decision-making, in particular. Buffering, or protective effects of emotional intelligence against stresses and potential burn-outs, are also quite evident in different professions, for example, in nurses (Szczygiel & Mikolajczak, 2018).

Furthermore, both direct and indirect evidence has by now been accumulated and summarized in the meta-analytical research. For example, Andrei, Mancini, Baldaro, Trombini, & Agnoli (2014) reviewed 77 primary studies that addressed the role of emotional intelligence (operationalized as a personal trait of emotional self-efficacy and assessed with the Trait Emotional Intelligence Questionnaire) in determining various aspects of socioemotional well-being of participants in different age groups. Another meta-analysis (van der Linden et al., 2017), based on data from

142 independent sources, found a substantial overlap between the general factor of personality and the trait of emotional intelligence. Though these two meta-analyses did not address directly the question in focus of the current study, their results are indicative of the existence of complex relationships between a whole set of phenomena related to self-realization, on one hand, and various aspects of emotional intelligence, on the other.

There is a whole array of meta-analyses that explore and summarize research findings regarding the relationship between emotional intelligence and various aspects of life and professional activities that, in one way or another, can contribute to perception of self-realization. Joseph, Jin, Newman, & O'Boyle (2015) demonstrated the role emotional intelligence plays in job performance, though they also raised a question of whether its contribution is truly independent of the influence of self-efficacy, general mental ability and some of the Big Five personality traits.

All in all, there is very little doubt that the psychological phenomenon of emotional intelligence, alongside a number of other demographic and personal characteristics, is implicated in self-realization in general, as well as in its various subcomponents, and in multiple application areas. However, the research literature also recognizes the complexity of both concepts of interest, their multifaceted nature and, thus, multilevel and potentially convoluted associations among variables representing subcomponents of the phenomena on either side.

Study Objectives

This explorative study aims to shed some extra light on the relationships that connect emotional intelligence and age-related personal characteristics with general and domain-specific self-realization in Russian young adults by addressing the following research questions:

(1) Does participants' age (and related working status) predict successful self-realization and to what extent?

(2) What is the contribution of emotional intelligence in each of the three areas of self-realization: *professional*, *social*, and *personal?*

(3) Are there particular aspects of emotional intelligence that are especially potent in predicting self-realization?

For the purposes of the current study, self-realization, operationalized as self-reported satisfaction with the state of meeting individual goals and expectations in personal, social and professional life, was measured using 'Multidimensional Questionnaire on Personality Self-Realization' (MQPSR), whereas emotional intelligence, understood primarily in terms of ability to understand and manage different levels of affects, was assessed by employing 'Emotional Intelligence (EmIn)' questionnaire. Data collected with these questionnaires from the study participants were then subjected to a series of correlational and regression analyses as described in the upcoming Method section.

Methods

One hundred and twelve young adults (average age 25.4 with the median of 22), men and women, volunteered to participate in the study for a credit in an introductory Psychology course for non-psychology learners. They were all undergraduate students at the Southern Federal University (SFU) in Rostov-on-Don, Russia, both full-time (N = 52) and part-time (i.e., combining study and work, N = 60), specializing in different fields of study (e.g., geography, biology). The study received formal approval from the SFU ethical committee for the work involving human participants. All respondents signed the standard consent form that explained to them the study

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purposes and procedure and asked their permission to use, on the condition of anonymity, collected data for research purposes only. Participants then received detailed guiding instruction prior to data collection, filled out two main questionnaires and a brief demographic survey in one 50–70-minute session, and were debriefed and thanked upon the data gathering completion.

For the purposes of diagnosing self-realization, the study employed the MQPSR developed by Kudinov & Kudinov (2017). The structure and the levels of participants' emotional intelligence were assessed using the 'EmIn' questionnaire by Lyusin (2004). The MQPSR test allows diagnosis of the three types of self-realization: *Social*, *Professional*, and *Personal*. It contains 102 individual questions-statements that compose 16 basic individual scales (belonging to different self-realization components) with an additional scale of authenticity (honesty). Basic scales characterize various aspects of personal self-realization (social corporate self-realizing attitudes; subject-personal self-realizing attitudes; activity; inertia; optimism; pessimism; internality; externality; socio-centralized motivation for self-realization; egocentric motivation for self-fulfillment; creativity; conservatism; constructiveness; destructiveness; social barriers; personal barriers).

The test requires respondents to evaluate the degree of applicability to their own personalities of the statements that reflect various nuances of self-realization in different life circumstances by selecting one of the six provided options, as follows: (1) 'No' (never); (2) 'Most likely (often) no'; (3) 'Sometimes' (neither yes nor no); (4) 'More likely (often) yes'; (5) 'Mostly (typically) yes'; and (6) 'Definitely (always) yes'. After checking results on the additional authenticity scale to ensure respondents' sincerity, positive responses (i.e., corresponding to options 4–6) are added up for each corresponding scale with a potential range of scores from 0 to 36. In addition, it is possible to identify which type of self-realization dominates each respondent's personal profile with 32 items informing each category – i.e., personal, social, and professional self-realization. Kudinov & Kudinov (2017) indicate the range of Cronbach's alpha values for individual scales to be 0.72–0.78 (N = 587) and the test-retest reliability coefficient of 0.76 (p < 0.001).

The EmIn questionnaire contains 46 statements that are to be evaluated by the respondents for the degree of their conformity with each statement on a 4-point scale with the following options: (1) 'Categorically disagree'; (2) 'Rather disagree than agree'; (3) 'Rather agree than disagree'; and (4) 'Completely agree'. The instrument items are combined in five subscales: understanding emotions of other, managing emotions of others, understanding own emotions, managing own emotions, and emotional control (control of expression). Pulled together in different combinations, these five subscales can be converted into four scales of a higher level of interpretation, namely: *interpersonal* emotional intelligence; *intrapersonal* (self-focused) emotional intelligence; *understanding of emotions*; and *managing emotions*. Finally, the total index of emotional intelligence can be calculated as the sum of scores for all test items. The test author reports Cronbach's alpha values for the EmIn sub-scales that are used in our study in a range from 0.65 to 0.78, and the corresponding factor loads.

In addition to these two questionnaires, demographic data about each participant's age, gender, field of study, and working status were collected in a form of a short survey.

To address the study's main research questions about connections between major variables we employed correlational and regression analyses, ANOVA, and paired-sample verification t-tests. Coefficients of correlation between various components of emotional intelligence and types of self-realization, sporadically found in the literature and observed in a series of our pilot studies, clustered on average around 0.25. To remain more conservative (cautious) in estimating required

sample size, the expected effect size and the desired statistical power were set at 0.15 and 0.9, respectively. With just two predictors per each independent regression model with the alpha-level of 0.05 for two-tailed test, the recommended sample size was estimated (online G*power calculator) to be no less than seventy-three participants and was in fact exceeded through the recruitment process. All analyses were implemented within the SPSS 24.0.0 statistical software package.

Results

This section reports on the study findings, first providing descriptive statistics and observations associated with different categories of participants, and then reports the results of correlational and regression analyses.

Overall descriptive statistics and trends

Table 1 provides the summary of the descriptive statistics of the major variables in the study. Among three types of self-realization in our sample, *Personal* self-realization appears to be the dominant one (M = 79.15, SD = 16.48). This pattern persists when the sample is divided by the participants' status (i.e., 'working and studying' vs. 'studying alone').

Table 1

Descriptive statistics for the study major variables (N = 112)

Variables	Mean	SD	Median	Range
Age	25.38	7.08	22.00	18–48
Personal SR	79.15	16.48	79.00	40–140
Social SR	53.30	19.82	53.50	12–142
Professional SR	62.07	23.15	62.00	20–155
Interpersonal EmIn	44.46	6.54	44.00	23–58
Intrapersonal EmIn	41.03	7.76	42.00	18–58
EmIn: Understanding	43.66	7.49	44.00	26–73
EmIn: Management	42.25	6.70	42.00	25–58
EmIn: Total	85.56	11.66	87.00	53–110

However, there was an apparent difference between paired scores of these two sub-samples on all three types of self-regulation (Table 2). In all instances, participants, who combined part-time university study and job, showed significantly lower degrees of self-realization.

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Table 2

Difference between 'full-time' and 'part-time' students Self-Realization scores: ANOVA summary table

Source	df	Mean Difference[a]	F	MS	p
Personal Self-Realization					
Between	1	7.36	5.81	1510.17	0.018
Within	110			260.17	
Social Self-Realization					
Between	1	7.76	4.40	1678.16	0.038
Within	110			381.23	
Professional Self-Realization					
Between	1	12.54	8.74	4379.51	0.004
Within	110			501.09	

Note: [a] Positive: Always in favour of full-time students.

Interestingly, participants' studying/working status was almost perfectly aligned with their age: older participants combined the two, whereas the younger ones predominantly were full-time students. Average age of the part-time students/workers was 29.8 with the standard deviation of 7.03. These indices for full-time students were 20.29 and 1.56, respectively. These two categories were significantly different at $F = 58.21$ ($p < 0.001$).

We did not observe similar patterns in the data derived from the measures of emotional intelligence. Participant's status affected neither the total index of emotional intelligence ($F = 1.40$, $p = 0.24$), nor its subcomponents: the corresponding independent sample pair-wise comparison t-values ranged from –0.03 to 2.25 (all, but just one – *Interpersonal* EmIn, p = 0.026, – statistically *ns*). In other words, while apparently affecting measures of all three types of self-realization, participants' age/status seemingly had no salient effect on their levels of emotional intelligence. In subsequent regression analyses the 'age' variable was used as one of the two continuous predictors, reflecting at the same time participants' standing with respect to their studying/working status.

Correlations among variables
Table 3 presents the cross-correlation matrix of all major variables. In line with the logic and structure of both major questionnaires used in the study, the cross-correlations among sub-scales within each instrument were prominent and significant, but not high enough to consider them

reflecting indistinguishable concepts. We observed significant correlations between the overall index of emotional intelligence and all three types of self-realization, whereas the patterns of correlation between subscales of that index, on one hand, and *personal*, *social*, and *professional* types of self-realization, on the other, were not consistent – only half of them reached the level of statistical significance. Specifically, *interpersonal* emotional intellect and *management* of emotions, both were significantly (though not to the same magnitude) correlated with each of the three types of self-realization; the other subscales of the measure of emotional intellect were not. Age was negatively correlated with all measures of self-realization, though only one coefficient of correlation (that is between age and *social* self-realization) was statistically significant. Age was literally unrelated to the overall index of emotional intelligence ($r = -0.06$), whereas its connections to different components of emotional intelligence were variable encompassing negative and positive correlations in equal proportion (though all – statistically non-significant).

Table 3
Cross-correlation matrix for the study major variables (N = 112)

Variables	1	2	3	4	5	6	7	8	9
1. Age	–								
2. Personal SR	−0.131	–							
3. Social SR	−0.163	0.565***	–						
4. Professional SR	−0.085	0.666***	0.695**	–					
5. Total EI	−0.056	0.256**	0.258**	0.250**	–				
6. Interpersonal IE	−0.171	0.419***	0.359***	0.274**	0.813***	–			
7. Intrapersonal EI	0.062	0.047	0.089	0.156	0.828***	0.381***	–		
8. Understanding of emotions	0.004	0.132	0.169	0.110	0.760***	0.672***	0.574***	–	
9. Management of emotions	−0.100	0.232**	0.169	0.258**	0.821***	0.564***	0.797***	0.377***	–

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Predictors of self-realization
To address the major research question about factors contributing to the subjective feeling of meeting one's goals and expectations, as measured by the MQPSR scores, we performed a series of multiple regression analyses with two predictors (age, and the overall score of emotional intelligence) for each of the three criterion variables: *personal*, *professional*, and *social* self-realization. The results are presented in Table 4.

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Table 4

Regression models explaining variability in three types of self-realization with age and the overall index of emotional intelligence as predictor variables (N = 112)

Variable	r^a	R	R^2	R^2-change	F change	Sign. F	Final
Personal Self-Realization							
Age	–0.131	0.131	0.017	0.017	1.93	0.168	–0.117
EmIn: Total	0.256**	0.282	0.079	0.062	7.36	0.008	0.249**
Professional Self-Realization							
Age	–0.085	0.085	0.007	0.007	0.80	0.373	–0.071
EmIn: Total	0.250**	0.260	0.068	0.060	7.07	0.009	0.246**
Social Self-Realization							
Age	–0.163	0.163	0.026	0.026	2.99	0.087	–0.149
EmIn: Total	0.258**	0.298	0.089	0.062	7.45	0.007	0.250**

Note: [a] Zero-order correlations; * $p < 0.05$; ** $p < 0.01$.

All three models were statistically significant with the combined effect of the predictor variables, explaining 8 %, 7 %, and 9 % of variability in the criterion variable for *personal*, *professional*, and *social* self-realization, respectively. It is noteworthy to reiterate that the age factor depressed the self-realization scores, whereas emotional intelligence added 6 % to the explanatory power of every corresponding model, as if it compensated for the negative influence of the increase in participants' age.

Finally, given differences in how various components of the emotional intelligence are conceptualized (and subsequently manifested themselves in the observed patterns of correlations among the study variables), we were interested in discovering, how one of them, namely *interpersonal* emotional intelligence, most highly correlated with all three types of self-regulation, would perform as a predictor variable in the hierarchical multiple regression models, similar to those described above, if it is to replace the overall index of emotional intelligence. Please, see Table 5 for the results of these analyses.

The substitution of the total emotional intelligence score with its *interpersonal* component strengthened all models. The proportion of the explained variance increased to 18 %, 8 %, and 14 % for *personal*, *professional*, and *social* self-realization, respectively. The corresponding added contribution of the component of *interpersonal* emotional intelligence alone was 16 %, 7 %, and 11 %. The negative influence of the age factor was further reduced – neither final beta regression

coefficient in either model was significant. Though a large portion of variability in the criterion variables remained unexplained, all regression models were statistically significant ($p < 0.01$ and $p < 0.001$).

Table 5

Regression models explaining variability in three types of self-realization with age and the index of interpersonal emotional intelligence as predictor variables (N = 112)

Variable	r^a	R	R^2	R^2 change	F change	Sign. F	Final b
Personal Self-Realization							
Age	–0.131	0.131	0.017	0.017	1.93	0.168	–0.061
Interpersonal EmIn	0.419***	0.423	0.179	0.162	21.52	0.000	0.409***
Professional Self-Realization							
Age	–0.085	0.085	0.007	0.007	0.80	0.373	–0.039
Interpersonal EmIn	0.274**	0.277	0.077	0.069	8.20	0.005	0.268**
Social Self-Realization							
Age	–0.163	0.163	0.026	0.026	2.99	0.087	–0.104
Interpersonal EmIn	0.359***	0.373	0.139	0.113	14.32	0.000	0.341***

Note: [a] Zero-order correlations; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Discussion

Self-realization can be viewed as relatively stable psychological characteristics that are not easily transformed with a person's transition through life. Established at the young age, ability to independently plan and implement professional actions, to develop personal trajectories in these domains, to meaningfully and responsibly understand and manage own goal-oriented behaviour stays with the person pretty much unchanged with years and years to pass. In this study we observed lower levels of subjectively perceived self-realization of all types (social to a lesser extent) in older participants, who combined studying and work. One possible explanation for that is the lack of free time that could be devoted to socially desirable activities (e.g., volunteering for non-profit organizations and events), especially under the circumstance of the conflicting priorities in this category of young adults. Volunteering, being involved in creative crafts, helping others can boost self-realization to largely compensate for the deficiency thereof in professional and personal spheres and balance the overall feeling of satisfaction and well-being. But the opportunities for

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such activities are very limited for part-time students, especially in comparison with their full-time counterparts, at least time-wise.

With age, young adults tend to be more critical to their achievements by weighing them according to social importance. If the latter is perceived as insufficient, especially within the person's own referent group, satisfaction from such achievements does not lead to higher levels of feelings of self-realization.

In general, young adults are believed to be characterized by high degrees of optimism and self-confidence. Transition to professional careers supposedly opens for them more opportunities for self-realization, but their vulnerability to disappointments also increases proportionally. They are typically satisfied with their past (childhood and student experiences), show genuine interest to new life circumstances, eager to set new goals, but tend to overestimate the degree of control they really can exercise over their changing social and professional environments. Young adults value any subjectively meaningful achievement regardless its social importance, but such satisfaction is typically a short-term one, and dissipates when the specific activity/event, it was associated with, is over. Professional career, on the other hand is a long-lasting endeavour susceptible to downfalls, as much as to accomplishments. Transition from the habitually comfortable and predictable university environment to more diverse and erratic work experiences also associated with new responsibilities of the family life (that often happens simultaneously) poses specific, not so easy to overcome challenges for fulfilling their social, professional, and personal potential.

Under these conditions, emotional intelligence may have a strong compensatory effect. Indeed, in the current study we observed its significant positive association with all types of self-realization. Our findings are largely in line with various facets of research on emotional intelligence, especially those that attribute to it the role of a protective factor against work-related stress.

Specifically, the interpersonal component of emotional intelligence that emerged in our study as the most powerful predictor of various aspects of self-realization has been implicated in successful adaptive behaviours well beyond professional environments. For example, Hall, Andrzejewski, & Yopchick (2009) in a meta-analysis of over two hundred independent studies found that interpersonal sensitivity (a concept apparently synonymous to interpersonal emotional intelligence) was positively associated with various aspects of what they broadly called 'adaptive psychosocial functioning'.

Indeed, self-reliance supported by a person's ability to understand and control emotions may enable in young adults true confidence and elicit trust and respect from others in various social and professional environments. In addition, skilful recognition and management of emotions projected to a person by other people are instrumental in more reliably evaluating the needs and motives of others in important social interactions. An emotionally balanced, attentive and constructive person usually motivates and inspires colleagues, creates more productive collaborative working environment, and serves as a model for others. As a result, subjective feeling of self-realization in so-characterized people is substantially higher than in their emotionally less intelligent counterparts.

In our study the interpersonal component of emotional intelligence was the strongest predictor of all three types of self-realization. Based on these data, we would suggest that interpersonal emotional intelligence could be the key factor in compensation for potential decline in self-realization of young adults with the increase in age and the accompanying change in status from the full-time student to combining studying with working. Participants with high levels of interpersonal emotional intelligence not only strived for more successful personal, professional,

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and social self-realization, but also seemed to be better equipped to actually achieve it. It should not come as a surprize, as the ultimate applied value of the emotional intelligence is in its contribution to the adequate decision-making that takes into account affective components of events and situations for assessing more precisely personal meaning of all their nuances and potential consequences.

Some researchers, including the authors of several meta-analyses mentioned above, have questioned to what extent the construct of emotional intelligence is independent (i.e., distinguishable) from other personal characteristics, in particular, specific combinations of the Big Five personality traits (e.g., Joseph et al., 2015), as there are data that indicate high correlations between the former and the latter. This question, though it extends well beyond the scope of the current study, is with no doubt worthy of further conceptual and empirical exploration, and we intend to pursue it in the upcoming research, alongside clarification questions about the psychological nature of the connection between emotional intelligence and self-realization.

Though regression models assessed in the study successfully explained up to 20 % of variability in the criterion variables of personal, professional and social self-realization, it is quite obvious that other factors, beyond age and emotional intelligence, influence subjective perception of self-realization. In our view, further research should include exploring such factors as professional specialization and extent of work experience, history of academic achievements (e.g., the highest obtained degree or current educational level of respondents), cognitive abilities, and personal psychological characteristics (e.g., perseverance, initiative, responsibility) in their connections to all aspects of self-realization.

The study implications for the applied psychological practice point toward some specific suggestions for optimizing psychological aid for young adults experiencing difficulties in professional and social adaptation. One of them is activities devised with the goal of developing emotional intelligence and associated competencies of more balanced perception and understanding of one's life circumstances and of efficient management of interpersonal relations, the idea that recently finds more and more empirical support (e.g., Thory, 2016). Emotional intelligence enriches our arsenal of effective adaptive means far beyond basic instinctive urges to run away, fight, or to detach from the reality. It allows for more fine-tuned to a particular situation psychological and behavioural choices, and professional psychologist are partly responsible for providing their clientele with some adequate means for mastering emotional intelligence and subsequently contributing to the feeling of self-realization.

References

Andrei, F., Mancini, G., Baldaro, B., Trombini, E., & Agnoli, S. (2014). A systematic review on the Predictive Utility of the Trait Emotional Intelligence Questionnaire (TEIQue). *Applied Psychology Bulletin*, *271*(62), 2–29.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

Bar-On, R. (2001). Emotional intelligence and self-actualization. In J. Ciarrochi, J. P. Forgas, & J. D. Mayer (Eds.), *Emotional intelligence in everyday life: A scientific inquiry* (pp. 82–97). Philadelphia, PA: Psychology Press.

Beldoch, M. (1964). Sensitivity to expression of emotional meaning in three modes of communication. In J. R. Davitz et al. (Eds.), *The communication of emotional meaning*. New York: McGraw-Hill.

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Brennan, T. P., & Piechowski, M. M. (1991). A developmental framework for self-actualization: Evidence from case studies. *Journal of Humanistic Psychology*, *31*(3), 43–64. https://doi.org/10.1177/0022167891313008

Dąbrowski, K. (1972). *Psychoneurosis is not an illness*. London: Gryf Publ.

Erikson, E. H. (1994). *Identity and the life cycle*. New York: Norton.

Farnia, F., Nafukho, F. M., & Petrides, K. V. (2018). Predicting career decision-making difficulties: The role of trait emotional intelligence, positive and negative emotions. *Frontiers in Psychology*, 9, 1107. https://doi.org/10.3389/fpsyg.2018.01107

Foster, B., Lomas, J., Downey, L., & Stough, C. (2018). Does emotional intelligence mediate the relation between mindfulness and anxiety and depression in adolescents? *Frontiers in Psychology*, 9, 2463. https://doi.org/10.3389/fpsyg.2018.02463

Gardner, H. (1993). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.

Goleman, D. (1995). *Emotional intelligence*. New York: Bantam Books.

Gómez-Baya, D., & Mendoza, R. (2018). Trait emotional intelligence as a predictor of adaptive responses to positive and negative affect during adolescence. *Frontiers in Psychology*, 9, 2525. https://doi.org/10.3389/fpsyg.2018.02525

Hall, J. A., Andrzejewski, S. A., & Yopchick, J. E. (2009). Psychosocial correlates of interpersonal sensitivity: A meta-analysis. *Journal of Nonverbal Behavior*, *33*, 149–180. https://doi.org/10.1007/s10919-009-0070-5

Joseph, D. L., Jin, J., Newman, D. A., & O'Boyle, E. H. (2015). Why does self-reported emotional intelligence predict job performance? A meta-analytic investigation of mixed EI. *Journal of Applied Psychology*, *100*(2), 298–342. https://doi.org/10.1037/a0037681

Kostakova, I. V. (2014). Emotional intelligence as a factor in professional self-realization psychologists. *Science Vector of Togliatti State University. Series: Pedagogy, Psychology*, 4, 84–87. (in Russ.).

Kudinov, S. I., Kudinov, S. S. (2017). The development of a technique of research of self-identity. In S. I. Kudinov (Ed.), *Vysshaya shkola: opyt, problemy, perspektivy: Materialy X Mezhdunarodnoi nauchno-prakticheskoi konferentsii (Higher school: experience, problems, prospects. Materials of the International Scientific and Practical Conference)* (pp. 3–15). Moscow: RUDN Publ. (in Russ.).

Kudinov, S. I., Kudinov, S. S., Kudinova, I. B., & Mikhailova, O. V. (2017). The role of persistence in students' self-realization. *International Journal of Cognitive Research in Science, Engineering and Education*, *5*(2), 19–25. https://doi.org/10.5937/IJCRSEE1702019K

Leuner, B. (1966). Emotional intelligence and emancipation. *Praxis der Kinderpsychologie und Kinderpsychiatrie*, *15*(6), 196–203.

Lyusin, D. V. (2004). Modern representations of emotional intelligence. In D. V. Lyusin, D. V. Ushakov (Eds.), *Sotsial'nyy intellekt: teoriya, izmerenie, issledovaniya (Social intelligence: Theory, measurement, research)* (pp. 29–36). Moscow: IP RAS Publ. (in Russ.).

Maslow, A. H. (1987). *Motivation and personality*. New York: Harper and Row.

Olczak, P. V., & Goldman, J. A. (1975). The relationship between self-actualization and psychosocial maturity. *Journal of Clinical Psychology*, *31*(3), 415–419. https://doi.org/10.1002/1097-4679(197507)31:3%3C415::aid-jclp2270310307%3E3.0.co;2-c

Oxford English and Spanish dictionary, synonyms, and Spanish to English translator. (n.d.). *Self-realization*. Retrieved from https://en.oxforddictionaries.com/definition/self-realization

Parker, J. D. A., Duffy, J. M., Wood, L. M., Bond, B. J., & Hogan, M. J. (2005). Academic achievement and emotional intelligence: Predicting the successful transition from High School to University. *Journal of the First-Year Experience and Students in Transition*, *17*(1), 67–78.

Petrides, K. V., & Furnham, A. (2001). Trait emotional intelligence: Psychometric investigation with reference to established trait taxonomies. *European Journal of Personality*, *15*(6), 425–448. https://doi.org/10.1002/per.416

Putnam, J. J. (1915). *Human motives*. New York: Little, Brown and Company.

Ramesh, S., Samuel Thavaraj, H., & Ramkumar, D. (2016). Impact of emotional intelligence on academic achievements of college students – A review. *International Journal of Business Management & Research*, *6*(2), 25–30.

Roché, H. (2009). *The Relationship between self-actualization and emotional intelligence* (Dissertation). University of South Africa, Pretoria. Retrieved from https://hdl.handle.net/10500/634

Szczygiel, D. D., & Mikolajczak, M. (2018). Emotional intelligence buffers the effects of negative emotions on job burnout in nursing. *Frontiers in Psychology*, *9*, 2649. https://doi.org/10.3389/fpsyg.2018.02649

Thorndike, E. L. (1920). Intelligence and its uses. *Harper's Magazine, 140,* 227–235.

Thory, K. (2016). Developing meaningfulness at work through emotional intelligence training. *International Journal of Training and Development*, *20*(1), 58–77. https://doi.org/10.1111/ijtd.12069

van der Linden, D., Pekaar, K. A., Bakker, A. B., Schermer, J. A., Vernon, P. A., Dunkel, C. S., & Petrides, K. V. (2017). Overlap between the general factor of personality and emotional intelligence: A meta-analysis. *Psychological Bulletin*, *143*(1), 36–52. https://doi.org/10.1037/bul0000078

Walter, O. (2015). Can emotional intelligence predict teaching ability? In L. Zysberg, S. Raz (Eds.), *Emotional intelligence: Current evidence from psychophysiological, educational and organizational perspectives* (pp. 223–236). Hauppauge, NY: Nova Science Publishers.

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Author Contributions

E. Borokhovski contributed to study conceptualization and research design, performed statistical analysis of the data obtained and interpreted the results, prepared and edited the manuscript main text.

Y. V. Obukhova contributed to study conceptualization and research planning, organized and coordinated the data collection, prepared the literature review, participated in data analysis, and interpreted the results.

The authors declare no conflicts of interest.

DEVELOPMENTAL PSYCHOLOGY

Research article

Relationship between Significant Life Events and Experiences in Adolescence

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Abstract

Introduction. The goal of research presented in this paper was to study the relationship between life events significant for adolescents and their experiences. The novelty of research consists in identification of experiences that are typical for Generation Z adolescents depending on what events in their vision of their lives they consider the most significant ones. For the first time it was demonstrated that there is a relationship between the categories of significant life events defined by adolescents and specific features of their personal experiences. **Methods**. The study was performed using projective techniques: 'Past, Present, Future' (A. L. Venger & Yu. M. Desyatnikova) and author's original projective method 'Becoming an Adult'. The study sample involved 1394 adolescents aged between 14 and 23. **Results**. The research showed that 85 % of respondents were interested in life situations that demonstrated traditional concepts of becoming an adult – in particular, adolescents paid special attention to creativity, achieving success, relativity of adulthood, and the brevity of life. Relativity of adulthood is directly associated with comprehension of adolescent experiences about the search for the meaning of life, its success or failure. It was demonstrated that on average, representatives of the Generation Z defined events that were significant in their lives in the time interval of 15 years, and most of them were associated with career and education, which reflects the expectations of the modern society, in which professional achievements act as an essential tool of social adaptation. **Discussion**. Multiple-stage analysis showed a distinct relationship between adolescent experiences of success and/or failure and life events, associated with respondents' education and career. **Conclusions**. All in all, data of the performed study demonstrate the necessity to expand educational programs with situations that will allow adolescents to experience success/failure.

Keywords

adolescence, life events, lifestyle, adolescent experiences, adolescent interests, modern adolescence, Generation Z, experience of success, time perspective, adolescent self-identification

Highlights

➢ More than 85 % of respondents are interested in life situations that demonstrate traditional concepts of becoming an adult.
➢ Respondents pay special attention to the topics of creativity, achieving success, relativity of adulthood, and the brevity of life.
➢ The relativity of adulthood is associated with the search for the meaning of life and its success and/or failure.
➢ Representatives of the Generation Z, same as adolescents of previous generations, associate most of their significant life events with career and education, which reflects expectations of the society.
➢ Experience of success and/or failure in adolescence is related to the importance of events in the field of education and career.

Introduction

Adolescence is a relatively late 'invention' of the humanity. In primitive societies, this stage is a priori absent: children get ready to become adults, and once they master all the necessary skills and undergo a ritual of initiation, they are granted all the rights, liberties and responsibilities of an adult person (Mead, 1988). In modern civilization, society already regards adolescents as adults, but continues to foster them and limit their opportunities to demonstrate their adulthood, at the same time raising the standards for young people. Nowadays, the youngest generation – young people born in 1995 and later – is conventionally called 'Generation Z' (Yanitskii et al., 2019; Schwartz et al., 2017). This is the first generation that has grown up in the information age and has not seen the world without modern network digital technologies (Vorontsova & Ermolaev, 2016). For them, information resources of the Internet represent the most important source of sociocultural development, which exerts a critical influence on all spheres of their life, including education and self-identification. Since representatives of the Generation Z have a good command of information technologies, they "are quick to learn and equally quick to process information, they can instantaneously switch from one activity to another, as well as operate in multitasking mode" (Kulakova, 2018, p. 4). At the same time, modern researchers acknowledge 'an ideological gap' between the representatives of this generation and their parents, which results from the traditional model of basic values and internal personal meanings (Vorontsova & Ermolaev, 2016; Danilov, Grishchenko, & Shchelkova, 2017; Giordano, 2019). These studies reveal the differences between the generation of modern adolescents and previous generations, but they do not explain why, despite having informational freedom and ability to process information quickly, not all representatives of the modern generation can be successful in their self-identification and professional development.

In the context of this discussion, we believe that increasing relevance can be attributed to the specific character of the social situation of adolescent development, distinguished in classical Soviet psychology. Unlike children, who discover a new stable form at each next stage of their childhood,

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adolescents face the entire diversity of their lifeworld forms (Vygotsky, 2013). L. S. Vygotsky defined a unit of social situation of development as '*perezhivanie*', the concept which encompasses both the individual – with all his or her motives, aspirations, and psychological features – and the environment – i.e. something that is experienced. Following L. S. Vygotsky, we will regard 'perezhivanie' (experience) as a complex indicator of adolescent development.

Modern researchers indicate that all the interests of adolescents revolve around the problem of choosing their life path and future career, when the dream, in which anything is possible, and the ideal, as an abstract reference, gradually turn into a more or less realistic plan of actions. For adolescents, the subject of reflection is not only the final result, but also the means of achieving it (Bukharina & Tolstykh, 2019; Danilova, 2020; Kurus' & Soldatova, 2020; Adelman et al., 2017). Young people experience adolescence in a positive way, if they have an opportunity to develop stable educational interests, make choices in their own life and educational space (Adelman et al., 2017), engage in the subject area of their future career and the range of related social tasks (Chesnokova, Churbanova, & Molchanov, 2019), and manage their own life in the time perspective (Bukharina & Tolstykh, 2019; Wilt, Thomas, & McAdams, 2019). Thus, experiencing of one's future life and realization of these experiences allow adolescents to choose their life path.

Representation of one's own life is characterized by its qualitative fullness, i.e. goals, values, meanings, obtainment of self, as well as by determination of life events in the time perspective. In psychology, the problem of time perspective has been studied by Frank (1939), Lewin (2000), Nuttin (1984), Abul'khanova (2017), Golovakha & Kronik (1984), and many others. They justifiably state that in adolescence time perspective significantly extends, and so choice of a career and attainment of a professional degree can be regarded as the first ideal goal, i.e. an event that for a long time determines the life path of an individual and links together all other life events. At the same time, modern studies show that specific aspects of time perspective can facilitate negative experiences (Zakharova & Trusova, 2019; Rubin, Wetzler, & Nebes, 1986). Uncertainty of a lifelong time perspective at the beginning of professional self-identification can affect the successfulness of academic activity (Bukharina & Tolstykh, 2019) and in late adolescence may manifest itself as an experience of insufficient self-fulfillment, freedom, independence, as well as family problems, feeling of loneliness, and professional failure (Shilova, 2018). This tendency is reinforced by large amounts of information available to the Generation Z. Unbalanced time perspective, negative vision of the future, disinclination to plan the events of one's life and to set life goals can all become reasons for a low level of self-fulfillment (Vedeneeva & Zabelina, 2019).

At the same time, results of modern research show that logical perception of the sequence of 'life events', including career-related ones, as well as psychological orientation of these events towards present and future demonstrate adequate self-perception and social positioning in adolescence (Makushina, 2019). Moreover, the study by Lukina & Solov'eva (2019) proves that the longer the time perspective, in which an adolescent understands the outcome of his or her future professional activity, the greater his or her willingness to obtain an education on a higher professional level. In adolescence, time perception is characterized by recognizing it as a resource, partially realized in the present and in the future in the form of space for implementing life projects (Boiko, 2019). Specifically, modern studies show that university students who structure their current time with orientation towards the future demonstrate higher academic performance compared to those who are focused on the present and perceive future as an abstract emotional image (Bredun, Balanev, Vaulina, Krasnoryadtseva, & Shcheglova, 2020).

Hence, in our study of personality formation in adolescence, we consider it constructive to focus on the influence of life events and their perception in one's own life in the time perspective. In this context, the most significant events are associated with career and education. However, the question of how significant these events are for the representatives of the modern generation, who have informational freedom and ability to process information quickly, remains open in modern psychology. As adolescents grow older and master the full range of experiences, their successful self-identification and professional development imply creativity, self-identification and self-realization of an individual, implementation of one's goals and projects in the settings of a complex lifeworld (Zakharova & Trusova, 2019). At the same time, distinctive characteristics of experiences, associated with career and professional education, have never been an object of detailed research. Therefore, our study had the following *empirical* objectives:

1. To assess the significance of different categories of life events in modern adolescents' perception of their life in the time perspective.
2. To identify experiences and life interests that young people associate with the life goal of adolescence.
3. To identify differences in adolescents' experiences depending on the category of events that are significant in their lives.

In this study, we assumed that there are steady correlations between the experience of success/failure and the significance of education and career in the description of one's life events. Hence, the *goal* of our study was to examine a relationship between life events that are significant for adolescents and their experiences.

Methods

Participants of the study were adolescent boys and girls aged between 14 and 23 living in the Russian Federation. The sample was comprised of 1394 boys and girls of the indicated age group. Age distribution of study participants was the following: 14-year-olds –157, 15-year-olds – 120, 16-year-olds – 313, 17-year-olds – 255, 18-year-olds – 161, 19-year-olds – 102, 20-year-olds – 85, 21-year-olds – 107, 22-year-olds – 43, 23-year-olds – 51. The sample was formed according to the snowball principle. We emailed a link to our study to the educational institutions of Russia and asked to recruit as many participants as possible between 14 and 23 years old. To those who were willing to participate, we described test conditions and provided a personal computer. From each participant we received a consent to take part in the research. The study was carried out in any location convenient for the test subject, with the use of a personal computer or a laptop. To solve the research tasks, we analyzed questionnaire data and results of two projective methods.

The first research method was the 'Past, Present, Future' technique developed by Venger and Desyatnikova (1995). Study participants were asked to write down five most important events in their past, present, and future life. Additionally adolescents specified a time period, when each of these events happened or was supposed to happen. We analyzed the differences in time perspective of the life space using characteristics of time distance between the past and the present, the future and the present, and the depth of life space, which included all past, present, and future events. Qualitative assessment of significant events was performed by means of content analysis.

The second research method that we used was our original projective technique 'Becoming an Adult' (Shilova, 2019), implemented as a software program. The stimuli material of the method was a classical image of young age, portrayed in the feature film 'Practical Joke' ('Rozygrysh'),

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1976. This movie captures typical features of young age, both in general and in particular actions of a specific character (Shilova, 2019). Several windows were simultaneously open on the screen:
– video fragments of the 'Practical Joke' (1976);
– questions and fields for writing a detailed answer about the fragment.

Study participants were asked to watch several video fragments and after each one answer the questions online. Thus, in the course of the study each respondent watched the suggested movie fragment and answered the questions about it. Answers to the given questions show us, in what terms adolescents interpret their objective at current age, what experiences and life interests they associate with the life task of adolescence. Selection of movie fragments and formulation of related questions were performed by five experts (psychologists and teachers with academic degrees) (Shilova, 2019).

Qualitative data, obtained by both methods, was structured and analyzed using content analysis by applying step-wise classification and generalization to sematic units of the text. Solving these problems implied the use of both qualitative descriptions and correlation analysis. To ensure validity, three experts – psychologists and teachers, candidates of sciences – analyzed events given as answers to the questions of the first method, as well as descriptions of the scenes seen by adolescents. In case of differences in the interpretation of obtained results, they were collectively discussed in order to come to the final evaluation. Before doing the main scope of the study, we performed pilot tests. In the process of pilot research, a small sample was used to develop a system of rules for evaluating all types of expressions that we expected to see at the main stage of the study (Shilova, 2019).

When choosing variables for content analysis according to the first method, we relied on the works by Nuttin (1984), which identified criteria for qualitative analysis of the time perspective. We also proceeded from his concept that individual categories of analysis can be absent in some samples. Therefore, at the first stage we identified those categories that were significant for our sample. Such topics of significant events included *occupation* (events related to the activity aimed at doing something (this category includes both career and education)), *communication* (events related to contacts with other people), and *entertainment* (events related to recreation, games, and amusement).

When choosing variables for content analysis according to the second method, we relied on our previous results, where we analyzed a large number of research works on adolescence, presented results of testing the proposed method, and identified the key indicators of becoming an adult (Shilova, 2019).

Analysis of obtained results was carried out in accordance with the following criteria:
1. What do adolescents find interesting? This criterion was used to analyze answers to the question 'What thoughts of the characters seemed interesting to you?' that we asked after the first video fragment, where 'Schoolchildren skip a chemistry class and play the guitar. The deputy head teacher sees it, scolds them, and sends them to class. Meanwhile, young boys assert their adulthood and independence in their choice of actions'.
2. What experiences do adolescents have? This criterion was used to analyze answers to the question 'What experiences do film characters have?', asked after the next movie fragment, where 'Son and father talk about how a boy's life may turn out, and son's arguments are closer to the classical arguments of a grown-up man' (Shilova, 2019).

In the process of testing, we identified the following indicators: (a) interest towards creativity,

(b) interest towards relativity of adulthood and the brevity of life, (c) interest towards achieving success, (d) experience concerning the opposition of success and failure, (e) search for the meaning of life, (f) experience concerning the fullness of life and life achievements, (g) experience concerning time, (h) experience concerning childishness and adulthood (Shilova, 2019). These indicators were subsequently used in the content analysis.

To evaluate the significance of relationship between identified features, we performed correlation analysis. Correlation analysis of qualitative features of the important events, identified using the first method, was carried out using Pearson correlation coefficient, since both variables were measured on an interval scale. Significance levels of 0.05 and 0.01 were utilized. Statistical significance of differences in the answers obtained using the second method was estimated using the chi-square criterion and contingency tables. These methods allowed us to identify the main types of correlations, if the standardized residual was greater than 2 (values of standardized residuals '2' and '–2' were considered critical for finding a correlation). Results of two methods were compared using Student's t-test, the effect size was calculated with Cohen's d coefficient.

Results

As a result of the ***first stage of our research***, we obtained a list of significant life events, each of them specified in time by the study participants. For some events, study participants specified a year when the event occurred and even its date; for future events they usually specified the number of years, after which the event would occur; present-time events were usually identified as something that was happening at that moment, that day, that month, or that week. As a result of analyzing the indicated time periods, we established that an average time interval, which contained all mentioned significant events, amounted to 15 years for all study participants from 14 to 23 years old, regardless of their age. On average, important events of the past fell into the period of 9.16 years, events of the future – 7.43 years.

In total, study participants mentioned 12953 events. Experts classified 46.2 % of them as 'occupation', 35 % – as 'communication', 18.8 % – as 'entertainment'. Obtained data broken down by age are presented in Table 1.

Table 1 contains information about the percentage of important events, broken down by age. The respondents associate the majority of significant events with the activity oriented towards career and education (*occupation*). An exception is provided by middle adolescents, whose representations contain significantly less events focused on occupation, compared to the past events of other categories. Taken as a whole, the number of past and present events associated with occupation increases, as the respondents grow older, whereas the respective number of future events slightly decreases. In late adolescence, most events in the field of education and career are regarded as significant in the past, while the future contains less such events. These results can be explained by age characteristics of the studied sample: the oldest study participants – 22- and 23-year-old adolescents – in most cases have already earned a professional degree and found employment, hence, in their opinion, the significance of this category of events might be more in the past and less in the future compared to younger respondents. On the contrary, middle adolescents most often have only one significant past event associated with occupation – their admission to school, but in the future they envision more events related to career and education.

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Table 1

Categories of important events broken down by age (N = 1394)

Age, years	Number of mentioned events	Occupation (past), %	Communication (past), %	Entertainment (past), %	Occupation (present), %	Communication (present), %	Entertainment (present), %	Occupation (future), %	Communication (future), %	Entertainment (future), %
14	1398	7.4	15	10	12	12	8.5	20.2	8.5	6.4
15	1213	9.6	13	9.5	12.3	12.4	7.9	18.7	9.5	7.1
16	1477	12.5	13	7.5	13.2	12.3	6.4	18.6	11	5.5
17	1448	13.2	12.9	7.7	14.1	12.7	6.1	18.6	10	4.7
18	1390	14	13.1	6.9	14.1	12.9	4.6	18	11.3	5.1
19	1215	16.5	11.6	6.6	14.5	12.3	4.3	18.2	11	5
20	1215	17	11.4	6.2	17	10.6	3.8	18	12	4
21	1220	17.1	11.1	6	17.2	10.6	3.9	18.4	12	3.7
22	1187	18.7	11.4	4.7	18	9.3	3.7	19.5	11.5	3.2
23	1190	19.2	11.3	5.1	19.8	8.4	3.2	18.5	11.6	2.9

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With an increase in respondents' age, the number of communication-related events oriented decreases in the past and present and increases in the future. For middle adolescents, events associated with communication a priori have greater significance than for any other age group. Late adolescents who participated in the study were less inclined to mention important communication-related events in their past or present lives.

Events associated with entertainment are less often identified as significant, and with an increasing respondents' age, their number has a tendency to decrease even more.

Subsequently, Pearson correlation coefficient was used to analyze specific content of important events from the viewpoint of a relationship between identified event categories in a certain time interval (past, present, future) and increasing age. Obtained data is presented in Table 2.

Table 2

Correlation between the categories of important events and increasing age (N = 1394)

Period of life	Category of events	Age
	Occupation	0.1885**
Past	Communication	–0.0763**
	Entertainment	–0.1419**
	Occupation	–0.0028
Present	Communication	–0.0545*
	Entertainment	–0.1573**
	Occupation	–0.0679*
Future	Communication	0.0510
	Entertainment	–0.0727**

*Note: * p < 0.05; ** p < 0.01.*

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Table 2 demonstrates a correlation between the categories of significant events occurring in a certain life period of an adolescent, in which these events have statistically significant correlation with the age of respondents. Obtained values of correlation between age and important life events are mostly negative, i.e. they indicate that the number of important events decreases with age. In particular, with increasing age, in the representation of adolescents there are significantly less events associated with recreation and entertainment. It was also statistically confirmed that respondents of the study were more inclined to mention education- and career-related events in their representations of the past and less so in the future. Statistical differences in the number of communication-related events are confirmed by the data: their number decreases in the representations of past and present periods of life with increasing age of the respondents. At the same time, an increase in the number of communication-related events in the future is not supported by the data.

The second stage of the research was aimed at studying the interests and experiences of adolescents. In terms of the first criterion, when the respondents answered the question "What thoughts of the characters seemed interesting to you?", we received 1364 statements. As a result of content analysis performed by the experts, all the statements were divided into four groups of topics that contained top key points of adolescent interests.

Creativity (35.8 % of statements). For example, "Desire to have one's own creative path, to create, to be persistent in studying and hardworking" or "What I found interesting is the thought that 16 is not childhood anymore. And that in each activity a person should convey something of his own. In creative work, your activity conveys your soul, your emotions, your view on life, and your thoughts. If a person has a beautiful soul, then his painting, his music, his poems, or stories will be magnificent, and they will inspire others. You cannot be someone else's shadow or copy, you should always remain yourself, as every human being is beautiful in his own way".

Relativity of adulthood and brevity of life (14.7 % of statements). For example, "That they are almost 16, but they are still not regarded as adults", or "That wasting time is always bad, and you should direct your energy towards your goals and aspirations", or "What really struck a chord with me was the opening phrase of the protagonist 'but there is no time anyway'. Time is irreversibly slipping away, and you cannot retrieve lost opportunities. You should always think about that".

Achievement of success (34.8 % of statements). For example, "It is important not to get lost in the crowd, to have something original, all your own. You need to express your vision of the world. You also need to listen to your heart and ignore the opinions of those, who see your hobby as a waste of time" or "What matters is individuality, innovation, a specific message. You should not underestimate the capabilities of adolescents. History is full of examples of geniuses who revealed their potential in their youth".

Refusal (14.7 % of statements). Here we mostly gathered statements that the respondents did not find anything of interest in the movie fragment.

In terms of the second criterion, when the respondents answered the question 'What do film characters experience?', we received 1186 statements. As a result of content analysis, we identified six prevailing topics of statements that contained top key points of adolescent experiences.

Success/failure (17.1 % of statements). For example, "The father experiences anxiety that his son in his pursuit of success and recognition would not be able to enjoy life as it is. And the son is concerned that his father is not living to his full potential to achieve success and recognition" or "The father experiences worry for his son, that he 'grew old' too early; in his turn, the son is

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concerned about unrealized ambitions of his father and believes that he had failed in life".

Search for the meaning of life (24.1 % of statements). For example, "That the meaning of life is to overcome difficulties".

Fullness of life / life achievements (5.9 % of statements). For example, "The son believes that the most important in life is to achieve something by overcoming difficulties and ignores the happiness and all the life beauties in front of him. The father has long outgrown his son's perspective, and his reasoning is more down-to-earth".

Future/present, anything about time (20.8 % of statements). For example, "The future that is going to happen to the young boy and that has already happened to his father" or "The present of Oleg and his father's family and the future that has not happened".

Childishness/adulthood (10.5 % of statements). For example, "That they are different, and the connection between them is getting thinner, and they may altogether stop understanding each other and be concerned about each other's future" or "The son thinks that his parents consider him a child".

Refusal (21.5 % of statements). Here we mostly gathered statements that the respondents did not relate to the characters in the movie fragment.

Significant correlations between adolescents' opinions about the experiences of movie characters and interesting thoughts are presented in Table 3.

Table 3

Correlation between adolescents' interests and experiences (N = 1394)

		What do film characters (Oleg and his father) experience in this fragment?					
		Refusal	Success/failure	Search for the meaning of life	Fullness of life/ life achievements	Future/present, anything about time	Childishness/ adulthood
What thoughts of the characters seemed interesting to you?	Creativity	−1.4	1.4	−0.8	−0.5	0.3	1.4
	Relativity of adulthood and brevity of life	*−4.0**	*2.0**	*2.7**	0.2	−0.3	−0.7
	Achievement of success	*−2.2**	0.0	−0.4	1.4	1.9	0.0
	Refusal	*9.6**	*−4.2**	−0.9	−1.6	*−3.1**	−1.4
Note: * value of standardized residual higher than threshold *(−2; 2)*.							

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When we asked about the interesting thoughts of the characters in the fragment, those respondents who singled out the idea about the relativity of adulthood and the brevity of life, believed that the characters had concerns about the search for the meaning of life and/or its success/failure. Those adolescents, who could not name any interesting thoughts of the characters in the fragment, rather disagreed that the characters had experiences concerning the opposition of success and failure, or concerning the future, present, and time in general. Those who could not distinguish what the characters in the fragment were experiencing mostly had no interest in the thoughts about the relativity of adulthood and life brevity, as well as the thoughts about success and achievements in life. Respondents who refused to answer one of the questions were more likely to refuse the second time.

At the **third stage of research**, we studied the differences in the experiences of adolescents in life representations with the prevalence of events oriented towards occupation, communication, or entertainment. In order to do that, we compared the answers of respondents obtained by both methods. All the data obtained by the second method were divided into three groups depending on the category of events significant for the respondent, which were identified by means of the first method. Thus, all respondent's answers about important experiences and interests were divided into three groups: occupation, communication, and entertainment. After that, we analyzed different topics of adolescents' experiences depending on the significance of a certain event category for them. Results are presented in Table 4.

Table 4

Differences in the categories of events significant for adolescents depending on the experiences that they find important (N = 1394)

	Success/failure	
Categories of experiences	Student's t-statistic	Effect size (Cohen's d)
Occupation		
Search for the meaning of life	**0.019***	**−0.239[1]**
Fullness of life /life achievements	**0.037***	**−0.207[1]**
Future/present (about time)	**0.013***	**−0.381[1]**
Childishness/adulthood	**0.021***	**−0.212[1]**
Refusal	**0.016***	**−0.286[1]**
Communication		
Search for the meaning of life	0.693	−0.039
Fullness of life /life achievements	0.968	0.006
Future/present (about time)	0.479	0.071
Childishness/adulthood	0.636	0.057
Refusal	0.752	−0.032
Entertainment		
Search for the meaning of life	0.736	0.033
Fullness of life /life achievements	0.752	0.047
Future/present (about time)	0.422	−0.082
Childishness/adulthood	0.347	−0.111
Refusal	0.977	−0.003

*Note: * p < 0.05;* [1] *average effect size.*

As a result of analysis, significant differences were obtained only for the experiences concerning success/failure and only for the category of events, associated with occupation (events associated with activity aimed at doing something (this category includes both career and education)). Hence, adolescents concerned about the opposition of success and failure were significantly more inclined to place importance on events associated with career- and education-related activity, compared to those respondents who focused on other experiences.

Discussion

As a result of performed study, it was established that on average, modern adolescents identify events that are significant in their lives in the time interval of 15 years, including both past and future events. By comparing the topics of significant events, we demonstrated that most of them were associated with career- and education-related activity. This conclusion correlates with the data of modern studies, which indicate that representations about the length of a life path depend on the significant life events in the professional field (Habermas & Reese, 2015; Settersten & Mayer, 1997). At the same time, according to Gonta (2018), one of the main problems for adolescents is the problem of psychological loneliness, which arises despite various communication networks, and becomes one of the main reasons for social alienation of modern adolescents. Our results show that for late adolescents, the problem associated with loneliness does not play a pivotal role, since for them present significance of communication-related events is lower compared to younger adolescents. In particular, we observe that the significance of events in adolescence reflects the expectations of modern society, and solution of professional-related problems comes to the forefront, as among other things, it also allows to solve the issues of social adaptation.

Modern researchers who study specific nature of the Generation Z indicate a change in the internal personal meanings of modern adolescents (Vorontsova & Ermolaev, 2016; Danilov et al., 2017), while classical development psychology states that all interests of adolescents revolve around choosing their life path and future career. When studying adolescent interests, we tried to accommodate both classical psychological ideas about adolescence and relevant trends of research on the specifics of the modern generation of adolescents. In our sample, 85.3 % of adolescents replied in a positive and engaged manner when assessing a classical video about life representations of adults, and focused their attention on the topics of creativity, success, relativity of adulthood, and the brevity of life. It should be noted that the topics of creativity and achieving success in life often become a focus of psychological research (Adykulov, 2020; Bogoyavlenskaya, 2019; Golovina, 2018). The topic of discussing adulthood and brevity of life, identified in our research as interesting for adolescents, has not been studied before. More detailed analysis of this subject showed us that adolescents, who are interested in the relativity of adulthood and the brevity of life, believe that the characters experience concerns about the opposition of success and failure or about the search for the meaning of life. Earlier Shabanova & Leonova (2019) proved that late adolescents often experience dissatisfaction with their self-fulfillment, freedom, independence, family well-being, and professional success. We identified that these experiences were typical for those adolescents, who were interested in the relativity of adulthood and the brevity of life. A factor of great importance is the plot of the movie fragment, in the discussion of which adolescents spoke about the experience concerning the opposition of success and failure or the search for the meaning of life. Polivanova & Shakarova (2016) use exactly the same video fragment to indicate the first signs of blurring in the term 'adulthood', where they argue

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that in this fragment, representations of the protagonist – the son (Oleg Komarovsky) about the success in life correspond to classical representations of an adult man. As this plot is free from the specifics of modern communication, by offering it as a stimuli material to the representatives of the Generation Z, we could compare classical representations about becoming an adult to the characteristics singled out in the discussion and identify the true picture of adolescent experiences.

Realization of experience concerning the opposition of success and failure plays a significant role in adolescence. Analysis of modern studies showed that negative and positive perception of one's own life has an effect on the important events in the professional field (Vedeneeva & Zabelina, 2019; Lukina & Solov'eva, 2019; Makushina, 2019; Shabanova & Leonova, 2019). In the terminology of F. Vasilyuk's lifeworlds, Kryuchkov (2019) indicates that an individual masters a full range of experiences before reaching adulthood and starts using them in the periods of adulthood. In the scope of our study, we obtained significant differences in the categories of events, which prevailed in life representations of modern adolescents depending on the experiences that they found important. For example, life representations of adolescents concerned about success/failure are often dominated by career- and education-related events. Therefore, experience of success/ failure determines the number of events associated with career and education in the lives of adolescents. Interpersonal communications do not play a pivotal role in the life experiences of modern adolescents.

Conclusions

Performed study demonstrated that adolescents' interest in the topic of the relativity of adulthood and the brevity of life is associated with the experience concerning the search for the meaning of life and its success and/or failure. At the same time, the experience of success and/or failure is the topic that resonates the most with the adolescents who name career and education as significant events in their lives. In contrast to previous generations, for whom professional self-identification and getting a job related to their degree was enough, modern adolescents need to experience success in order to realize the significance of life events associated with education and career.

Obtained results allow to specify questions for further research and psychological and pedagogical designs. Established correlation between the experience of success/failure and the significance of education- and career-related life events demonstrates the need to expand educational programs with situations that will allow adolescents to experience success/failure. In our opinion, there must be specially prepared educational courses, aimed at helping adolescents interpret potential life events associated with education and career.

References

Abul'khanova, K. A. (2017). Time of personality and its vital way. *Institut psikhologii Rossiiskoi akademii nauk. Chelovek i mir*, *1*(1), 165–200. (in Russ.).

Adelman, R. M., Herrmann, S. D., Bodford, J. E., Barbour, J. E., Graudejus, O., Okun, M. A., & Kwan, V. S. Y. (2017). Feeling closer to the future Self and doing better: Temporal psychological mechanisms underlying academic performance. *Journal of Personality*, *85*(3), 398–408. https://doi.org/10.1111/jopy.12248

Adykulov, A. A. (2020). Cultural and historical approach of L. S. Vygotsky and creativity in the problem of research of the unconscious. *Byulleten' nauki i praktiki (Bulletin of Science and Practice)*, *6*(1), 336–351. https://doi.org/10.33619/2414-2948/50/42 (in Russ.).

Bogoyavlenskaya, D. B. (2019). Creativity in the era of social change. *Obrazovanie lichnosti (Personality Formation)*, 2, 62–71. (in Russ.).

Boiko, O. V. (2019). Problem of psychological time in adolescence. *Gumanitarnyi vestnik (Gorlovka)*, 8, 18–25. (in Russ.).

Bredun, E. V., Balanev, D. Yu., Vaulina, T. A., Krasnoryadtseva, O. M., & Shcheglova, E. A. (2020). Temporal characteristics of students as cognitive diagnostic characteristics: The context of adaptive education. *Russian Psychological Journal*, *17*(1), 60–73. https://doi.org/10.21702/rpj.2020.1.5 (in Russ.).

Bukharina, A. Yu., & Tolstykh, N. N. (2019). Time perspective and temporal competence as factors of productive learning motivation. *Sovremennaya zarubezhnaya psikhologiya (Journal of Modern Foreign Psychology)*, *8*(2), 36–48. https://doi.org/10.17759/jmfp.2019080204 (in Russ.).

Chesnokova, O. B., Churbanova, S. M., & Molchanov, S. V. (2019). Professional self-determination in young age as a structural component of future professionalism: Socio-cognitive and creative factors. *Kul'turno-istoricheskaya psikhologiya (Cultural-Historical Psychology)*, *15*(4), 109–118. https://doi.org/10.17759/chp.2019150411 (in Russ.).

Danilov, A. N., Grishchenko, Zh. M., & Shchelkova, T. V. (2017). Generation of Z: Split of traditions or code conversion of culture. *Zhurnal Belorusskogo gosudarstvennogo universiteta. Sotsiologiya (Journal of the Belarusian State University. Sociology)*, 1, 109–118. (in Russ.).

Danilova, N. S. (2020). Target component of the future image in adolescence. *Nauchnye issledovaniya XXI veka*, 1, 394–400. (in Russ.).

Frank, L. K. (1939). Time perspectives. *Journal of Social Philosophy*, *4*, 293–312.

Giordano, P. J. (2019). Science, culture, and the study of personality. *Psychology in Russia: State of the Art*, *12*(2), 69–78. https://doi.org/10.11621/pir.2019.0206

Golovakha, E. I., & Kronik, A. A. (1984). *Personal psychological time*. Kiev: Naukova dumka. (in Russ.).

Golovina, S. G. (2018). Attitude towards success and motivation for success among the student youth. *Tendentsii razvitiya nauki i obrazovaniya*, 43–3, 69–72. https://doi.org/10.18411/lj-10-2018-69 (in Russ.).

Gonta, A. V. (2018). Psychological description of the experience of loneliness in youthful age. *Nauchnye trudy respublikanskogo instituta vysshei shkoly*, 18–2, 93–100. (in Russ.).

Habermas, T., & Reese, E. (2015). Getting a life takes time: The development of the life story in adolescence, its precursors and consequences. *Human Development*, *58*, 172–201. https://doi.org/10.1159/000437245

Kryuchkov, K. S. (2019). Fyodor Vasilyuk's lifeworld's typology as personality development periodization: theoretical comparison and analysis. *Izvestiya Yugo-Zapadnogo gosudarstvennogo universiteta. Seriya: Lingvistika i pedagogika (Proceedings of South-West State University. Series Linguistics and Pedagogical)*, *9*(4), 179–194. (in Russ.).

Kulakova, A. B. (2018). Generation Z: theoretical aspect. *Voprosy territorial'nogo razvitiya (Territorial Development Issues)*, 2. https://doi.org/10.15838/tdi.2018.2.42.6 (in Russ.).

Kurus', I. A., & Soldatova, E. L. (2020). Orientation and specificity of time transspective in view of intensity of crisis experiences in adolescence. *Vektor nauki TGU. Seriya: Pedagogika, psikhologiya (Science Vector of Togliatti State University. Series: Pedagogy, Psychology)*, 2, 43–48. https://doi.org/10.18323/2221-5662-2020-2-43-48 (in Russ.).

Lewin, K. (2000). *Field theory in social science*. Saint Petersburg: Sensor. (in Russ.).

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Relationship between Significant Life Events and Experiences in Adolescence
Russian Psychological Journal, 2021, Vol. 18, No. 3, 70–85. **doi**: 10.21702/rpj.2021.3.5

DEVELOPMENTAL PSYCHOLOGY

Lukina, N. L., & Solov'eva, E. A. (2019). The time perspective of students in secondary vocational and higher educational institutions. *Novoe v psikhologo-pedagogicheskikh issledovaniyakh (Innovation in Psychological and Pedagogical Studies)*, 3, 170–176. (in Russ.).

Makushina, O. P. (2019). Perception of the past, present and future by students with different psychological ages. *Vestnik VGU. Seriya: Problemy vysshego obrazovaniya (Proceedings of Voronezh State University. Series: Problems of higher education)*, 3, 46–50. (in Russ.).

Mead, M. (1988). *Culture and the world of childhood. Selected works*. Moscow: Nauka. (in Russ.).

Nuttin, J. (1984). *Motivation, planning, and action: A relational theory of behavior dynamics*. Leuven: Leuven University Press; Hillsdale: L. Erlbaum Associates.

Polivanova, K. N., & Shakarova, M. A. (2016). Socio-cultural child's image (Soviet and Russian movies' analysis). *Kul'turno-istoricheskaya psikhologiya (Cultural-Historical Psychology)*, *12*(3), 255–268. https://doi.org/10.17759/chp.2016120315 (in Russ.).

Rubin, D. C., Wetzler, S. E., & Nebes, R. D. (1986). Autobiographical memory across the lifespan. In D. C. Rubin (Ed.), *Autobiographical memory* (pp. 202–221). Cambridge University Press. https://doi.org/10.1017/CBO9780511558313.018

Schwartz, S. H., Cieciuch, J., Vecchione, M., Torres, C., Dirilen-Gumus, O., & Butenko, T. (2017). Value tradeoffs propel and inhibit behavior: Validating the 19 refined values in four countries. *European Journal of Social Psychology*, *47*(3), 241–258. https://doi.org/10.1002/ejsp.2228

Settersten, R. A., & Mayer, K. U. (1997). The measurement of age, age structuring, and the life course. *Annual Review of Sociology*, *23*, 233–261. https://doi.org/10.1146/annurev.soc.23.1.233

Shabanova, T. L., & Leonova, O. A. (2019). Specifics of internal conflicts during the period of early adulthood crisis in modern young people. *Nizhegorodskii psikhologicheskii al'manakh*, *1*(1), 137–146. (in Russ.).

Shilova, N. P. (2018). Psychological and pedagogical bases of formation of stable educational interests in youth age. *Zhivaya psikhologiya (Russian Journal of Humanistic Psychology)*, *5*(2), 95–106. (in Russ.).

Shilova, N. P. (2019). The study on the process of maturation in adolescence. *Pedagogika*, 7, 65–71. (in Russ.).

Vedeneeva, E. V., & Zabelina, E. V. (2019). Model of psychological time of the personality included in globalization process (the study of students). *Nauchno-pedagogicheskoe obozrenie (Pedagogical Review)*, 5, 166–177. https://doi.org/10.23951/2307-6127-2019-5-166-177 (in Russ.).

Venger, A. L., & Desyatnikova, Yu. M. (1995). Group work with senior pupils aimed at their adaptation to new conditions. *Voprosy psikhologii*, 1, 25–33. (in Russ.).

Vorontsova, Yu., & Ermolaev, V. V. (2016). Representations of "Generation Z" about their future family (on the example of senior pupils in Lithuania). *Psikholog*, 1, 1–12. https://doi.org/10.7256/2409-8701.2016.1.16664 (in Russ.).

Vygotsky, L. S. (2013). *Collection of works: Volume 4. Child psychology*. Moscow: Kniga po Trebovaniyu. (in Russ.).

Wilt, J. A., Thomas, S., & McAdams, D. P. (2019). Authenticity and inauthenticity in narrative identity. *Heliyon*, *5*(7), e02178. https://doi.org/10.1016/j.heliyon.2019.e02178

Yanitskii, M. S., Seryi, A. V., Braun, O. A., Pelekh, Yu. V., Maslova, O. V., Sokol'skaya, M. V., … Kapustina, T. V. (2019). The value orientations system of Generation Z: Social, cultural and demographic determinants. *Sibirskii psikhologicheskii zhurnal (Siberian Journal of Psychology)*, 72, 46–67. https://doi.org/10.17223/17267080/72/3 (in Russ.).

DEVELOPMENTAL PSYCHOLOGY

Zakharova, A. Yu., & Trusova, A. V. (2019). Time perspective in patients with affective disorders: Review of scientific research. *Vestnik Rossiiskogo universiteta druzhby narodov. Seriya: Psikhologiya i pedagogika (RUDN Journal of Psychology and Pedagogics)*, *16*(3), 435–450. https://doi.org/10.22363/2313-1683-2019-16-3-435-450 (in Russ.).

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The author declares no conflict of interest.

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Research article

Metacognitive Determination of Job Satisfaction Among Information Technology Professionals

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Abstract

Introduction. Psychological research of professional activity has traditionally relied on ideas about its two main types – object-related and subject-related ones. In our previous studies, we emphasized the need for distinguishing an information-related type, which in the context of global informatization takes a central position (in practical terms) and has a high specificity (in theoretical terms). This study continues to identify this kind of specificity and considers it from the perspective of the metacognitive organization of activity. The results of this study represent the first evidence in favour of the metacognitive determination of job satisfaction which is characteristic of information technology professionals. **Methods**. The sample comprised 235 Russian professionals representing information-related and object-related professions. The study used the following psychological assessment tools: the Michigan Organizational Assessment Questionnaire Job Satisfaction Subscale, the Metacognitive Awareness Inventory, and the inventory for assessing Integrative-Typological Personal Professional Orientation. **Results**. The overall level of metacognitive awareness is a reliable predictor of job satisfaction among information technology professionals. The overall level of metacognitive awareness and the level of metacognitive knowledge may represent a reliable predictor for job satisfaction among the respondents whose professional orientation is highly compliant with information technology professions. In contrast, metacognitive awareness exerts no effect on job satisfaction among representatives of object-related professions including respondents whose professional orientations are in high compliance with this type of profession. **Discussion**. We compared the results of this study with those from previous studies in terms of the level of metacognitive awareness, its interprofessional differences, and job satisfaction. We concluded that information-related professions have specific characteristics that distinguish them from object-related ones in terms of metacognitive determination of job satisfaction.

Keywords

Highlights

➢ Job satisfaction is determined by indicators of metacognitive awareness among information technology professionals.

➢ The determination of job satisfaction by factors of metacognitive awareness is not characteristic of object-related professions. This confirms the presence of specific characteristics of the metacognitive organization of information-related professions which manifest themselves in terms of metacognitive determination of job satisfaction.

➢ For information-related professions, an increase in the compliance of personal professional orientation with the type of professional activity leads to increase in the metacognitive determination of job satisfaction.

For citation

Introduction

The research problem of this study focuses on the following three perspectives: (a) the type of professional activity, (b) job satisfaction, and (c) its metacognitive determination.

The first perspective is associated with the psychological construct of the 'type of professional activity'. Today's labour sphere is characterized by structural complexity and a variety of professions, specialties, and types of work. Meanwhile, rapid transformations are observed here, which leads to the emergence of new types of labour, the disappearance of previous ones, qualitative changes in the subject and psychological content of existing types of labour. Such processes lead to changes in the current nomenclature of professions and specialties. These objective tendencies complicate the process of psychological classification of labor types. In Russian psychology, the dichotomous classification is still the most traditional; within its framework all types of professional activity are divided according two basic types of relationship – subject-object and subject-subject ones (which we will further designate as object-related and subject-related types of professional activity). However, over the past two decades, the authors of this article have been developing (jointly and separately) ideas related to the fact that in today's conditions this dyad considerably reduces the actual phenomenology of the labour sphere. Therefore, it should be expanded to a triad by adding another basic type of activity that is related to interaction with information (instead of individuals or material objects) (Lenkov, 2001). This third 'subject-information' type (hereinafter we will designate it as 'information-related') suggests a considerable specificity that distinguishes it from the two traditional types in terms of the structural and functional organization of activity (Karpov, 2018; Karpov & Lenkov, 2006) and psychological requirements in relation to the subject of labor (Rubtsova, 2011). Obviously, the subject-related type of labor

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is not related to either object-related or information-related ones. Therefore, the main issue here is the differentiation of the object-related and the information-related types. This study aims to analyze a new previously unexplored perspective of such a differentiation associated with the metacognitive determination of job satisfaction.

Accordingly, the second aspect of the problem is associated with job satisfaction, for which many theoretical concepts have been developed (see Davidescu, Apostu, Paul, & Casuneanu, 2020; Izvercian, Potra, & Ivascu, 2016), its psychological and other predictors (see Berta et al., 2018; Brunelle & Fortin, 2021; Wijngaards, Burger, & van Exel, 2021). Similar studies were carried out in relation to professions, which, in our terminology, represent object and information types. For example, a recent study of Jordanian civil engineers (object-based occupations) found that the most significant predictors of overall job satisfaction are the work environment, pay and benefits, coworker satisfaction, and satisfaction with control (Alzubi, Alkhateeb, & Hiyassat, 2021). In turn, in a study of 4207 Spanish IT professionals (information type of profession), job position, teamwork atmosphere, leadership, recognition and compensation, physical and personal conditions were considered as predictors of job satisfaction (Crespi-Vallbona & Mascarilla-Miró, 2018).

However, we could not find any studies that consider metacognitive properties similar to metacognitive awareness as predictors of job satisfaction. On the other hand, some studies have found correlations between job satisfaction and organizational and psychological factors such as organizational commitment, job involvement, intention to quit the job, etc. (see Ensour, Zeglat, & Shrafat, 2018; Wijngaards et al., 2021). In turn, metacognition is an important factor in the organizational aspects of group work (Splichal, Oshima, & Oshima, 2018) and, therefore, can be associated with overall job satisfaction, which implicitly includes an assessment of interactions in the organization. Thus, we assumed that job satisfaction may have metacognitive determination at least for some types of labour.

Accordingly, the third perspective of the issue is associated with the metacognitive determination of professional activity and the characteristics of the subject of labor. The issue of metacognitive determination of development, behavior, and activity has been studied for many decades. A wide variety of self-reports have been developed to measure various components of metacognition. A systematic review of such assessment tools is presented, for example, by Craig, Hale, Grainger, & Stewart (2020). However, such studies often involve non-professional social groups distinguished by gender, age, type of education, and sociocultural differences (for example, Babikova, Mal'tseva, Startseva, & Turkina, 2018; Abdelrahman, 2020; Anumudu, Adebayo, Gboyega-Tokunbo, Awobode, & Isokpehi, 2019; Martirosov & Moser, 2021; Pradhan & Das, 2021) and are less relevant for professional groups. If we systematize and generalize recent studies for professional groups, it turns out that they more often involve representatives (often only future ones, i.e., students) of the subject-related professions: teachers, physicians, managers, etc. (see, for example, Gutierrez de Blume & Montoya, 2021). Only a few studies of the metacognitive determination of professional activity for object-related and, especially, information-related types of professions provide fragmentary information (in relation to the spectrum of professions and types of labor that represent this type). Examples include studies involving so-called 'novice programmers' (for example, Rum & Ismail, 2016) who, in fact, are university and college students in information technology professions studying programming courses. A brief overview of such studies is presented, for example, by Prather et al. (2018). However, we failed to find any studies that consider the metacognitive determination of job satisfaction in object-related and information-related professions.

Thus, our research problem was to elucidate possible common and specific features of metacognitive determination of job satisfaction for professions of object-related and information-related types, which have been previously combined within a single subject-object type. This study *aims* to compare the metacognitive determination of job satisfaction in object-related and information-related professions.

Methods

Sample and procedure

The study sample comprised 300 individual participants equally representing object-related and information-related professions (150 people for each group, including 75 males and 75 females). When selecting applicants for participation, we checked compliance with the following two requirements: (a) non-management job responsibilities (lack of managerial functions at a level higher than management of individual assistants) and (b) job responsibilities when interaction with others is not very frequent and does not constitute their main content. The presence of both permanent managerial functions and intense subject interactions brings such activities into integrative types that differ considerably from the basic ones (Rubtsova, 2011). Therefore, both requirements are designed to ensure the selection of representatives of 'pure' object-related and information-related types.

The respondents who gave written informed consent to participate in the study (n = 249) filled out the questionnaires (a) in-person, using paper form (n = 44), (b) in-person, using electronic Google Form, filled in the presence of the experimenter (n = 69) and (c) remotely, using electronic Google Form (n = 136). After completing the questionnaires, we excluded the respondents who did not meet our study requirements, as well as cases of erroneous, inaccurate, or missing responses (n = 14). Thus, 78.3 % of the original number of respondents remained in the sample.

The final sample comprised 235 employed men and women aged 19–59 years, residing in nine cities of Russia (Tver, n = 6; Moscow, n = 62; St. Petersburg, n = 49; other cities, n = 58), representing object-related (n = 119) and information-related (n = 116) professions. The information-related professions were as follows: programmer, technical editor, web designer, data entry operator, statistician, IT engineer, system administrator, software tester, database administrator, and video game developer. The object-related professions were as follows: heating networks engineer, electrician, electronics engineer, technologist, builder, master builder, radiologist, dental prosthetist, locomotive driver, microbiologist, chemist, restorer, sound technician, veterinarian, electrician. Table 1 shows other characteristics of the sample.

Table 1

Characteristics of respondents

Variables	Entire sample (n = 235)	Types of professions		p
		Information-related type (n = 119)	Object-related type (n = 116)	
Gender				
Males	130 (55.3 %)	64 (53.8 %)	66 (56.9 %)	0.631
Females	105 (44.7 %)	55 (46.2 %)	50 (43.1 %)	

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Table 1

Characteristics of respondents

Variables	Entire sample (n = 235)	Types of professions		p
		Information-related type (n = 119)	Object-related type (n = 116)	
Age				
< 31 years	134 (57.0 %)	73 (61.3 %)	61 (52.6 %)	0.325
31–45 years	88 (37.4 %)	39 (32.8 %)	49 (42.2 %)	
> 45 years	13 (5.5 %)	7 (5.9 %)	6 (5.2 %)	
Work experience in the profession				
< 6 years	62 (57.0 %)	53 (52.1 %)	61 (45.7 %)	0.393
6–15 years	49 (37.4 %)	49 (33.6 %)	49 (42.2 %)	
> 15 years	17 (5.5 %)	14 (14.3 %)	6 (12.1 %)	

Note: here *p* is the asymptotic two-way significance level of differences according to Pearson's chi-square test.

Measurements

We measured *job satisfaction* using the Michigan Organizational Assessment Questionnaire Job Satisfaction Subscale (MOAQ-JSS) (Cammann, Fichman, Jenkins, & Klesh, 1983). This questionnaire measures overall job satisfaction and consists of three items (wording was direct for items 1 and 3 and reverse for item 2) describing the individual's subjective reactions to his/her work in the organization. A 7-point scale was used to assess the statements in the original version; in subsequent studies, other scales were also widely used, including a 5-point scale. The questionnaire is well known and has been proven to be reliable and valid in numerous studies (Bowling & Hammond, 2008). We failed to find any Russian-language modification of this diagnostic tool. Therefore, taking into account its simplicity, we used our own translation, which authenticity was verified by professional translators. We used a 5-point Likert-type scale ranging from 1 to 5 where 1 equaled strongly disagree and 5 equaled strongly agree. The responses to item 2 were reversed before processing. Job satisfaction was calculated as the sum of the three items. Cronbach's alpha coefficient for the MOAQ-JSS was 0.939 for all the subjects (n = 235).

We measured *metacognitive awareness* using the Metacognitive Awareness Inventory (MAI) (Schraw & Dennison, 1994). The MAI has deep theoretical foundations that summarize the

findings reported by numerous authors, including A. L. Brown, D. R. Cross, J. H. Flavell, R. H. Kluwe, S. G. Paris, and others (Lim & Ng, 2011). Currently, the MAI has been modified in many languages; it is one of the most widely used self-reports for characterizing metacognition (Craig et al., 2020; Xethakis, 2020). This inventory contains 52 items that assess an overall score of metacognitive awareness calculated as the sum of scores for the following two scales: (a) the KC scale (17 items), 'metacognitive knowledge' (Knowledge of Cognition) that contains 3 subscales – Declarative Knowledge (DK), Procedural Knowledge (PK), and Conditional Knowledge (CK); (b) the RC scale (35 items), 'metacognitive regulation' (Regulation of Cognition) that contains 5 subscales – Planning (PL), Information Management Strategies (IMS), Comprehension Monitoring (CM), Debugging Strategies (DS), and Evaluation (EV). We compared this structure of the MAI with the table of elements of metacognition identified by various authors as presented in the study by Lim & Ng (2011) and observed considerable theoretical stability of this structure provided by the fact that the MAI components are clearly related to many components of metacognition identified in later studies.

In our study, we used a Russian-language version of the MAI modified by A. V. Karpov and M. I. Skityaeva (Karpov & Skityaeva, 2005). Here, the original formulations of the inventory related to learning are replaced by formulations related to professional activities (for example, 'my teacher' – 'my chief', 'in my training' – 'in my job'). Containing all the 52 items of the inventory, this modification, however, does not use its scale and subscale structure; here, the authors recommended to find only the total score for all the items. Nevertheless, several subsequent studies tested this adaptation using the structure of scales and/or subscales corresponding to the original version (for example, Babikova et al., 2018). In this regard, we also initially planned to use the full-structure MAI. To assess the responses we used a 5-point Likert-type scale ranging from 1 to 5 where 1 equaled strongly disagree and 5 equaled strongly agree.

However, in the study sample (n = 235), Cronbach's alpha coefficient was satisfactory for some subscales (0.768 for DK, 0.796 for IMS, and 0.712 for CM) and unsatisfactory for others (0.687 for PK, 0.667 for CK, 0.694 for PL, 0.598 for DS, and 0.697 for EV). Therefore, taking into account the ongoing discussion about the factor validity of both the original MAI (see Craig et al., 2020; Xethakis, 2020) and its Russian-language version (see Byzova, Perikova, & Lovyagina, 2019), we decided to limit ourselves to using two scales – KC 'metacognitive knowledge' (Cronbach's α = 0.880) and RS 'metacognitive regulation' (Cronbach's α = 0.918), and also the total score of metacognitive awareness MA (0.946). As L. Xethakis noted, "there is more evidence that the MAI has two main dimensions" (Xethakis, 2020, p. 125). In addition, in recent studies many authors have confirmed the validity of the two-factor structure of the MAI or its modifications (e.g. Abdelrahman, 2020; Gutierrez de Blume & Montoya, 2021; Martirosov & Moser, 2021).

We measured *professional orientation* using the inventory for measuring Integrative and Typological Personal Professional Orientation (IPO) (Rubtsova, 2011). In our study we used only three scales of the IPO that characterize orientation towards activities of the corresponding type: object-related orientation (OB, 7 items), subject-related orientation (SUB, 8 items), information-related orientation (INF, 9 items). Cronbach's alpha coefficients were 0.885, 0.884, and 0.813 for the OB, SUB, and IBF scales, respectively.

To *analyze the data*, we used the methods of correlation analysis and ANOVA, as well as methods for testing statistical hypotheses.

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Russian Psychological Journal, 2021, Vol. 18, No. 3, 86–103. **doi**: 10.21702/rpj.2021.3.6

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Results

The characteristics of the sample (Table 1) show that the groups distinguished by the type of activity are equivalent in terms of distributions by gender, age, and work experience. By the mean scores (Table 2), the groups turned out to be equivalent in terms of age, work experience, job satisfaction, metacognitive knowledge, metacognitive regulation and awareness, and professional orientation towards the subject-related professions. Meanwhile, as expected for the representatives of information-related professions, orientation towards this type of professions was significantly higher and orientation towards the object-related type was lower (see Table 2).

Table 2

Mean scores and standard deviations

Variables	Entire sample (n = 235)	Types of professions		p
		Information-related type (n = 119)	Object-related type (n = 116)	
Age	31.06 (7.171)	30.95 (7.407)	31.16 (6.952)	0.709
Work experience	7.54 (6.170)	7.26 (6.629)	7.82 (5.686)	0.128
UD	12.29 (2.404)	12.16 (2.633)	12.43 (2.148)	0.924
KC	64.25 (5.971)	64.41 (6.640)	64.08 (5.221)	0.412
RC	134.18 (9.884)	133.36 (11.570)	135.02 (7.747)	0.560
MA	198.43 (15.146)	197.77 (17.692)	199.09 (12.030)	0.938
OB	22.59 (4.353)	19.19 (3.112)	26.07 (2.117)	**0.000**
SUB	18.67 (5.185)	17.92 (4.503)	19.43 (5.721)	0.051
INF	32.10 (6.626)	37.68 (3.430)	26.37 (3.455)	**0.000**

Notes: UD – job satisfaction, *KC* – metacognitive knowledge, *RC* – metacognitive regulation, *MA* – metacognitive awareness; *OB, SUB, INF* – professional orientation towards the types of professions (object-related, subject-related, and information-related, respectively); *p* is the asymptotic two-way significance level of differences according to the Mann–Whitney test; scores of *p < 0.05* are highlighted in bold.

Significant correlations were found only within the structure of the MAI both for the entire sample and for professional groups (see Table 3). Thus, no significant correlations between job satisfaction and indicators of metacognitive awareness were found. More precisely, for a given group size, these correlations 'failed to reach' the level of statistical significance for information-related professions (see Table 3).

Table 3

Spearman correlations coefficients between job satisfaction and factors of metacognitive awareness

Variables	2 KC	3 RC	4 MA
Entire sample (n = 235)			
1. Job Satisfaction (UD)	0.019	0.038	0.045
2. Metacognitive Knowledge (KC)		**0.747****	**0.901****
3. Metacognitive Regulation (RC)			**0.943****
4. Metacognitive Awareness (MA)			
Information-related type (n = 119)			
1. Job Satisfaction (UD)	0.118	0.101	0.128
2. Metacognitive Knowledge (KC)		**0.819****	**0.935****
3. Metacognitive Regulation (RC)			**0.953****
4. Metacognitive Awareness (MA)			
Object-related type (n = 116)			
1. Job satisfaction (UD)	–0.089	0.000	–0.025
2. Metacognitive Knowledge (KC)		**0.647****	**0.857****
3. Metacognitive Regulation (RC)			**0.924****
4. Metacognitive Awareness (MA)			

Notes: ***** $p < 0.05$; ****** $p < 0.01$; values of $p < 0.05$ are highlighted in bold.

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Further verification was carried out using one-way ANOVA. For each factor, we distinguished subgroups corresponding to its low, average, and high levels and representing approximately 23 %, 54 % and 23 % of the group size, respectively (see Tables 4 and 5). Multiple comparisons were performed using the Games–Howell test, which does not require the equality of subgroup sizes and the homogeneity of variances. We assessed the impact of factors using the eta-squared values.

To examine the correspondence between professional orientation and the type of professional activity in each group, we carried out compliance adjustment and selected the respondents with a higher compliance. We used the following empirical criteria: (a) for the *information-related group* – the orientation towards this type is higher than among 10 % of the group; the orientation towards object-related and subjective-related types is lower than among 20 %; 82 individual participants remained in the compliance-adjusted group, that is, 68.9 % of the group size (see Table 4); (b) for the *object-related group* – the orientation towards this type is higher than among 20 % of the group; the orientation towards the information-related type is lower than among 30 %; the orientation towards the subject-related type is lower than among 25 %; 83 individual participants remained in the compliance-adjusted group, that is, 71.6 % of the group size (see Table 5).

A significant influence of metacognitive awareness on job satisfaction was observed in the initial group of information-related professions. Meanwhile, in the compliance-adjusted group this effect remained significant and the effect size increased (see Table 4).

Table 4

The impact of metacognitive awareness factors on job satisfaction (information-related professions)

Factors	ANOVA			Mean scores			Post hoc test		
	F	p	η^2	M1	M2	M3	1–2	1–3	2–3
Initial group (n = 119)									
KC	2.667	0.074	0.044	11.52 n = 29	12.09 n = 67	13.17 n = 23	0.676	0.083	0.118
RC	3.484	0.034[a]	0.057	11.04 n = 28	12.48 n = 62	12.55 n = 29	0.126	0.141	0.990
MA	4.233	**0.017**	**0.068**	11.04 n = 28	12.30 n = 64	13.00 n = 27	0.202	0.036	0.309

Table 4

The impact of metacognitive awareness factors on job satisfaction (information-related professions)

Factors	ANOVA			Mean scores			Post hoc test		
Compliance-adjusted group (n = 82)									
KC	4.147	**0.019**	**0.095**	12.47 n = 17	12.24 n = 49	14.00 n = 16	0.923	0.042	0.002
RC	2.085	0.131	0.050	11.88 n = 17	12.60 n = 45	13.35 n = 20	0.619	0.178	0.299
MA	3.425	**0.037**	**0.080**	11.88 n = 17	12.48 n = 46	13.68 n = 19	0.712	0.065	0.027

Notes: ^{a} does not endure multiple comparisons; *F* – Fisher statistics, *p* – statistical significance level (ANOVA), η^2 – eta-squared; mean scores – mean scores of job satisfaction for subgroups by the following expression levels of factors: low (*M1*), average (*M2*), and high (*M3*); *Post hoc test* – significance of differences in multiple comparisons of subgroups; *KC* – metacognitive knowledge, *RC* – metacognitive regulation, *MA* – metacognitive awareness; values of *p* and η^2 corresponding to a statistically significant effect (when *p < 0.05* for both ANOVA and multiple comparisons) are highlighted in bold.

Unlike the previous group, in the group of object-related professions metacognitive awareness factors had no significant influence on job satisfaction – neither in the initial group nor in the compliance-adjusted one (see Table 5).

Table 5

The impact of metacognitive awareness factors on job satisfaction (object-related professions)

Factors	ANOVA			Mean scores			Post hoc test		
	F	p	η^2	M1	M2	M3	1–2	1–3	2–3
Initial group (n = 116)									
KC	0.023	0.977	0.000	12.36 n = 28	12.47 n = 45	12.44 n = 43	0.982	0.989	0.998

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Table 5

The impact of metacognitive awareness factors on job satisfaction (object-related professions)

Factors	ANOVA			Mean scores			Post hoc test		
	F	p	η^2	M1	M2	M3	1–2	1–3	2–3
RC	2.851	0.062	0.048	11.58 n = 26	12.78 n = 46	12.57 n = 44	0.236	0.363	0.776
MA	0.719	0.489	0.013	12.15 n = 27	12.36 n = 56	12.79 n = 33	0.946	0.576	0.421
Compliance-adjusted group (n = 83)									
KC	0.492	0.613	0.012	12.60 n = 20	12.44 n = 36	12.00 n = 27	0.974	0.695	0.662
RC	0.791	0.457	0.019	11.91 n = 23	12.67 n = 33	12.30 n = 27	0.599	0.874	0.595
MA	0.279	0.757	0.007	12.43 n = 21	12.17 n = 42	12.60 n = 20	0.935	0.969	0.539

Notes: see Table 4.

Discussion

In previous studies, factors such as gender, age, work experience, education, position, socio-cultural characteristics, material incentives, abilities, responsibilities, specific characteristics of professional communication, opportunities for professional self-realization, organizational climate, work stress, etc. were identified as determinants of job satisfaction (see, for example, Davidescu et al., 2020). Obviously, for the first time we considered factors of metacognitive awareness as such predictors in relation to object-related and information-related professions. Therefore, we may compare our results with those from other studied only indirectly, checking the correctness of the procedure of our study. For example, in our study the mean score of metacognitive awareness (M = 198.43) for working professionals, turned out to be higher (significantly or somewhat) than

the scores obtained in a number of studies using the MAI in samples of students, for example: (a) M = 192.1 (Byzova et al., 2019, p. 130); (b) M = 37.2 using a rating scale of 0–1 (Babikova et al., 2018, p. 11), which corresponds to M = 186.0 using a rating scale of 1–5; (c) M = 197.12 for male students and M = 197.15 for female students (Jain, Tiwari, & Awasthi, 2017, p. 127); (d) for male students (n = 60), metacognitive knowledge M = 65.5 and metacognitive regulation M = 111.2; for female students (n = 140), metacognitive knowledge M = 79.1 and metacognitive regulation M = 121.3 (Abdelrahman, 2020, p. 4 of 8); these data correspond to the mean score of metacognitive awareness for the total sample size (N = 200), equal to M = 195.66. As expected, metacognition develops with age and professional experience, at least during the transition from the typical student age to the age of 24–38 years, which is characteristic of our sample (see Table 1).

However, in a number of studies involving student samples that applied a continuous rating scale of 0–100 %, mean scores were higher than in our study: a) 77 % (pretest) and 84 % (posttest) (Martirosov & Moser, 2021) that corresponds to M = 200.2 (pretest) and M = 218.4 (posttest) using a rating scale of 1–5; b) 80.5 % (Anumudu et al., 2019, p. 188), which corresponds to M = 209.3 using a rating scale of 1–5. Such differences may be explained both by specific features of the rating scale and socio-cultural characteristics.

In our study, the mean score metacognitive awareness was significantly higher than the score of 37.2 in the study of social (non-professional) English-speaking sample aged 16 to 79 years (mean age = 33.1) using a rating scale of 0–1 (Song, Loyal, & Lond, 2021, p. 7 of 14), which corresponds to M = 168.2 using a rating scale of 1–5.

The MAI has also been used to identify the relationship between metacognitive awareness and academic performance when university students take an introductory computer programming course (Rum & Ismail, 2016). Thus, this study is somehow concerning information technology professionals (although potential ones). Strong positive correlations of metacognitive awareness (MA) with metacognitive knowledge (KC) (r = 0.9257) and metacognitive regulation (RC) (r = 0.9764), as well as the correlation coefficient r = 0.8347 between KC and RS (Rum & Ismail, 2016, p. 673), are qualitatively consistent with our findings from the sample of employed information technology professionals (rho = 0.935 between MA and KC, rho = 0.953 between MA and RC, rho = 0.819 between KC and RC; see Table 3). However, in the aforementioned study of students, the mean scores were 36.51 for MA, 11.76 for KC, 24.75 for RC (using a rating scale of 0–1) (Rum & Ismail, 2016, p. 671), which corresponds to the scores of 182.55, 58.80 and 123.75, respectively (using a rating scale of 1–5); these scores are significantly lower than those obtained in our study from the sample of employed information technology professionals (197.77, 64.41 and 133.36, respectively; see Table 2).

In our study, metacognition indicators differed between representatives of the information-related and object-related professions. Similar interprofessional differences (between areas of professional training, not types of professions) were revealed in the study that used the MAI to compare university undergraduate students of three specialties – psychologists, teachers, and physicians. As a result, multiple differences were observed between physicians and psychologists, and between physicians and teachers; few differences were found between psychologists and teachers (Gutierrez de Blume & Montoya, 2021).

Another similar study compared university students whose study programs were related to three areas of biology: natural biological sciences (botany, microbiology, zoology), medical sciences (medicine, biochemistry, psychotherapy, veterinary medicine, etc.) and agricultural sciences

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(aquaculture and fisheries, agriculture, zootechnics) (Anumudu et al., 2019, p. 187). This division does not correspond to certain types of professions. The groups of agricultural sciences and natural biological sciences are, rather, object-related; the group of medical sciences is less distinct. Thus, professionals in psychotherapy are, obviously, representatives of the subject-related type, and professionals in veterinary medicine are representatives of the object-related type. However, in case of university students, the areas of their training are not directly related to a specific profession. Consequently, the initial differences between the groups are not so much professionally as educationally conditioned. Although we found significant differences in the combined effect of the training program and the year of education, mean scores for overall metacognitive awareness, metacognitive knowledge, and metacognitive regulation did not statistically differ between groups (Anumudu et al., 2019, pp. 188–191). However, from the standpoint of the conceptual foundations of our study, such influence already refers to the joint influence of the objective environment of activity (which, in fact, is generalized in the object-, subject- and information-related types) and the level of its complexity, which generalization requires a qualitatively different basic classification feature – the level of organization and regulation of activity (see Rubtsova, 2011).

Although certain differences, the mean scores and intercorrelations of metacognitive awareness indicators obtained from our study are, in general, qualitatively consistent with the results of other studies. A similar situation is observed for the mean of job satisfaction obtained using the MOAQ-JSS subscale. The score of M = 12.29 obtained in our study using a rating scale of 1–5 is (a) much higher than the mean score of 1.89 (averaged for the three items of the subscale) obtained on a sample of Canadian social workers (Berta et al., 2018, p. 7 of 11), corresponding to M = 5.67 (without averaging); (b) only slightly higher than the mean score of 5.621 (using the scale of 1–7, based on averaging) obtained from a sample of employees of a large Canadian information technology (IT) consulting company (Brunelle & Fortin, 2021, p. 7 of 11), corresponding to M = 12.045 (using a scale of 1–5, without averaging); (c) higher than the mean score of 5.13 (using a scale of 1–7, based on averaging) obtained on a sample of unclassified workers (mean age = 35.1 years; mean working experience in the organization = 5.2 years, of which 32.6 % held a managerial position) (Wijngaards et al., 2021, p. 14 of 27) corresponding to M = 10.99 (using a scale of 1–5, without averaging).

For the respondents whose professional orientation is highly consistent with the type of profession (n = 165, see Tables 4 and 5) the mean job satisfaction score of M = 12.48 turned out to be somewhat higher in the group with less correspondence (n = 70, M = 11.84). This finding is consistent with the current view of the role of professional interests. There has been a long debate over whether the degree of satisfaction has a significant impact on job satisfaction. However, a recent meta-analysis covering 105 studies performed over 65 years found a generalized statistically significant positive association between interests and overall job satisfaction (Hoff, Song, Wee, Phan, & Rounds, 2020).

We may also discuss the results obtained in our study in a more general and fundamental context. For example, as W. Berta et al. have shown in a study of social workers, there are multiple and significant relationships between the characteristics of the work environment (organizational support, perception of workplace safety, etc.), attitudes towards work (involvement in work, organizational commitment, job satisfaction, etc.) and work results (intention to stay/quit, labor productivity, etc.) (Berta et al., 2018). Therefore, metacognitive determination of job satisfaction can play a role that goes far beyond the subjective well-being of employees. As W. Berta et al. noted,

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even minor changes in the work environment can lead to "a cascade of positive consequences for work results through attitudes towards work" (Berta et al., 2018, p. 1 of 11). According to these authors, job satisfaction refers specifically to the attitude towards work (Berta et al., 2018, p. 5 of 11) and may be increased not only by changing the work environment. As our study shows, for information-related professions such an increase in job satisfaction can be achieved by developing metacognitive abilities of employees.

Thus, increasing job satisfaction can be important for work performance (individual performance and organizational effectiveness as a whole), as well as for employees' professional development. For example, various aspects of job satisfaction can have a significant impact on employees' motivation to learn (Ensour et al., 2018), and, therefore on the motivation for the development of metacognitive skills. Thus, the metacognitive determination of job satisfaction seems to be locked to the potentially possible 'reverse' determination of metacognitive development, which still needs to be tested.

In addition, job satisfaction is a significant predictor of such a key, critical indicator of professional performance as intention to quit. For example, meta-analysis has shown that low job satisfaction is the most frequently identified predictor of quit intentions among IT professionals (representing, in our terminology, an information-related type of professions) (Joseph, Ng, Koh, & Ang, 2007, p. 550).

In turn, the development of employees' metacognitive abilities (including for information-related professions) should be carried out in a specific professional and organizational context. The fact that the MAI is developed for creating its professionally oriented versions indirectly confirms this conclusion (e.g., modifications of the Metacognitive Awareness Inventory for Teachers (MAIT) (for example, Gutierrez de Blume & Montoya, 2020).

Some authors agree that there is a need for professional specification of the formation of metacognitive abilities. Thus, encouraging individuals to use new strategies and approaches to decision-making should take into account specific professional situations, their personality traits, and individual preferences (Colombo, Iannello, & Antonietti, 2010). However, the verification of such complex hypotheses requires, obviously, new independent studies.

Summing up, we should note that the modern competitive environment requires the development of a knowledge-based economy, as well as the search for innovative approaches to personnel management and the formation of organizational culture. Therefore, in today's economy, organizations often turn to an important intrinsic property and resource – their employees (Brunelle & Fortin, 2021; Izvercian et al., 2016), realizing the necessary transition from the consumption of human resources to their development (Davidescu et al., 2020). Within the framework of this trend, in our study we examined two important and interrelated characteristics of such an intrinsic resource – job satisfaction and metacognitive awareness.

The limitations of this study may be associated with a relatively small sample size, shortcomings of diagnostic tools, and socio-cultural characteristics of the types of professional activity. Obviously, this study is 'exploratory' in nature. However, its findings indicate the need for its expansion and deepening.

Acknowledgments

References

Abdelrahman, R. M. (2020). Metacognitive awareness and academic motivation and their impact on academic achievement of Ajman University students. *Heliyon*, 6(9), e04192. https://doi.org/10.1016/j.heliyon.2020.e04192

Alzubi, K. M., Alkhateeb, A. M., & Hiyassat, M. A. (2021). Factors affecting the job satisfaction of construction engineers: Evidence from Jordan. *International Journal of Construction Management*. https://doi.org/10.1080/15623599.2020.1867945

Anumudu, C. I., Adebayo, A., Gboyega-Tokunbo, A., Awobode, H., & Isokpehi, R. D. (2019). Self-assessed metacognitive awareness among students of the University of Ibadan, Nigeria. *Journal of Educational and Social Research*, 9(3), 185–193. https://doi.org/10.2478/jesr-2019-0036

Babikova, N. N., Mal'tseva, O. A., Startseva, E. N., & Turkina, M. S. (2018). A study of metacognitive awareness of university students. *Vestnik Mariiskogo gosudarstvennogo universiteta (Vestnik of the Mari State University)*, 12(3), 9–16. https://doi.org/10.30914/2072-6783-2018-12-3-9-16 (in Russ.).

Berta, W., Laporte, A., Perreira, T., Ginsburg, L., Dass, A. R., Deber, R., ... Neves, P. (2018). Relationships between work outcomes, work attitudes and work environments of health support workers in Ontario long-term care and home and community care settings. *Human Resources for Health*, 16, 15. https://doi.org/10.1186/s12960-018-0277-9

Bowling, N. A., & Hammond, G. D. (2008). A meta-analytic examination of the construct validity of the Michigan Organizational Assessment Questionnaire Job Satisfaction Subscale. *Journal of Vocational Behavior*, 73(1), 63–77. https://doi.org/10.1016/j.jvb.2008.01.004

Brunelle, E., & Fortin, J.-A. (2021). Distance makes the heart grow fonder: An examination of teleworkers' and office workers' job satisfaction through the lens of self-determination theory. *SAGE Open*, 11(1). https://doi.org/10.1177/2158244020985516

Byzova, V. M., Perikova, E. I., & Lovyagina, A. E. (2019). Metacognitive involvement in the system of mental self-regulation of students. *Sibirskii psikhologicheskii zhurnal (Siberian Journal of Psychology)*, 73, 126–140. https://doi.org/10.17223/17267080/73/8 (in Russ.).

Cammann, C., Fichman, M., Jenkins, G., & Klesh, J. (1983). Assessing the attitudes and perceptions of organizational members. In S. E. Seashore, E. E. Lawler, P. H. Mirvis, & C. Cammann (Eds.), *Assessing organizational change: A guide to methods, measures, and practices* (pp. 71–138). New York: John Wiley and Sons.

Colombo, B., Iannello, P., & Antonietti, A. (2010). Metacognitive knowledge of decision-making: An explorative study. In A. Efklides, P. Misailidi (Eds.), *Trends and prospects in metacognition research* (pp. 445–472). Boston: Springer. https://doi.org/10.1007/978-1-4419-6546-2_20

Craig, K., Hale, D., Grainger, C., & Stewart, M. E. (2020). Evaluating metacognitive self-reports: Systematic reviews of the value of self-report in metacognitive research. *Metacognition and Learning*, 15, 155–213. https://doi.org/10.1007/s11409-020-09222-y

Crespi-Vallbona, M., & Mascarilla-Miró, O. (2018). Job satisfaction. The case of information technology (IT) professionals in Spain. *Universia Business Review*, 36–51. https://doi.org/10.3232/UBR.2018.V15.N2.02

Karpov, Lenkov, Rubtsova
Metacognitive Determination of Job Satisfaction Among Information Technology Professionals
Russian Psychological Journal, 2021, Vol. 18, No. 3, 86–103. **doi**: 10.21702/rpj.2021.3.6

LABOR PSYCHOLOGY

Davidescu, A. A., Apostu, S.-A., Paul, A., & Casuneanu, I. (2020). Work flexibility, job satisfaction, and job performance among Romanian employees – Implications for sustainable human resource management. *Sustainability*, *12*(15). https://doi.org/10.3390/su12156086

Ensour, W., Zeglat, D., & Shrafat, F. (2018). Impact of job satisfaction on training motivation. *Problems and Perspectives in Management*, *16*(3), 337–355. https://doi.org/10.21511/ppm.16(3).2018.27

Gutierrez de Blume, A. P., & Montoya, D. (2020). El Inventario de Conciencia Metacognitiva para Docentes (MAIT): Adaptación cultural y validación en una muestra de docentes colombianos [The Metacognitive Awareness Inventory for Teachers (MAIT): Cultural adaptation and validation in a sample of Colombian teachers]. *Psychologia*, *14*(1), 115–130. https://doi.org/10.21500/19002386.4584

Gutierrez de Blume, A. P., & Montoya, D. M. (2021). Differences in metacognitive skills among undergraduate students in education, psychology, and medicine. *Revista Colombiana de Psicología*, *30*(1), 111–130. https://doi.org/10.15446/rcp.v30n1.88146

Hoff, K. A., Song, Q. C., Wee, C. J. M., Phan, W. M. J., & Rounds, J. (2020). Interest fit and job satisfaction: A systematic review and meta-analysis. *Journal of Vocational Behavior*, 123. https://doi.org/10.1016/j.jvb.2020.103503

Izvercian, M., Potra, S., & Ivascu, L. (2016). Job satisfaction variables: A grounded theory approach. *Procedia – Social and Behavioral Sciences*, *221*, 86–94. https://doi.org/10.1016/j.sbspro.2016.05.093

Jain, D., Tiwari, G. K., & Awasthi, I. D. (2017). Impact of metacognitive awareness on academic adjustment and academic outcome of the students. *International Journal of Indian Psychology*, *5*(1), 123–138. https://doi.org/10.25215/0501.034

Joseph, D., Ng, K.-Y., Koh, C., & Ang, S. (2007). Turnover of information technology professionals: A narrative review, meta-analytic structural equation modeling, and model development. *MIS Quarterly*, *31*(3), 547–577. https://doi.org/10.2307/25148807

Karpov, A. V. (2018). Towards the subject-information class of activity. *Chelovecheskii faktor: Sotsial'nyi psikholog (The Human Factor: Social Psychologist)*, 2, 12–22. (in Russ.).

Karpov, A. V., & Lenkov, S. L. (2006). *The structural and functional composition of professional activity of an informational nature*. Tver: Tver State University. (in Russ.).

Karpov, A. V., & Skityaeva, I. M. (2005). *Psychology of metacognitive processes of personality*. Moscow: Institute of Psychology, Russian Academy of Sciences. (in Russ.).

Lenkov, S. L. (2001). *Subject-informational approach to psychological research*. Tver: Tver State University. (in Russ.).

Lim, K. S., & Ng, P. L. (2011). Examining and comparing the factorial validity of the construct of metacognitive awareness across two grade levels. In *Proceedings of the 1st International Conference on World-Class Education (ICWED-2011)*. https://doi.org/10.13140/2.1.1211.4729

Martirosov, A. L., & Moser, L. R. (2021). Team-based learning to promote the development of metacognitive awareness and monitoring in pharmacy students. *American Journal of Pharmaceutical Education*, *85*(2), 848112. https://doi.org/10.5688/ajpe848112

Pradhan, S., & Das, P. (2021). Influence of metacognition on academic achievement and learning style of undergraduate students in Tezpur University. *European Journal of Educational Research*,

Karpov, Lenkov, Rubtsova
Metacognitive Determination of Job Satisfaction Among Information Technology Professionals
Russian Psychological Journal, 2021, Vol. 18, No. 3, 86–103. **doi**: 10.21702/rpj.2021.3.6

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10(1), 381–391. https://doi.org/10.12973/eu-jer.10.1.381

Prather, J., Pettit, R., McMurry, K., Peters, A., Homer, J., & Cohen, M. (2018). Metacognitive difficulties faced by novice programmers in automated assessment tools. In *Proceedings of the 2018 ACM Conference on International Computing Education Research* (pp. 41–50). https://doi.org/10.1145/3230977.3230981

Rubtsova, N. E. (2011). *Integrative-typological professional orientation of personality*. Tver: Moscow Humanitarian and Economic Institute, Tver Branch. (in Russ.).

Rum, S., & Ismail, M. (2016). Metacognitive awareness assessment and introductory computer programming course achievement at university. *The International Arab Journal of Information Technology*, *13*(6), 667–676.

Schraw, G., & Dennison, R. S. (1994). Assessing metacognitive awareness. *Contemporary Educational Psychology*, *19*(4), 460–475. https://doi.org/10.1006/ceps.1994.1033

Song, J. H. H., Loyal, S., & Lond, B. (2021). Metacognitive Awareness Scale, Domain Specific (MCAS-DS): Assessing metacognitive awareness during Raven's Progressive Matrices. *Frontiers in Psychology*, *11*, 607577. https://doi.org/10.3389/fpsyg.2020.607577

Splichal, J. M., Oshima, J., & Oshima, R. (2018). Regulation of collaboration in project-based learning mediated by CSCL scripting reflection. *Computers & Education*, *125*, 132–145. https://doi.org/10.1016/j.compedu.2018.06.003

Wijngaards, I., Burger, M., & van Exel, J. (2021). Unpacking the quantifying and qualifying potential of semi-open job satisfaction questions through computer-aided sentiment analysis. *Journal of Well-Being Assessment*. https://doi.org/10.1007/s41543-021-00040-w

Xethakis, L. (2020). The psychometric properties of the Metacognitive Awareness Inventory in the Japanese EFL context. *Kumamoto University Studies in Social and Cultural Science*, *18*, 121–146. Retrieved from https://researchmap.jp/ljxethakis/published_papers/24714137

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Author Contributions

A. V. Karpov supervised the publication having applied the principle of metacognitive organization of activities in information-related professions and theoretically generalized the results.
S. L. Lenkov developed the design of the publication using the subject-information approach to the study of information activities, conducted a meta-analysis of previous publications related to the examined issues, performed statistical processing of the results, and interpreted findings.
E. N. Rubtsova developed the experimental design, conducted the study using the inventory for assessing Integrative and Typological Personal Professional Orientation, collected data, and interpreted findings.

The authors declare no conflicts of interest.

Karabuschenko, Pilishvili, Shtyrev
Specifics of Information and Communication Component of Youth Political and Volunteer Leadership
Russian Psychological Journal, 2021, Vol. 18, No. 3, 104–114. **doi**: 10.21702/rpj.2021.3.7

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Research article

Specifics of Information and Communication Component of Youth Political and Volunteer Leadership

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Abstract
Introduction. The research novelty consists in empirical justification of one substantive component of the theoretical model of youth leadership by performing comparative analysis of the information and communication component in political and volunteer youth leaders. **Methods**. At the current stage, the study involved 94 students of Peoples' Friendship University of Russia (RUDN) – representatives of socially minded youth, active in the area of political and volunteer leadership. In the process of psychodiagnostics, we used the Internet Behavior Questionnaire by A. E. Zhichkina and the methodology 'Ways of coping behavior' by R. Lazarus. Statistical processing of the data was performed using descriptive statistics and comparative analysis with a Mann–Whitney U-test in the IBM SPSS Statistics 22 software. **Results and Discussion**. We identified common and specific characteristics of the information and communication component of the theoretical model of youth leadership. In the aspect of the information and communication component, youth political leaders and volunteer leaders are equally characterized by constructive coping strategies with active interaction in social media communities and creation of original content in them. Youth political leaders, in comparison with volunteer leaders, are more likely to get somewhat stuck in social media and addicted them, whereas for volunteers, social media act not as an end in itself, but rather as a tool for generating a united helping community. **Conclusions**. Research results can be used: (a) in developing recommendations for psychological support of youth political and socially oriented volunteer leadership; (b) in preparing training courses for the development of leadership qualities and effective coping skills in the conditions of potentially possible and only partly predictable stress factors of the Internet environment.

Keywords
youth leadership, leader psychology, psychology of elites, social and political leadership, socially oriented leadership, agent of politics, leadership models, volunteer

Highlights
> From the viewpoint of the information and communication component, youth political leaders and volunteer leaders are equally characterized by constructive coping strategies, high social

media activity, commitment to creating constructively interacting communities, and generation of original content.
➢ Youth political leaders, in comparison with socially oriented volunteer leaders, are more inclined to be active on social media and have a certain narcissistic dependence on them.
➢ For the volunteers, social media rather represent a tool for quick provision of information to the audience and conscious creation of a united value space for volunteering.

Introduction

The relevance of research on psychological specifics of youth political and socially oriented leaders is explained by an increasing role of youth communities in the development of modern civil society, implementation of social and economic innovations, intensification of technological progress, associated with further development of the country under the conditions of coping with a new global crisis. Youth activists need to be able to adapt to a rapidly changing social situation, to function effectively in the conditions of uncertainty and multitasking, to possess high tolerance for stress and resistance to risk-taking; at the same time, they need to broadcast the ideas of solidarity, humanity, and altruism through socially significant and international projects. In this regard, it becomes increasingly important to develop a managerial component among young leaders for improving the efficiency of their work with different population groups (Zyryanov, Aver'yanova, & Aldoshenko, 2016).

Modern leadership models regard this construct in terms of one of three concepts: (a) attributive leadership; (b) charismatic leadership; (c) transformational leadership (Sverdyuk & Kukartsev, 2013). The concept of transformational leadership appears to be the most promising in case of gradually increasing mindfulness of young activists for finding creative solutions to the problems, arising in crisis situations, and acquisition of required communication skills (Galkina & Pyatko, 2016; Galkina, 2020). In the scope of transformational leadership, various authors propose leadership models, which describe individual parts of this concept. For example, A. Keikha et al. propose a multicomponent conceptual model of intellectual leadership, comprised of rational, emotional, spiritual, and collective components (Keikha, Hoveida, & Yaghoubi, 2017). V. V. Belov develops a functional and structural model of a destructive leader personality in the context of his or her low communication literacy (Belov, 2018). A cognitive experimental model of leadership reflects a correlation between transformational leadership and behavioral coping, as well as relative independency of leadership in the context of rational thinking styles (Cerni, Curtis, & Colmar, 2014).

Based on the integration of various approaches to social and psychological analysis of the image of a modern elite member, we developed a theoretical model of youth leadership, which earlier has been described in detail from the position of its integrity due to interconnection of its relatively autonomous structural components (Karabuschenko, Shtyrev, & Petrovskaya, 2021). The model of youth leadership includes the following components:

1. *Information and communication component*, which includes communicative and conflictological competence of an individual, ability to navigate in the information space, to be open to new

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knowledge and discussion of acute social problems with a big audience; readiness to shape the public opinion and affect the sentiments of certain social groups; understanding how to foster dialogue with representatives of various social, ethnocultural, political, and other strata.

2. *Social and psychological component*, which reflects elitological competence of an individual, stamina, well-developed emotional intelligence, gumption, and creative thinking.

3. *Organizational and managerial component*, which reveals an individual's ability to manage others, to exercise one's leadership skills, and ability to exert constructive influence on mindset formation of the modern youth by emphasizing the importance of universal human values, standards of behavior, and moral foundations of the society.

4. *Ethnocultural component*, which includes an individual's openness to multicultural dialogue, knowledge about traditions of other nations and ethnic groups, ability to recognize emotional states in representatives of various nations, religious tolerance and understanding of cultural codes, and ability to foster constructive cooperation taking into account ethnopsychological characteristics of all the parties involved.

5. *Value-semantic component*, which reveals maturity of the mindset of modern youth with regard to philanthropy, selfless individual and collective activities for socially beneficial purposes for the good of other people and the society; ability to make informed moral choices; significance of universal human values, standards of behavior and moral foundations of an individual and the society; experience of existential meanings of volunteering.

The authors of the paper carry out empirical study of the information and communication component of the theoretical model of youth leadership by comparing youth political and volunteer leaders as active representatives of modern civil society.

Certain aspects, which we included in the information and communication component of the theoretical model of youth leadership, have been partially addressed by other authors in the analysis of political and socially oriented volunteer leaders. For example, when E. V. Lazutkina speaks about communication, she sees the most important function of opinion leaders in their ability to influence the information agenda (Lazutkina, 2016). It is demonstrated that professional competences of a youth political leader should advisably include the ability to analyze recent news and create a novel information product as a result of this analysis (Sveshnikova, 2017).

G. V. Denisova notes the importance of improving skills of adequate cooperation with the media in the context of intercultural dialogue (Denisova, 2020). Shaping of news agenda by the activists is the most important tool of the leader, who can only be efficient in case of adequate analysis and consideration of sociocultural aspects of the problem at hand (Molchanov, Almazova, & Poskrebysheva, 2018). Youth political and socially oriented leaders inevitably face a lengthy process of informatization of the multinational Russian society, which is associated with the difficulty in transition of different social groups from traditional media to the modern information space (Kuznetsova & Kulikov, 2018).

A number of authors study the problems of forming a healthy competition among young leaders, the absence of which in the modern information space negatively affects their communicative skills (Zhdanova, 2020; Belyakova, 2017; Sidorov & Dubovitskii, 2017). It is demonstrated that, as the public opinion makes its transition to the Internet, a young leader faces such challenges, as making correct interpretation of the news agenda taking into account sociocultural problems and offsetting prejudiced bullying (Makarova, Makarova & Mahrina, 2016). Authors identify young leader's suppressed motivation to interact with the community online and offline because of

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potential cyberbullying (Leshchenko, Sokolova, & Teplova, 2019; Khlomov, Davydov, & Bochaver, 2019), propensity for hypocrisy, and rough treatment of other people in the offline world (Bendas & Shipulya, 2016). It is found out that the user of social media gains access to new forms of aggressive behavior as an attribute of manipulation (Marín-López, Zych, Ortega-Ruiz, Hunter, & Llorent, 2020), which creates the need for young leaders to develop an adequate feedback (Bakshutova & Rulina, 2019).

From the viewpoint of the information and communication component, the following aspects have been studied: (a) factors of a trusting online relationship with the audience (Bicheva & Filatova, 2017); (b) tasks of creating and maintaining the image of a young leader in the public mind (Erofeeva, 2018); (c) difficulties in identifying a universal set of leadership image features in the Internet space (Mitina & Petrenko, 2018); (d) readiness to be creative on the Internet as the main channel of interaction with the young audience to increase its loyalty (Golikova, 2018); (e) increasing loyalty of the audience through immediate online communication of the leader in accordance with current expectation of the Internet users (Peck & Hogue, 2018). Authors also examined 'likes' as a way of receiving gratification and recognition, which function as an indicator of the individual's status (Farwaha & Obhi, 2019), as well as individual's popularity on the Internet (Martinez-Pecino & Garcia-Gavilán, 2019).

It is demonstrated that increased attention of the leader to the subject of interaction allows to improve communicative skills of the former and represents a tool for effective leadership development (Arendt, Verdorfer, & Kugler, 2019). Moreover, it is revealed that team performance is correlated with the general background of leader's mood (Shemla, Kearney, Wegge, & Stegmann, 2020). It is noted that the information space of social media significantly increases the audience that follows a novice leader and to a certain extent promotes narcissistic personality disorder (Agadullina, 2015); in its turn, narcissism of young leaders can affect the reaction to and assessment of their actions by their followers (Barry, Chaplin, & Grafeman, 2006). As demonstrated by foreign researchers, negative reaction of leaders to the assessment of their efforts can detrimentally affect their identity (Oyserman, Elmore, & Smith, 2012) and further promotion as a result of ignoring the opinions of the immediate circle and absence of an adequate feedback (Liao, Zhou, Guo, & Li, 2019).

It can be seen that despite the availability of research on individual aspects of the information and communication component of youth leadership, comparative characteristics of this sphere in individuals that make important political and socially significant decisions remain underexplored.

Practical significance of the results of this study consists in the possibility of using obtained data to create conditions for a constructive dialogue, as well as to develop programs for psychological support of young leaders and volunteers in order to increase their communicative and conflictological competence, their ability to navigate in the information space, to be open to new knowledge and its verification, and to discuss acute social problems on various platforms.

Hence, *the goal* of our study at the current stage of research is comparative analysis of the information and communication component in political and volunteer youth leaders.

In the scope of the study, we formulated the following *hypotheses:*
1. Representatives of socially minded youth, active in the area of political and socially oriented volunteer leadership, can be characterized by common and specific manifestations of the information and communication component of the theoretical model of youth leadership.
2. Youth political leaders, in comparison with volunteer leaders, are more likely to be active on social media.

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Methods

The study involved anonymous volunteers among young men and women, in total 94 students of Peoples' Friendship University of Russia (Russia, Moscow) – representatives of socially minded youth, active in the area of political (46 respondents) and socially oriented volunteer leadership (48 respondents). The age of respondents in both samples ranged between 21 and 26 years old, with an average value of 22 years old. Primary data were collected using psychodiagnostic methods, which included the Internet Behavior Questionnaire (A. E. Zhichkina) and the methodology 'Ways of coping behavior' by R. Lazarus (Zhichkina, 2004; Lazarus, 1993). For statistical processing of research results, we successively used descriptive statistics and comparative analysis (Mann–Whitney U-test in the IBM SPSS Statistics 22 software).

Results and Discussion

Based on comparative analysis of two samples using the Internet Behavior Questionnaire by A. E. Zhichkina, we identified statistically significant differences along the scales 'Activity in Action' and 'Internet-Dependent Behavior'. Along the first scale, we observe high activity of future political leaders (Av = 48.04) compared to representatives of volunteer leadership (Av = 36.65), the statistics of Mann–Whitney U-test equals 1093 (at $p = 0.031$). Overall, politically oriented young people are less inclined to be committed to social roles; they can go beyond existing patterns and requirements, therefore for them it is easier to adapt to various Internet communities and to create new communication platforms. On the other hand, volunteers are rather focused on fulfilling their own social function, recognize their place and value in the society; they spend more time on social media dedicated to volunteering, hence their activity is less diverse, compared to the activity of political leaders.

Differences along the scale of 'Internet-Dependent Behavior' are also statistically significant (U = 1112 at $p = 0.020$). Specifically, young political leaders are more prone to Internet addiction (Av = 48.51) than volunteers (Av = 36.23). Apparently, this is explained by the fact that future politicians expand their social circle, attend various platforms of Internet communication, create their own channels, and actively promote them. The goal of this type of leaders is expanding their loyal audience and forming their own team of supporters. By contrast, volunteers carry out most of their activities offline, they are characterized by teamwork orientation, readiness to help people in dire need of assistance, and ability to perform tasks set by higher management.

No statistically significant differences were observed along the scale 'Activity in the Perception of Alternatives' (U = 1060 at $p = 0.059$), but at the level of trends we can say that the desire to obtain new Internet experience is more characteristic of youth political leaders (Av = 47.19) than of volunteer ones (Av = 37.40). Under uncertainty, achievement of one's ego ideal does not regulate individual's behavior. Respondents of both groups find it important to search for various ways of interaction and to gain unique communication experience in various Internet communities.

In the Internet environment, characterized by a high level of uncertainty, as well as under the conditions of high competition, individuals experience psychological stress, and only by overcoming it they can achieve desired results. However, stress factors that arise in the communication process interfere with constructive cooperation. Individuals who are fulfilling their leadership potential often face obstacles that require additional psychological resources to overcome them.

The use of constructive coping strategies allows an individual to overcome stress and to move

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forward towards the goal. In light of this, we used the methodology 'Ways of coping behavior' by R. Lazarus to study the information and communication component of the theoretical model of youth leadership. Comparative analysis of two samples did not reveal any statistically significant differences, but on the level of trends, individual scales demonstrate results that can serve as starting points for deeper analysis of identified specifics. Along the scale of 'Self-Control', indicators of youth political leaders were slightly higher (Av = 43.62) in comparison with volunteer leaders (Av = 40.57). Without any doubt, in politics leaders are expected to have significant control over their feelings and actions, ability to regulate their emotional states. Young politicians try to control their expression and hold back (hide) their emotions. However, being in the process of their professional becoming, they do not use the strategy of self-control too often (U = 921 at p = 0.562). It would be reasonable to compare the indicators of self-control in youth leaders and mature adult leaders – this will define the milestones for future research.

The scale 'Acceptance of Responsibility' does not demonstrate any statistically significant differences either (U = 924 at p = 0.543), but this strategy is more expressed in youth political leaders (Av = 43.69) than in volunteers (Av = 40.50). Apparently, this trend is explained by the fact that youth political leaders are more inclined to recognize their leading role in the society and to make efforts in order to overcome difficulties. They focus on searching for solutions to the problems, weigh the alternatives, and find optimal ways of coping by using compromise strategies as they gain political experience.

The readiness of young political leaders to accept responsibility is also conformed by the scale of 'Problem Solving Planning' (U = 955 at p = 0.373). Youth political leaders focus their attention on the analysis of arising problems, selection of strategies for solving them, development of an incremental program, and visualization of desired results. Therefore, a coping strategy of planning is more often used by young politicians (Av = 44.49) than by volunteers (Av = 39.80). Volunteers are more oriented towards working in a team and performing the tasks at hand, which somewhat decreases their level of personal responsibility.

We did not detect any statistically significant differences along the scale of 'Positive Reassessment of the Situation' (U = 797 at p = 0.580), but the use of this strategy is higher in the group of volunteers (Av = 43.38) compared with youth political leaders (Av = 40.45). Obtained results are probably explained by the fact that for volunteers it is more typical to encounter problems that occur to complete strangers, along with their grief, suffering, and emotions. By providing assistance and support, volunteers gain necessary experience that helps in their personal development and shaping of a sustainable mindset.

Conclusions

Based on the analysis of obtained results of the performed empirical study, the following *conclusions* can be drawn:

1. The *common features* between two studied groups have been demonstrated. Both groups are characterized by high activity on social media, readiness for information exchange, organization of task-specific communities, and creation of original content to attract the audience that shares the attitudes of the blogger. In the Internet environment, representatives of both groups are inclined to use coping strategies aimed at reducing psychological stress.

2. The *characteristic features* have been identified. Youth political leaders demonstrate greater Internet activity, which is explained by the fact that representatives of this group wish to generate

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and broadcast their ideas, cover pressing political, economic, and social issues, create and promote original content, expand the audience of their supporters, etc. Therefore, propensity for Internet-addictive behavior is higher among the respondents of this group compared with the volunteers, for whom social media represent a resource for quick provision of information and creating a community of people, who are passionate about volunteering, share the interests and values of this circle.

Respondents of both groups use various strategies of coping with stress and uncertainty. Youth political leaders are more oriented towards accepting responsibility for their words and actions, they are capable of controlling and holding down their emotions in provocative and conflict situations. When they solve problems, they do this according to a plan, determine stages and individual steps to overcome difficulties. For young socially oriented volunteer leaders, it is more typical to encounter human need and suffering; they prefer the strategy of positive reassessment as they gain necessary life experience in various situations.

3. *The research prospects* consist in further examination of all components of the youth leadership model using members of political and volunteer elite of Russia as an example. Research results can be used in developing recommendations for psychological support of youth political and socially oriented volunteer leadership, in preparing individual programs and training courses for the development of leadership qualities and effective coping skills in the conditions of potentially possible and hardly predictable stress factors of the Internet environment.

References

Agadullina, E. R. (2015). Social networks user: current research. *Sovremennaya zarubezhnaya psikhologiya (Journal of Modern Foreign Psychology)*, *4*(3), 36–46. https://doi.org/10.17759/jmfp.2015040305 (in Russ.).

Arendt, J. F. W., Verdorfer, A. P., & Kugler, K. G. (2019). Mindfulness and leadership: Communication as a behavioral correlate of leader mindfulness and its effect on follower satisfaction. *Frontiers in Psychology*, 10, 667. https://doi.org/10.3389/fpsyg.2019.00667

Bakshutova, E. V., & Rulina, T. K. (2019). Confrontational attitudes of discussion communities of the Russian-language Facebook sector. *Vestnik Udmurtskogo universiteta. Sotsiologiya. Politologiya. Mezhdunarodnye otnosheniya (Bulletin of Udmurt University. Sociology. Political Science. International Relations)*, *3*(4), 402–408. https://doi.org/10.35634/2587-9030-2019-3-4-402-408 (in Russ.).

Barry, C. T., Chaplin, W. F., & Grafeman, S. J. (2006). Aggression following performance feedback: The influences of narcissism, feedback valence, and comparative standard. *Personality and Individual Differences*, *41*(1), 177–187. https://doi.org/10.1016/j.paid.2006.01.008

Belov, V. V. (2018). Functional-structural model of the personality of the destructive talentless leader in the acmeology of organizational leadership. *Vestnik Leningradskogo gosudarstvennogo universiteta im. A. S. Pushkina (Pushkin Leningrad State University Journal)*, 4, 11–28. (in Russ.).

Belyakova, E. G. (2017). Structure and content based model of competitiveness as a personal trait.

Karabuschenko, Pilishvili, Shtyrev
Specifics of Information and Communication Component of Youth Political and Volunteer Leadership
Russian Psychological Journal, 2021, Vol. 18, No. 3, 104–114. **doi**: 10.21702/rpj.2021.3.7

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Vestnik Tyumenskogo gosudarstvennogo universiteta. Gumanitarnye issledovaniya. Humanitates (Tyumen State University Herald. Humanities Research. Humanitates), *3*(2), 189–198. https://doi.org/10.21684/2411-197X-2017-3-2-189-198 (in Russ.).

Bendas, T. V., & Shipulya, A. B. (2016). Machiavellianism and ways of the manipulation of students of different vocational training: gender aspect. *Azimut nauchnykh issledovanii: pedagogika i psikhologiya (Azimuth of scientific research: pedagogy and psychology)*, *5*(1), 144–146. (in Russ.).

Bicheva, I. B., & Filatova, O. M. (2017). Formation of the leading teacher in educational process of higher education institution. *Vestnik Mininskogo universiteta (Vestnik of Minin University)*, 3. https://doi.org/10.26795/2307-1281-2017-3-5 (in Russ.).

Cerni, T., Curtis, G., & Colmar, S. H. (2014). Cognitive-experiential leadership model: How leaders' information-processing systems can influence leadership styles, influencing tactics, conflict management, and organizational outcomes. *Journal of Leadership Studies*, *8*(3), 26–39. https://doi.org/10.1002/jls.21335

Denisova, G. V. (2020). Influence of media education on the formation of personality in the context of media information and communication environment. *Global'nyi nauchnyi potentsial (Global Scientific Potential)*, 6, 88–90. (in Russ.).

Erofeeva, M. A. (2018). Representation of gender images of modern students in social networks (on the example of the social network "Vkontakte"). *Chelovecheskii capital (Human Capital)*, 11–2, 56–61. (in Russ.).

Farwaha, S., & Obhi, S. S. (2019). Differential motor facilitation during action observation in followers and leaders on Instagram. *Frontiers in Human Neuroscience*, 13, 67. https://doi.org/10.3389/fnhum.2019.00067

Galkina, N. M., & Pyatko, N. E. (2016). Communicative competence of a listener as a key factor of growth and self-development of an individual. *Sovremennye tendentsii razvitiya i perspektivy vnedreniya innovatsionnykh tekhnologii v mashinostroenii, obrazovanii i ekonomike*, *2*(1), 144–147. (in Russ.).

Galkina, N. M. (2020). Theoretical approaches to communicative competence of a specialist. *Sovremennye tendentsii razvitiya i perspektivy vnedreniya innovatsionnykh tekhnologii v mashinostroenii, obrazovanii i ekonomike*, *6*(1), 169–172. (in Russ.).

Golikova, T. A. (2018). Speech portrait as the main component of the image of the leader in political discourse. *Vestnik Rossiiskogo novogo universiteta. Seriya: Chelovek v sovremennom mire (Vestnik of Russian New University. Series "Man in the modern world")*, 3, 9–16. (in Russ.).

Karabuschenko, N. B., Shtyrev, M. M., & Petrovskaya, M. V. (2021). Psychological features of modern youth leader. In E. G. Popkova, B. S. Sergi (Eds.), *Modern global economic system: Evolutional development vs. revolutionary leap. ISC 2019. Lecture notes in networks and systems* (Vol. 198). Springer, Cham. https://doi.org/10.1007/978-3-030-69415-9_51

Keikha, A., Hoveida, R., & Yaghoubi, N. M. (2017). The development of an intelligent leadership

Karabuschenko, Pilishvili, Shtyrev
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Russian Psychological Journal, 2021, Vol. 18, No. 3, 104–114. **doi**: 10.21702/rpj.2021.3.7

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model for state universities. *Foresight and STI Governance*, *11*(1), 66–74. (in Russ.).

Khlomov, K. D., Davydov, D. G., & Bochaver, A. A. (2019). Cyberbullying in the experience of Russian teenagers. *Psikhologiya i pravo (Psychology and Law)*, *9*(2), 276–295. https://doi.org/10.17759/psylaw.2019090219 (in Russ.).

Kuznetsova, I. V., & Kulikov, L. V. (2018). Common view of the Russian audience on social and traditional media. *Vek informatsii (Information Age)*, 2–1, 279–280. (in Russ.).

Lazarus, R. S. (1993). Coping theory and research: Past, present, and future. *Psychosomatic Medicine*, *55*(3), 234–247. https://doi.org/10.1097/00006842-199305000-00002

Lazutkina, E. V. (2016). Opinion leaders in the blogosphere Runet. *Vestnik Novosibirskogo gosudarstvennogo universiteta. Seriya: Istoriya. Filologiya (Vestnik NSU. Series: History and Philology)*, *15*(6), 51–59. (in Russ.).

Leshchenko, T. A., Sokolova, I. V., & Teplova, L. I. (2019). Inevitability of communication alienation in the era of globalization. *Informatsionnoe obshchestvo (Information Society)*, 1–2, 69–74. (in Russ.).

Liao, S., Zhou, X., Guo, Z., & Li, Z. (2019). How does leader narcissism influence employee voice: The attribution of leader impression management and leader-member exchange. *International Journal of Environmental Research and Public Health*, *16*(10), 1819. https://doi.org/10.3390/ijerph16101819

Makarova, E. A., Makarova, E. L., & Mahrina, E. A. (2016). Psychological features of cyberbullying as a form of Internet crime. *Russian Psychological Journal*, *13*(3), 293–311. https://doi.org/10.21702/rpj.2016.3.17 (in Russ.).

Marín-López, I., Zych, I., Ortega-Ruiz, R., Hunter, S. C., & Llorent, V. J. (2020). Relations among online emotional content use, social and emotional competencies and cyberbullying. *Children and Youth Services Review*, *108*. https://doi.org/10.1016/j.childyouth.2019.104647

Martinez-Pecino, R., & Garcia-Gavilán, M. (2019). Likes and problematic Instagram use: The moderating role of self-esteem. *Cyberpsychology, Behavior, and Social Networking*, *22*(6), 412–416. https://doi.org/10.1089/cyber.2018.0701

Mitina, O. V., & Petrenko, V. F. (2018). Using a psychosemantic method "Image of a political leader" for comparative research perception of political leaders' image. *Yaroslavskii pedagogicheskii vestnik (Yaroslavl Pedagogical Bulletin)*, 5, 256–269. https://doi.org/10.24411/1813-145X-2018-10174 (in Russ.).

Molchanov, S. V., Almazova, O. V., & Poskrebysheva, N. N. (2018). Cognitive methods of processing social information on the Internet in adolescence. *Natsional'nyi psikhologicheskii zhurnal (National Psychological Journal)*, 3, 57–68. https://doi.org/10.11621/npj.2018.0306 (in Russ.).

Oyserman, D., Elmore, K., & Smith, G. (2012). Self, self-concept, and identity. *Handbook of self and identity*, 2, 69–104.

Peck, J. A., & Hogue, M. (2018). Acting with the best of intentions... or not: A typology and model

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Specifics of Information and Communication Component of Youth Political and Volunteer Leadership
Russian Psychological Journal, 2021, Vol. 18, No. 3, 104–114. **doi**: 10.21702/rpj.2021.3.7

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of impression management in leadership. *The Leadership Quarterly*, *29*(1), 123–134. https://doi.org/10.1016/j.leaqua.2017.10.001

Shemla, M., Kearney, E., Wegge, J., & Stegmann, S. (2020). Unlocking the performance potential of functionally diverse teams: The paradoxical role of leader mood. *Journal of Occupational and Organizational Psychology*, *93*(3), 530–555. https://doi.org/10.1111/joop.12303

Sidorov, I. V., & Dubovitskii, I. N. (2017). Managerial ethics as a means of overcoming the negative social effects. *Vestnik Gzhel'skogo gosudarstvennogo universiteta (Vestnik GSU)*, 3, 135–140. (in Russ.).

Sverdyuk, L. A., & Kukartsev, A. V. (2013). Leadership models in modern practice. *Aktual'nye problemy aviatsii i kosmonavtiki*, *2*(9), 133–134. (in Russ.).

Sveshnikova, N. O. (2017). Specifics of media space on the federal and regional levels. *Vek informatsii (Information Age)*, 2–1, 256–257. (in Russ.).

Zhdanova, N. E. (2020). Research of teachers' volitional activity as a predictor of professional future. *Moskovskii ekonomicheskii zhurnal (Moscow Journal)*, 6, 859–865. https://doi.org/10.24411/2413-046X-2020-10446 (in Russ.).

Zhichkina, A. (2004). *Internet Behavior Questionnaire by A. E. Zhichkina*. Retrieved from http://flogiston.ru/articles/netpsy/addiction (in Russ.).

Zyryanov, S. G., Aver'yanova, D. V., & Aldoshenko, E. V. (2016). Studying qualitative characteristics of regional elite using the method of expert estimation. *Kommunikologiya (Communicology)*, *4*(6), 24–44. (in Russ.).

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Specifics of Information and Communication Component of Youth Political and Volunteer Leadership
Russian Psychological Journal, 2021, Vol. 18, No. 3, 104–114. **doi**: 10.21702/rpj.2021.3.7

Author Contributions

N. B. Karabuschenko developed methodology and design of theoretical and empirical research, elaborated the general concept of the research, prepared the original draft of the manuscript.
T. S. Pilishvili collected data and research evidence, prepared diagnostic materials of the study, formatted the manuscripts according to journal requirements.
M. M. Shtyrev prepared empirical part of the research, performed statistical processing of the data.

The authors declare no conflict of interest.

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Research article

Structural and Content Characteristics of Students' Social Representations of Psychological Help

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Abstract
Introduction. The relevance of current research is determined by the need of the population to resolve their problems and at the same time by existing prejudices and low awareness about the possibilities of psychological help. The research was based on S. Moscovici's concept of social representations; using structural approach, we were the first to identify structural and content characteristics of students' representations of psychological help. **Methods**. The study sample was composed of 498 students of Moscow universities (17–25 years old) and 50 respondents of early adulthood and middle age (33–55 years old). The attitude towards psychological help was analyzed using an original questionnaire; the level of readiness to receive help from a psychologist was determined using the questionnaire 'Attitudes Toward Seeking Professional Psychological Help Scale' (E. H. Fischer, A. Farina), adapted for the Russian sample. To systematize the data, we used content analysis, Vergès' prototypical analysis, and methods of mathematical statistics. **Results**. The core of psychological help representations contains such associations as 'help', 'support', 'conversation', 'salvation'; the periphery includes constructs like 'understanding', 'advice', 'psychologist', and 'treatment/ therapy' (first periphery), as well as 'way out', 'deceit', 'problem solution', and 'relief' (second periphery). Content analysis allowed to aggregate the content of the core and the periphery into four groups: 'relief of the condition', 'problems', 'support', and 'interaction'. **Discussion**. The level of readiness to seek psychological assistance is significantly higher for young women than for young men, and in general, women regardless of their age have greater trust in such help. Students are less focused on seeking professional support compared to older adults. The most important criteria in the choice of a psychologist are the methods that he or she uses, work experience, and age. **Conclusions**. Students' positive representations of psychological help are primarily manifested in the ability to receive support and relieve their emotional state. Increasing the level of trust in psychologists among the population will facilitate maintenance of psychological well-being and full integration of young people into the system of providing psychological help.

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Keywords

Highlights

➢ The core and the periphery of young people's social representations are explained by the specifics of young age and the experience of communicating with psychologists; they include such constructs as 'support', 'problems', 'interaction', and 'relief of the condition'.
➢ Compared to adults, university students have lower awareness of psychological help opportunities and are less likely to seek assistance in problematic situations.
➢ For young people, the reason for seeking psychological help can be the need to receive support and understand themselves better, whereas adults are motivated by the need to get a particular advice and learn.

For citation

Introduction

Present-day reality shows how much the humanity needs to promote psychological help to the population and develop the mechanisms of professional support to those who struggle with various crises, adversities, and problems. At the same time, it should be noted that the demand for psychological help among the population largely depends on the expectations of potential clients, their trust/mistrust in psychologists, their attitudes and ideas about what psychology is, what psychologists do, and situations when one should seek help. This issue is especially acute when it comes to the young generation, who have not yet accumulated sufficient store of practical wisdom to resolve certain psychological problems and have not fully recognized their own resources for coping with difficulties (Kuznetsova & Kryukov, 2012).

It can be noted that on a global scale, there are not many country-specific studies on the demand for psychological help among representatives of different social groups. Nevertheless, psychological services of many countries are concerned about this issue, since the number of specialists in this field increases and so does the amount and variety of psychological services (Aguirre Velasco, Cruz, Billings, Jimenez, & Rowe, 2020; Xu et al., 2018). For example, a study performed in the UK in 1990s demonstrated that only 16 % of respondents would seek psychological help in case they encountered a serious problem or an emotional breakdown (Barker, Pistrang, Shapiro, & Shaw, 1990). Similar results were obtained in Germany, Brazil, South Africa, Greece, Australia, China, and the USA (Divin, Harper, Curran, Corry, & Leavey, 2018; Fukuda et al., 2016; Nohr, Ruiz, Sandoval Ferrer, & Buhlmann, 2021; Rowe et al., 2014; Yee, Ceballos, & Diaz, 2020). In these studies, no more than 20 % of respondents indicated their readiness to see a psychologist. And those are only social attitudes – in practice, when it comes to real actions, the readiness to use professional psychological services is demonstrated by less than 10 %.

Russian studies also provide some data about the attitudes of population to psychological help. In her thesis research, Makarova (2009) analyzed the specifics of psychological counseling representations among different social groups. The majority of respondents had not developed the need for seeking professional psychological assistance, instead they preferred the help of their parents and friends, who had their complete trust.

It is possible to single out three different approaches in psychological theories that explain this cautious type of behavior regarding psychological help. Within the scope of *the first approach*, researchers have created attitude measurement scales, which allow to identify a number of factors that can affect the decision to seek psychological help: 1) recognition of importance and usefulness of such help; 2) no fear of possible stigmatization as a result of such appeal; 3) trust in psychologists; 4) openness in interpersonal relations (Kushner & Sher, 1991). This approach addresses such phenomena as 'the fear of therapy' and stigmatization, which can result from seeking psychological help (Pattyn, Verhaeghe, Sercu, & Bracke, 2014). Studies of this type prove that people who ask for psychological assistance are often stigmatized and labelled as 'unable to cope with their problems on their own'. The weakness of this approach is in the fact that is well-known from numerous studies – attitudes of an individual and his (or her) actual behavior often contradict one another (Lapierre paradox). Therefore, this approach does not describe deep-lying reasons of readiness to see a psychologist, neither does it address a wider range of variables that are simply ignored in these scales.

The second approach is more focused on getting trivial and 'naive representations' of psychological help. In foreign psychology, this approach is called 'lay theories' (Haslam, 2003), while in Russian psychology the studies focus on 'naive and everyday representations' (Thostov & Nelyubina, 2008; Ulybin & Pelevin, 2010). Within the scope of this method, researchers compare different representations about the content and types of psychological help among the members of different groups: professional psychologists, students, future psychologists, and people who only vaguely understand the specifics and content of such assistance. Interestingly, comparing professional opinions with the conceptions of people who are not professional psychologists, researchers obtain a lot of similar statements, often mythological ones, which are rather intuitive and distorted than corresponding to reality.

Finally, *the third approach* originated from social constructionism. Social constructionists argue that individuals actively construct their social world based on their own experience and beliefs, but do it in such a way that these constructs have maximum meaning and serve the goals and values of an individual (Nesterova & Suslova, 2015). Different social groups share certain concepts and beliefs called 'social representations', which are subsequently used to understand the social world and to form attitudes (Potter, 1996). Hence, attitudes of individuals are based on social beliefs, constructed by particular social groups in a certain historical period. Therefore, in our opinion, it is much more productive to study social representations in the discourse of those groups that we as researchers are interested in.

The theory of social representations addresses the formation process of social knowledge and its products (Belinskaya, 2017; Bovina, 2010; Bovina, Dvoryanchikov, & Yakushenko, 2018; Emel'yanova, 2018; Abric, 2001; Moscovici, 2000; Moliner & Bovina, 2020; Rochira, Salvatore, Veltri, Redd, & Lancia, 2020; Vuillot, Mathevet, & Sirami, 2020; Wagner, 2020). Formation of social knowledge is a process by means of which individuals create relatively stable representations of important social objects and significant events that constitute their reality. The products of social cognition

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represent formed structures of knowledge that allow to classify people and objects, compare and explain their behavior, as well as objectify them as a part of one's social reality (Moscovici, 2000). Social representations play an important role in human lives: they allow to transform an object that is perceived as peculiar into something that seems comprehensible, associable with other images, concepts, and familiar ideas.

Structural approach that we used in this study defines social representations as organized systems comprised of two components – structure and content (Abric, 2001). *Content* is the information shared about a certain social object by a social group. *Structure* organizes this content into a consistent form. The structure contains the core and the periphery (Moscovici, 2000; Emel'yanova, 2016). *The core* includes the most stable information shared by the individuals and determines the general meaning of a social representation. *The periphery* is a more variable part of the representation, which passes through the filters of social context, interpersonal communication, specific characteristics of group members, and differences between various groups. Different periphery configurations complement and support the general meaning conveyed by the core, but at the same time integrate it with specific context, experience, and subjective opinions of various individuals.

Methods

The research material includes quantitative and qualitative data obtained from bachelor and master students of Moscow universities that major in STEM (Science, Technology, Engineering, and Mathematics) and Humanities (excluding Psychology). The sample is comprised of 498 young people between 17 and 25 years old, 55.3 % of them male and 44.7 % female. In addition to them, respondents of early adulthood and middle age (33–55 years old) took part in the study as a control group for comparison.

The purpose of this paper was to study how modern young people see psychological help, how ready they are to use the services of psychologists, and what expectations lie behind this readiness. In this research, we used a productive methodology of social constructionism and S. Moscovici's theory of social representations (Moscovici, 2000).

The research methods included authors' original questionnaire aimed at analyzing different issues regarding psychological help and the experience of receiving it. We also used the questionnaire *Attitudes Toward Seeking Professional Psychological Help Scale* (Fischer & Farina, 1995), adapted for the Russian sample, the purpose of which was to assess the level of readiness to seek psychological help. The information about this questionnaire and its validization is described in a number of publications (Esipov, 2020; Shapovalov & Kolpachnikov, 2019; Yelpaze & Ceyhan, 2019).

Social representations of psychological help were systematized using the methods of content analysis and Vergès' prototypical analysis (Vergès' matrix). Analysis of obtained data was performed using the methods of mathematical statistics (Fisher angle transformation, Student's and Mann–Whitney tests of statistical significance, clustering method) in the Statistica 10.0 software package.

Results

Analysis of respondents' readiness to seek psychological help in case of problems showed that for young women the indicator was significantly higher than for young men (43.39 % against 26.92 %, p < 0.01). If we consider the sample as a whole, it can be noted that the share of young men who were not ready to seek psychological help was twice as high as the same value for

young women (32.69 % and 15.36 %, respectively, p < 0.01). The option 'not sure how I would act' was chosen by approximately the same number of young men and women (Fig. 1).
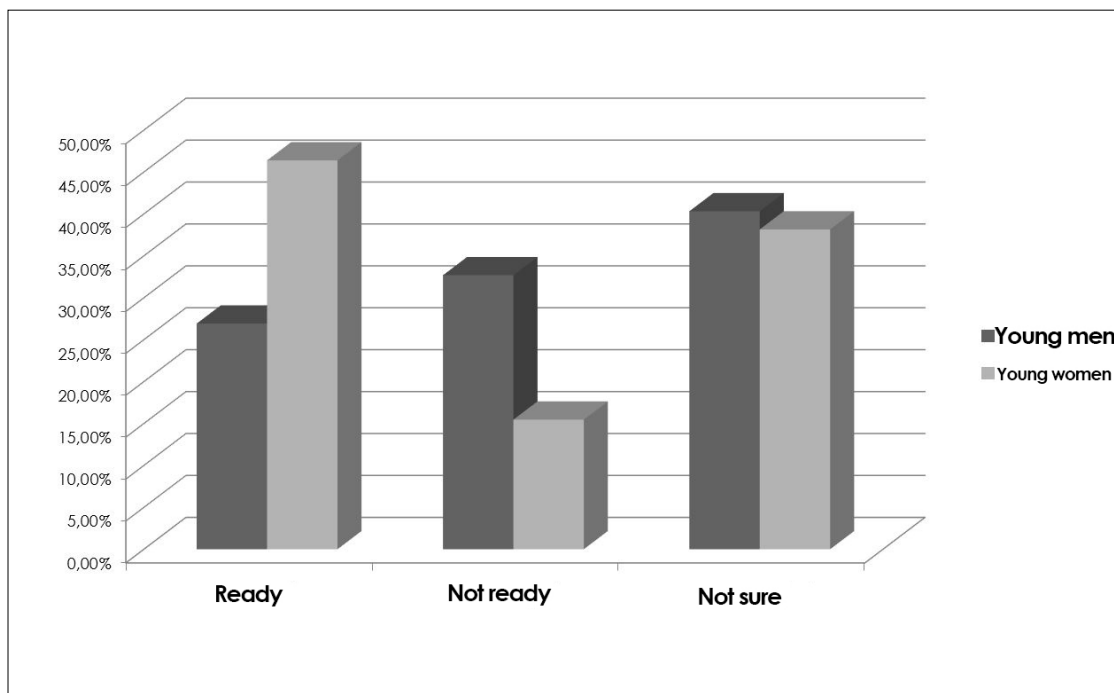

Figure 1. Students' readiness to seek psychological help

In the past, 26.5 % of young women and 11.4 % of young men had already sought psychological help. Help-seeking experience exerted statistically significant influence on the readiness to see a psychologist again and the level of trust in psychological help (r = 0.366, p < 0.01). In the group of adults, the percentage was higher: 53.58 % of women and 37.5 % of men had sought psychological help earlier (statistically significant difference at p < 0.01).

Having compared the level of trust in psychological help, we observed almost identical relatively high scores for female respondents (regardless of age), whereas in the group of adult men the average score was higher than in the group of young men (6.75 against 5.16). In general, the level of trust in psychological help was higher for women than for men (p < 0.01).

The students who took part in the study were asked to choose one or several main goals of seeking psychological help (Fig. 2). Among young respondents, the most frequently chosen options included: (a) 'get a qualified advice on how to act in a given situation' (53.16 %); (b) 'get one's thoughts sorted' (52.33 %); (c) 'learn new patterns of behavior to be able to cope with future difficulties on one's own' (50.0 %); (d) 'receive support from a non-biased party and find the strength to change the situation' (49.37 %); (e) 'step back from the situation and decide what to do next' (48.1 %).

Among the most popular goals chosen by adult respondents, we distinguished the following two: 'learn new patterns of behavior to be able to cope with future difficulties on one's own' (74.0 %) and 'get a qualified advice on how to act in a given situation' (62.0 %).
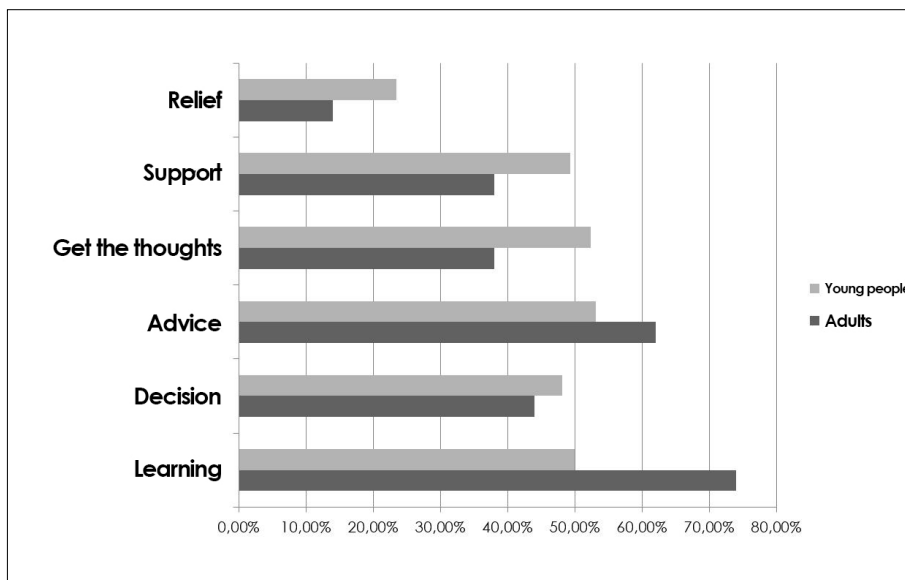
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Figure 2. The main goals of seeking psychological help

Respondents were asked to identify the most important criteria, based on which they would choose a psychologist if they needed one; the question had multiple-choice options. The overwhelming majority of respondents specified specialization of the psychologist and the methods that he or she uses (71.91 % of young men and 82.61 % of young women, $p < 0.05$), as well as relevant work experience (65.17 % of young men and 82.61 % of young women, $p < 0.01$). Age, gender and appearance turned out to be less significant factors in choosing a psychologist (Fig. 3).
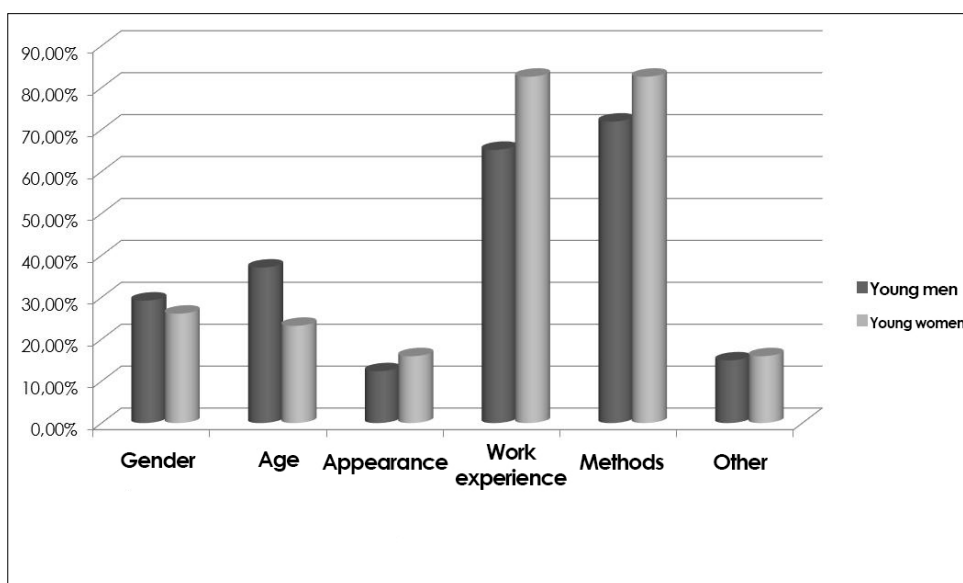

Figure 3. Criteria for choosing a psychologist

The majority of young people (62.92 % of young men and 60.87 % of young women) answered that for them gender of the psychologist was of no importance. Other respondents preferred a male specialist – chosen by 20.22 % of young men and 20.87 % of young women, he was slightly ahead of the female psychologist, selected by 16.86 % of young men and 18.84 % of young women.

When answering a multiple-choice question about preferable age of the help-providing specialist, the majority of respondents (67.42 % of young men and 79.71 % of young women) specified an interval between 26 and 40 years old. The second distant option was a more mature specialist (41–55 years old), selected by 31.46 % of young men and 26.09 % of young women. The least desirable options for respondents of both genders were psychologists younger than 25 and older than 55 years old. Older psychologists were chosen by 7.86 % of young men and only 4.35 % of young women; 7.86 % of male respondents and only 2.90 % of female ones were ready to see a young specialist (Fig. 4).
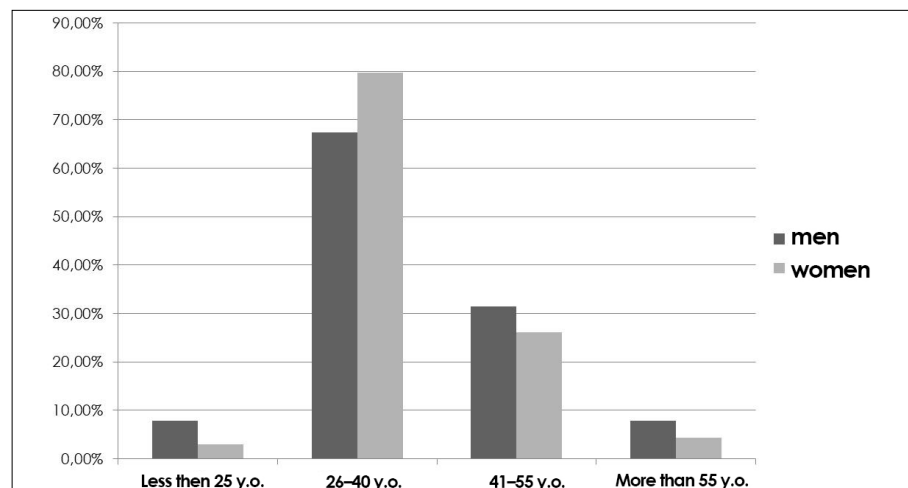

Figure 4. Preferable age of the psychologist

Statistical analysis of obtained differences in the groups 'adults/young people' and 'young men/ young women' showed that their significance could be trusted. According to the nonparametric Mann–Whitney test, statistically significant differences between adult and young respondents were obtained on the scales of 'trust in psychological help' ($U = 6219$, $p < 0.01$), 'recognition of the need to have a psychological service at the university' ($U = 5183$, $p < 0.01$), and 'probability of seeking psychological help in the future' ($U = 6588$, $p < 0.05$). All these indicators were significantly higher in the group of adult respondents. It can also be stated that adults due to their greater life experience were more likely to have already sought psychological help by the moment of our study ($U = 5716$, $p < 0.01$). Notably, adults mostly regarded a psychologist as an 'expert' ($U = 6468$, $p < 0.01$), whereas young people considered the specialist more of a 'mentor' ($U = 6606$, $p < 0.01$). As for the goals of seeking psychological help, the only statistically significant differences were observed in the goals 'learning' ($U = 6004$, $p < 0.01$) (this motivation was more typical for adults) and 'get one's thoughts sorted' ($U = 6752$, $p < 0.05$) (more typical for young people).

As for young men and women, there were quite a lot of statistically significant differences (according to Student's t-test). It should be noted that female respondents were more disposed to

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receive psychological help. Despite the fact that young men and women had more or less identical experience of seeking psychological help, the latter were more likely to trust in this type of assistance (t = −3.55, p < 0.01), experience the need to resume counseling in case of difficulties (t = −6.99, p < 0.01), as well as consider it necessary to create a psychological service at the university (t = −2.16, p < 0.05). The group of young women was also characterized by significantly larger share of positive attitudes towards psychological help (t = −5.61, p < 0.05).

Now let us examine the content of social representations of psychological help by means of Vergès' prototypical analysis and identify *the core* and *the periphery* of these representations. The theory of central core was proposed by J.-C. Abric in order to make existing models of studying social representations more specific (Abric, 2001). The core contains consensual representations of a particular group, which are associated with the studied object (in our case, psychological help). The central core of social representations is scarcely recognized and hardly variable – this ensures the stability of social representations. The periphery system located around the core contains representations that vary within one social group. They are more dynamic and allow to adapt to the current situation.

To study the core and the periphery of students' social representations of psychological help, we applied a combination of quantitative and qualitative methods, including association analysis using Vergès' matrix and content analysis.

Based on the meaning, we grouped 381 students' associations with psychological help into 17 categories of representations, which comprised the core and the periphery (Table 1). In total, 1254 associations were specified by the students.

Table 1
Content and structure of psychological help representations among students

Assessment criteria	Low rank (< 3.1)	High rank (> 3.1)
High frequency of term occurrence (> 31)	*Core:* Help (50; 1.8) Support (45; 2.1) Conversation (35; 2.7) Salvation (31; 2.9)	*First periphery:* Understanding (38; 3.7) Advice (34; 3.4) Psychologist (46; 3.2) Treatment/therapy (40; 3.2)
Low frequency of term occurrence (< 31)	*Contrasting elements:* Problems (29; 2.1) Tears (18; 2.5) Pain (21; 1.8) Trauma (16; 2.7) Work (26; 2.9)	*Second periphery:* Way out (20; 1.3) Deceit (15; 1.9) Problem solution (25; 1.8) Relief (28; 2.7)

From the Table it can be seen that at the core of social representations there are such words as 'help', 'support', 'conversation', and 'salvation'. Contrasting elements of representations, which according to some researchers (Abric, 2001) constitute the position of the minority (low frequency

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of occurrence, high significance), include such concepts as 'problems', 'tears', 'pain', 'traumas', and 'work'. Therefore, such interpretation implies that psychological help is perceived as an opportunity to cope with negative emotional states and life adversities, overcome difficulties by means of being involved and working on one's state with a psychologist.

The first periphery included such representations as 'understanding', 'advice', 'psychologist', and 'treatment/therapy'. Some researchers believe that associations in this zone are often dictated by the media. This zone contains trivial representations that a psychologist can understand and offer advice.

The second periphery also gives us an understanding about the content of social representations, although it is less stable and can reflect a contextual response at a given moment of research. It includes such words as 'way out', 'deceit', 'problem solution', and 'relief'. Notably, deceit implies negative attitude to psychological help, and in this category we combined several closely related associations, such as 'money laundering', 'fraud', 'swindle', 'idle chatter', etc.

Performed content analysis allowed to aggregate all the categories of social representations of psychological help that constituted the core and the periphery into four blocks based on the analysis of association similarity (using similarity coefficient): *'relief of the condition'*, *'problems'*, *'support'*, and *'interaction'* (Fig. 5).
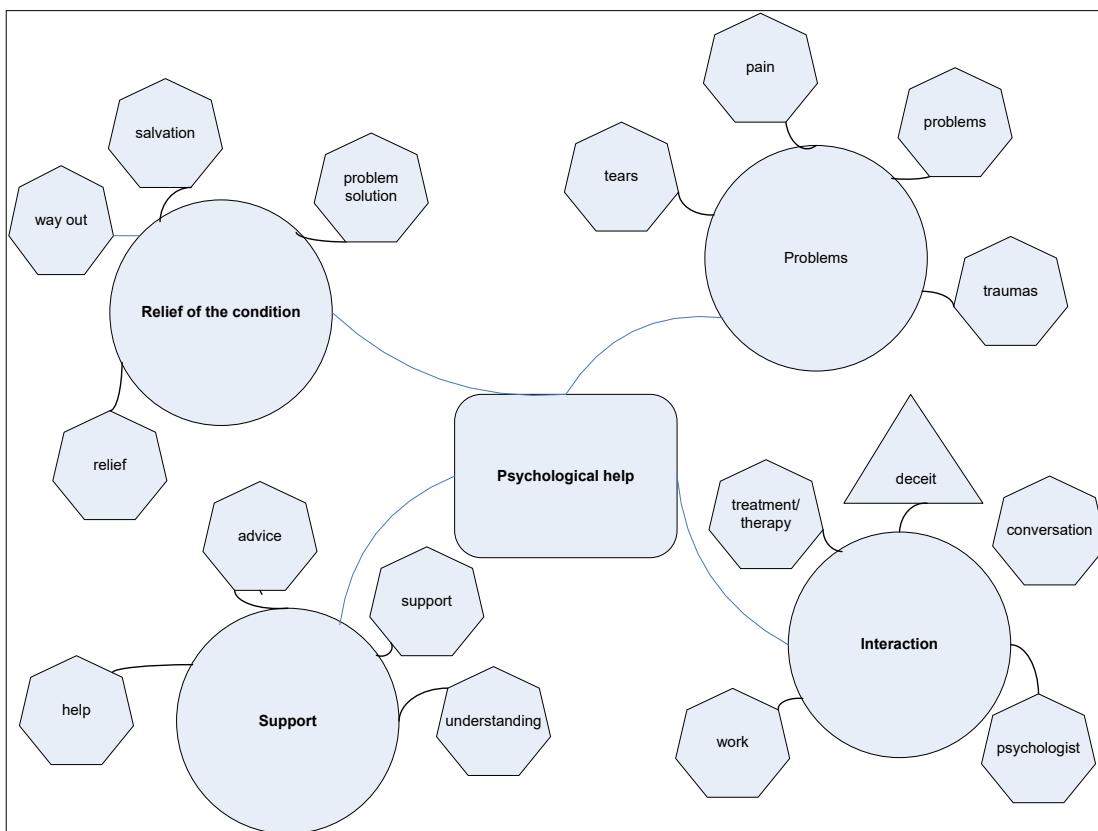

Figure 5. Results of similarity analysis of associations with the 'psychological help' stimulus

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Discussion

Among young people, reasons for seeking psychological help can include the need to receive support and understand themselves better, among adults – the need to get a particular advice and learn. Young people tend to perceive a psychologist as a mentor, adults – as an expert. This can be explained by specific characteristics of the young age, when it is very important to encounter a wise and uncritical mentor to overcome the crisis of self-identity and embrace the opportunity for personal growth.

Results of performed study showed that in general, young men demonstrated significantly lower trust in psychological help than young women and were more inclined to overestimate their level of psychological expertise. Compared to young men, young women are less inclined to stigmatize psychological help, have a clearer understanding of its objectives and higher level of readiness to seek psychological help. Foreign authors note that exaggerated standards of masculinity strengthen men's resistance to professional counseling, and many men would rather start taking medications than see a psychotherapist (Pattyn et al., 2014).

From the obtained results, we can infer that trust in psychological help depends on the gender more than it does on the age of an individual: women are more disposed towards the probability of seeing a psychologist in a difficult period of their lives. This agrees with the data from other studies, which prove that men are more likely to stigmatize psychological help and believe that only 'weak people' and 'people with mental deviations' request it (Pattyn et al., 2014; Nohr et al., 2021).

More positive representations of psychological help were observed in students with majors in Humanities and individuals who already had an experience of psychological counseling. Young respondents who earlier applied for psychological help specified the following main reasons for seeing a psychologist (the wording was generalized): 'adolescence', 'family problems', 'parental divorce', 'death of a loved one', 'running away from home', 'mother insisted', 'nervous breakdowns', 'panic attacks', 'neurosis, anxiety disorder', 'hard times', 'depression, apathy', 'guilt, obsessive thoughts', 'low self-esteem', 'lack of self-control', 'adaptation difficulties at school', 'unsociability', 'aggressiveness, irritability', and 'emotional instability'. These responses demonstrate a certain dependency of young people on their parents and significant adults in making decisions about seeking help, sometimes even their pressure.

Among students, important conditions of inspiring trust in psychological help include recommendation focus, reviews of other clients, price, examples of success cases, competence and proficiency of the psychologist. The age of the potential psychologist is also important – it must be a middle-aged specialist, not too young and not too old. When seeking psychological help, young people also attach great importance to safety, 'comfortable atmosphere in the office', and even 'availability of tea and cookies'.

Having examined structural and content characteristics of social representations of psychological help, we can draw a conclusion that young people are not very eager to seek psychological

help (compared to older adults) and that in case of difficult situation they are less likely to ask for psychological counseling. A motivation for receiving psychological assistance may be a desire to sort out one's feelings and find support, whereas for adults the prevailing motive is to learn something from a psychologist, master a certain skill, or get a particular advice (which by the way contradicts the ethics of providing psychological help).

The basis of students' representations of psychological help is composed of representations about the mission and function of such assistance: 'save', 'support', 'help'. Students understand that psychological help is administered in the process of conversation (dialogue), i.e. a variation of subject-subject communication, not a one-sided influence of the psychologist on the client. In the periphery, which is considered to a large extent formed by the media, social stereotypes are reflected in the associations that psychological help is treatment associated with disease, 'abnormality', health problems, etc. Young people find it difficult to distinguish between the terms 'psychological help' and 'treatment' and sometimes demonstrate stigmatizing attitudes towards individuals who seek psychological help, which is confirmed in a number of foreign studies (Fukuda et al., 2016; Pattyn et al., 2014).

Conclusions

Social representations of psychological help manifest in students' consciousness through recognition of the opportunity to receive support and relieve one's emotional state by means of experiencing pain, tears, analyzing difficult situations and problems. In the implicit worldview of the young people, psychological help is associated with interaction primarily based on the dialogue and respectful attitude, but it also contains elements of distrust and the fear to be deceived.

Students' mental representations of psychological help are not always positive, and the prejudices of some young men and women hamper their full integration into the system of providing psychological help.

In our opinion, obtained results can be used to develop programs for optimizing the operation of young people's mental health services that take into account their social representations and increase the level of trust in psychologists among the population. Encouragement of seeking psychological assistance can increase the level of trust in psychological help among the young people, which is an important task of children and young people's mental health services. There is also a need to formulate theoretical foundations and higher methodological standards for the development of techniques associated with attitudes and readiness of young people to seek psychological help. This will create an opportunity to compare results obtained for different samples and in different social contexts, increase predictive validity of developed methods and programs, and provide timely access of the population to the maintenance of their psychological well-being.

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References

Abric, J.-C. (2001). A structural approach to social representation. In K. Deaux, G. Philogène (Eds.), *Representations of the social: Bridging theoretical traditions* (pp. 42–47). Oxford: Blackwell Publishers.

Aguirre Velasco, A., Cruz, I. S. S., Billings, J., Jimenez, M., & Rowe, S. (2020). What are the barriers, facilitators and interventions targeting help-seeking behaviours for common mental health problems in adolescents? A systematic review. *BMC Psychiatry*, *20*, 293. https://doi.org/10.1186/s12888-020-02659-0

Barker, C., Pistrang, N., Shapiro, D. A., & Shaw, I. (1990). Coping and help-seeking in the UK adult population. *British Journal of Clinical Psychology*, *29*(3), 271–285. https://doi.org/10.1111/j.2044-8260.1990.tb00885.x

Belinskaya, E. P. (2017). Social representations about disease and coping strategies: cross-cultural analysis. In R. V. Ershova (Ed.), *Applied psychology at the service of a developing personality: Collection of scientific articles and materials of the 25th scientific-practical conference with international participation* (pp. 17–21). Kolomna: State Institute of Social Studies and Humanities. (in Russ.).

Bovina, I. B. (2010). Theory of social representations: history and the actual development. *Sotsiologicheskii zhurnal (Sociological Journal)*, 3, 5–20. (in Russ.).

Bovina, I. B., Dvoryanchikov, N. V., & Yakushenko, A. V. (2018). Stigmatization and mental health: reflections from the position of health psychology. In *Mental health and education: Collection of scientific articles of the 2nd Congress on mental health: meeting the needs of the 21st century* (pp. 132–134). Moscow: Gorodets. (in Russ.).

Divin, N., Harper, P., Curran, E., Corry, D., & Leavey, G. (2018). Help-seeking measures and their use in adolescents: A systematic review. *Adolescent Research Review*, *3*, 113–122. https://doi.org/10.1007/s40894-017-0078-8

Emel'yanova, T. P. (2016). *Social representations: history, theory and empirical studies.* Moscow: Institute of Psychology of RAS. (in Russ.).

Emel'yanova, T. P. (2018). Development of the concept of social representation – a new stage in the development of the conceptual instruments of social psychology. In A. L. Zhuravlev, E. A. Sergienko (Eds.), *Development of modern psychology concepts. Series of digests "Methodology, theory and history of psychology"* (pp. 379–400). Moscow: Institute of Psychology of RAS. (in Russ.).

Esipov, M. A. (2020). About the attitude of youth towards psychological help (on the material of students from Asian, African and Latin American countries studying in Russia). *Chelovecheskii kapital (Human Capital)*, 10, 102–111. (in Russ.).

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Russian Psychological Journal, 2021, Vol. 18, No. 3, 115–129. **doi**: 10.21702/rpj.2021.3.8

SOCIAL PSYCHOLOGY

Fischer, E. H., & Farina, A. (1995). Attitudes toward seeking professional psychological help: A shortened form and considerations for research. *Journal of College Student Development*, *36*, 368–373.

Fukuda, C. C., Penso, M. A., do Amparo, D. M., de Almeida, B. C., & de Aquino Morais, C. (2016). Mental health of young Brazilians: Barriers to professional help-seeking. Estudos de Psicologia, *33*(2), 355–365. https://doi.org/10.1590/1982-02752016000200017

Haslam, N. (2003). Folk psychiatry: lay thinking about mental disorder. *Social Research*, *70*(2), 621–644.

Kushner, M. G., & Sher, K. J. (1991). The relation of treatment fearfulness and psychological service utilization: An overview. Professional Psychology: Research and Practice, 22(3), 196–203. https://doi.org/10.1037/0735-7028.22.3.196

Kuznetsova, S. A., & Kryukov, A. I. (2012). Factors of students' readiness to apply for psychological assistance service. In *5th Conference of the Russian Psychological Society: Proceedings of the conference* (Vol. III, p. 198–199). Moscow: Russian Psychological Society. (in Russ.).

Makarova, E. Yu. (2009). *Representation of psychological counseling among different social groups* (Doctoral Thesis). Russian State Social University, Moscow. (in Russ.).

Moliner, P., & Bovina, I. B. (2020). On Serge Moscovici's 95th anniversary: The theory of social representations – history, postulates and dissemination. *RUDN Journal of Psychology and Pedagogics*, *17*(3), 542–553. https://doi.org/10.22363/2313-1683-2020-17-3-542-553

Moscovici, S. (2000). The phenomenon of social representations. In G. Duveen (Ed.), *Social representations: Explorations in social psychology* (pp. 18–77). New York: New York University Press.

Nesterova, A. A., & Suslova, T. F. (2015). *Constructivist and socio-psychological approaches to studying the factors of migrants' resilience and adaptation*. Moscow: Izdatel'sko-torgovaya korporatsiya "Dashkov i K". (in Russ.).

Nohr, L., Ruiz, A. L., Sandoval Ferrer, J. E., & Buhlmann, U. (2021). Mental health stigma and professional help-seeking attitudes: A comparison between Cuba and Germany. *PLoS ONE*, *16*(2). https://doi.org/10.1371/journal.pone.0246501

Pattyn, E., Verhaeghe, M., Sercu, Ch., & Bracke, P. (2014). Public stigma and self-stigma: Differential association with attitudes toward formal and informal help seeking. *Psychiatric Services*, *65*(2), 232–238. https://doi.org/10.1176/appi.ps.201200561

Potter, J. (1996). Attitudes, social representations and discursive psychology. In M. Wetherell (Ed.), *Identities, groups and social issues* (pp. 199–173). London: Sage.

Rochira, A., Salvatore, S., Veltri, G. A., Redd, R. R., & Lancia, F. (2020). Theory and method for the analysis of social representations. In T. Mannarini, G. Veltri, S. Salvatore (Eds.), *Media and social representations of otherness. Culture in policy making: The symbolic universes of social action* (pp. 17–38). Springer, Cham. https://doi.org/10.1007/978-3-030-36099-3_2

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Rowe, S. L., French, R. S., Henderson, C., Ougrin, D., Slade, M., & Moran, P. (2014). Help-seeking behaviour and adolescent self-harm: A systematic review. *Australian and New Zealand Journal of Psychiatry*, *48*(12), 1083–1095. https://doi.org/10.1177/0004867414555718

Shapovalov, R. A., & Kolpachnikov, V. V. (2019). Problem of men's attitude towards psychological help. *Mir psikhologii (World of Psychology)*, 1, 152–164. (in Russ.).

Tkhostov, A. Sh., & Nelyubina, A. S. (2008). Everyday beliefs as a factor mediating behavior in the situation of illness. *Vestnik Tomskogo gosudarstvennogo universiteta (Tomsk State University Journal)*, 317, 243–245. (in Russ.).

Ulybina, E. V., & Pelevina, I. S. (2010). Moral Assessment of Ill People: Professional and Nonprofessional Conception of Diseases. *Psikhologiya. Zhurnal Vysshei shkoly ekonomiki (Psychology. Journal of the Higher School of Economics)*, *7*(2), 137–145. (in Russ.).

Vuillot, C., Mathevet, R., & Sirami, C. (2020). Comparing social representations of the landscape: A methodology. *Ecology and Society*, *25*(2), 28. https://doi.org/10.5751/ES-11636-250228

Wagner, W. (2020). Social representation theory: An historical outline. In *Oxford Research Encyclopedia of Psychology, Social Psychology, History and Systems of Psychology*. https://doi.org/10.1093/acrefore/9780190236557.013.606

Xu, Z., Huang, F., Kösters, M., Staiger, T., Becker, T., Thornicroft, G., & Rüsch, N. (2018). Effectiveness of interventions to promote help-seeking for mental health problems: Systematic review and meta-analysis. *Psychological Medicine*, *48*(16), 2658–2667. https://doi.org/10.1017/S0033291718001265

Yee, T., Ceballos, P., & Diaz, J. (2020). Examining the psychological help-seeking attitudes of Chinese immigrants in the U.S. International Journal *for the Advancement of* Counselling, *42*, 307–318. https://doi.org/10.1007/s10447-020-09403-z

Yelpaze, I., & Ceyhan, A. A. (2019). University students' perceptions about psychological help seeking: A qualitative study. *International Online Journal of Educational Sciences*, *11*(1), 123–139. https://doi.org/10.15345/iojes.2019.01.009

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Author Contributions

A. N. Nesterova planned and supervised the research, provided statistical analysis and interpretation of empirical data, worked with literature, tables, and illustrations, and prepared the manuscript. **M. A. Esipov** planned the research, collected and processed empirical data, worked with literature, prepared illustrations, and edited the manuscript.

The authors declare no conflict of interest.

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Developing Psychology Students' Leadership Abilities Through Psychological Counseling

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Abstract

Introduction. The today's strategy of the education system declaratively aims to train specialists with well-developed leadership abilities. In fact, universities graduate very few such specialist, which is especially relevant for psychological education. Leadership abilities, which form the basis for many professionally important qualities of a psychologist, are minimally developed in many students; traditional university-based training of psychologists does not provide their purposeful development. This empirical study is the first to prove that group psychological counseling may increase the level of leadership abilities of psychology students within a relatively short time. Psychological counseling can be integrated into the educational process. **Methods**. The empirical study involved 50 full-time bachelor-level students studying at the Faculty of Psychology, Irkutsk State University. The research used the following methods: (a) the test method of multi-scale personality inventories; (b) developing, modeling, teaching, and analytical methods of psychological counseling; and (c) methods of nonparametric statistics (Fisher's angular transformation). **Results**. Psychological counseling of psychology students resulted in a substantial increase in the level of leadership abilities, in the levels of communicative and organizational skills associated with leadership, and in the levels of leadership qualities (for example, extraversion, lability, and spontaneity). **Discussion**. Psychological counseling contributes to an increase in the level of future psychologists' leadership skills. Leadership skills are improved both in terms of leadership qualities and communication skills associated with leadership. **Conclusion**. The development of leadership abilities of future psychologists by methods of psychological counseling can and should become a part of their professional training. Group counseling sessions aiming at the development of leadership skills may be implemented within specialized elective courses and disciplines that provide the development of personality and leadership (social psychology, psychological counseling, etc.).

Keywords

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Highlights

➤ Leadership abilities represent a complex psychological phenomenon that includes heterogeneous components – leadership qualities and communication skills associated with leadership.

➤ Regardless of the stage of training, there is a large proportion of psychology students with a low level of leadership abilities.

➤ Students need organized psychological counseling, which develops both leadership qualities and communication skills associated with leadership.

➤ Group psychological counseling of psychology students using multidirectional methods contributes to the successful development of their leadership and communication skills and changes their certain personality traits.

For citation

Introduction

Many scholars and practitioners examine the problem of the development of leadership abilities among future psychologists, which acquires a special meaning in the context of new trends in education. The today's strategy of the education system declaratively aims to train specialists with well-developed leadership abilities who are ready to take initiative, make decisions, and take responsibility. In fact, universities graduate very few such specialists, which is relevant for all the areas of practice requiring any leadership and social courage.

Moreover, leadership skills are often lacking among helping professionals, even at the level of social stereotypes. Thus, a helping person should be kind, appeasable, and conformable; helping professionals should demonstrate perseverance, lead a person in need, and sometimes even show spiritual strength. Therefore, the development of leadership skills is vital in any helping profession.

Finally, future psychologists are modern specialists who respond to the needs of society and belong to the category of helpers. Leadership abilities are highly desirable and extremely important for them. They are incorporated in their professionally important qualities and create a kind of foundation in it. Without leadership abilities, a psychologist will not be able to manage the process of psychological assistance, manage conflicts; he/she will not be able to defend a point of view of a child or an adult when facing with the administration and authorities. As a result, university-based training of psychologists fails to take into account leadership abilities that represent a key professional psychological competence.

Within the problem of the development of future psychologists' leadership abilities, the content of the concept of 'leadership abilities' requires analysis, because, despite numerous studies on leadership, its criteria, components, and specific manifestations (leadership abilities, leadership qualities, and leadership competence) are considered very differently. Thus, for example, in the context of leadership problems, Shpak (2017) relies precisely on leadership qualities and considers it necessary to develop them, emphasizing the intra-nature of leadership. In our early studies, there is also a tendency to consider leadership qualities from a personal position, in their association with value and meaning orientations (Uvarova & Kedyarova, 2014; Chernetskaya, 2016). At the

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same time, Bazunova (2017) and Morozova (2017) consider leadership and leadership abilities through the concept of 'social leadership', proving that it is social leadership that is necessary for modern specialists of the 'subject – subject' system and that it should be developed at the earliest stages of education through project activities. Moya, Chamorro, Reparaz, & Mora (2020) examine leadership through leadership competence, illustrating its development in a case study involving future mining engineers. Hayitov (2020) distinguishes the levels of communicative competence. Researchers from China – Mao, Chiang, Chen, Wu, & Wang (2019) – also studied leadership competence and found that leadership 'self-preserving' behavior and actions in a team are its factors. The authors consider leadership competence as a factor in individuals' psychological safety. An approach that examines the leader instead of various aspects of leadership is also quite popular. Thus, Shingaev, Simagina, & Nyrova (2020) point to the role of emotional intelligence in a leader's personality, Thoroughgood & Sawyer (2018) empirically identified charismatic, ideological, and pragmatic leadership styles. Lin, Scott, & Matta (2019) discuss the dark side of a leader's personality. Mahasneh, Alwan, & Al-Rawwad (2019) examine student leadership from a perfectionist perspective.

In our theoretical analysis, we relied on the following content of the 'leader' concept – an authoritative person with cognitive, value, creative, communicative potential, who fulfils his/her motivational desire to be a leader and behave as a leader (Kaigorodov & Demin, 2018). However, in the context of our research, we consider it more expedient to concretize leadership to leadership abilities. Thus, Aspanova (2017), Karpova (2012), Ryabysheva (2014), Serdyuk & Krivtsova (2014), Solov'eva (2008) consider leadership abilities the core of leadership, its main empirical manifestation, which combines both a personal component (extraversion, adequate anxiety, communicative lability, etc.), and manifestations in communication as the ability to communicate effectively, effectively manage communication, and organize it.

Concretizing leadership abilities as a part of professionally important qualities, we rely on the works by Bykova (2015), Davletova (2007), Denisova, Kostakova, & Kuzmichev (2017), Musaeva (2016), which in one context or another indicate the central place of leadership abilities in the personality structure of helping professionals, especially psychologists. Rekesheva (2008) emphasizes that communicative and leadership abilities are a factor in the formation of a psychologist's professional readiness. In the process of psychologists' professional training, Fomina (2009) and Khapacheva (2015) revealed both the dynamics of the development of communicative and leadership abilities and conditions for this development. Naumova, Baranov, and Tarakanov (2015) provide similar data for speech pathologists and special educators.

The literature has convincingly shown that young psychologists very often experience difficulties in their professional activities associated with an insufficient level of leadership skills. They are afraid to speak in public, take initiative in communication, take on new communicative and organizational tasks, take responsibility in communication, and implement managing communication. Davletova (2007) notes that student age is optimal for the development of leadership abilities, as during this period individuals make professional and life plans, develop their worldview and basic ideals.

There are very few studies on methods, technologies, and means of developing future psychologists' leadership abilities. Teten'kin (2012) writes that counseling on communication management and leadership skills is a major task among all the tasks of university-based psychological services. Phillips et al. (2017) presented a unique work on psychological counseling

of psychologists on leadership problems and showed the methods and successful results of their work on the development of leadership competence and associated communicative abilities by means of psychological counseling. Specifically, the authors have shown that counseling improves social justice and cultural responsiveness in leaders (Phillips et al., 2017). However, the data on the methods of developing leadership abilities are scattered throughout the literature. We considered it expedient to apply the methods of psychological counseling in our work. We believe that psychological counseling corresponds well to the educational practice of training psychologists and to the very content of leadership abilities as well. Psychological counseling may enable future psychologists not only to reveal their leadership potential, but also to acquire communication skills associated with leadership, to advance in their leadership qualities towards greater professional psychological readiness.

Methods

For three years (2017–2020), we carried out a systematic monitoring of leadership abilities among students studying at different year levels at the Faculty of Psychology of Irkutsk State University. According to the generalized data, about 30–40 % of full-time students studying at different year levels showed a low or below average levels of the development of leadership abilities. Moreover, this averaged proportion did not change statistically among senior-year students. Therefore, the study of leadership abilities of future psychologists at different stages of training, which results were disappointing, turned into an experimental study on the development of leadership abilities among psychology students studying at mixed year levels. Our study on the development of leadership skills by means of psychological counseling involved 50 full-time bachelor-level students studying at different year levels. The mean age of the subjects was 19 years.

The group of psychological counseling participants comprised students with average (with a trend for low) and low levels of leadership development at the time of the survey. For convenience, we will designate this group as a group of psychology students with a low level of leadership development. No developmental work was carried out with students who showed high and average levels of leadership development. Meanwhile, such a work with a completely different content may be even advisable.

We applied a test method of personality inventories and used the following assessment tools: (a) the Diagnostics of Leadership Abilities inventory by E. Zharikov & E. Krushel'nitskii (Fetiskin, Kozlov, & Manuilov, 2002); (b) the Communicative and Organizational Tendencies inventory by V. V. Sinyavskii & V. A. Fedorishin (Fetiskin et al., 2002); and (c) the Individual-Typological Questionnaire (ITQ) by L. N. Sobchik (Sobchik, 2003). We should note that E. Zharikov and E. Krushel'nitskii themselves emphasized the association of leadership abilities with communicative and organizational proneness. Therefore, we consider that the joint use of these assessment tools is not only appropriate, but also desirable. We examined psychology students using these questionnaires at the 'entry' stage (before any psychological work on the development of leadership abilities) and at the 'exit' stage (after the end of psychological counseling).

To assess the effectiveness of psychological counseling, we used Fisher's angular transformation (φ^*), which is suitable for assessing the reliability of percentage changes.

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The development of leadership skills is most effective in a group format. In group counseling, future psychologists train the whole range of professionally important communicative qualities (empathy, reflection, and trust). Therefore, in our work, we used group psychological counseling. In the group, students learn to interact with each other in a safe atmosphere and explore their communication scope and limitations. Another unique value of group counseling is that it offers future psychologists the chance to become a part of another individual's growth process. Since all opportunities for interaction are presented in the group, participants can express themselves and help each in developing self-understanding and self-acceptance. Group consultations were conducted by two teachers of the Faculty of Psychology of Irkutsk State University, who had professional psychological education and received specialized training in psychological counseling, personal effectiveness development, and counseling supervision.

The works of Abramova (2018), Gran'ko (2015), Naumova et al. (2015), Musaeva (2016), Solov'eva (2008) formed the methodological basis for our counseling work on the development of leadership abilities. We formulated the following principles of psychological counseling on the issues of leadership abilities: (a) Leadership skills should be developed in a situation of successful leadership behavior. (b) In a person who has been playing the role of a leader for a long time, the traits required for leadership may be formed and consolidated (a social role becomes a part of the self). (c) Leadership skills represent a social phenomenon. Therefore, the development of leadership models of behavior occurs faster in the process of group counseling. (d) The holistic development of leadership skills should be carried out in simulated situations of professional activity associated with the implementation of leadership functions in non-standard situations.

In the process of psychological counseling, we applied developmental (conversation with active and passive listening, open and closed questions, and psychodrama), modeling (role-playing games, discussions, and debates), teaching (exercises of socio-psychological training), and analytical (analysis and interpretation of participants' behaviors) counseling methods.

In our counseling work, we moved from structuring the problem of leadership abilities and identifying difficulties in their implementation to the desired result specification, developing of alternative solutions, their generalization, and incorporation of leadership abilities in professional activities.

The tasks of our counseling work were as follows: (a) to develop the ideas about leadership as a group process on the basis of students' empirical experience of interaction and teamwork; (b) to promote self-analysis of leadership potential and leadership abilities; (c) to increase motivation for leadership and to expand ideas about the importance of leadership abilities as the most valuable resource for a future psychologist; (d) to develop the ability to act creatively in non-standard situations; and (e) to acquire leadership interpersonal communication skills, organizational skills, and the ability to defend individual point of view. To enrich the content of the case study of psychological counseling, we used the results of the study by of Anopchenko et al. (2019).

In general, we held 11 group consulting sessions, 2 times a week (each session lasted 2.5 hours).

Table 1 presents the methods and stages of counseling work with psychology students.

Table 1

The structure of group psychological counseling aimed at the development of psychology students' leadership skills

Stage	Aim	Psychological methods and technologies	Number of consultations
Structuring and highlighting the problem	Revealing the manifestations of a low level of leadership development	1. Testing. 2. Conversation using the following techniques: – verbal and non-verbal rapport-building; – active listening; – discussions; – summarization	1 group consultation
Formulating the expected result	Informing participants about leadership skills, discussing the ways to develop leadership skills, discussing the expected outcomes	1. Debate. 2. Thematic conversation using the following techniques: – empathy; – open and closed questions; – psychodramatic methods; – non-verbal impact; – reflective listening; – informing	1 group consultation
Elaboration of alternative solutions in the development of leadership skills	Developing leadership skills	1. Exercises of social and psychological training. 2. Techniques of psychodrama. 3. Role-playing games	5 group consultations

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Table 1

The structure of group psychological counseling aimed at the development of psychology students' leadership skills

Stage	Aim	Psychological methods and technologies	Number of consultations
Activity-based (activity of psychology students outside the counselling process to consolidate the acquired leadership skills)	Consolidating the acquired knowledge, skills, and abilities for the development of leadership abilities in the professional and everyday life of future psychologists	In everyday life participants implement the experience gained in the process of group psychological counseling	3 weeks
Generalization	Assessing the achievement of the goal of psychological counseling, generalizing the results, developing leadership self-awareness	1. Conversation using the following techniques: – empathy; – open and closed questions; – reflection of feelings; – non-verbal impact; – self-disclosure; – summarization; – free association; – discussion. 2. Testing. 3. Analysis of the results	1 group consultation

Thus, we organized and carried out psychological counseling of future psychologists with a low level of leadership abilities. This work aimed at developing leadership abilities.

Results

Figures 1–3 show percentage changes in the results of psychological counseling. The control measurements indicated that low-level leadership abilities decreased by 4 times (from 48 % to 12 %), average-level leadership abilities increased from 52 % to 62 %, and high-level leadership abilities appeared in 6 subjects.

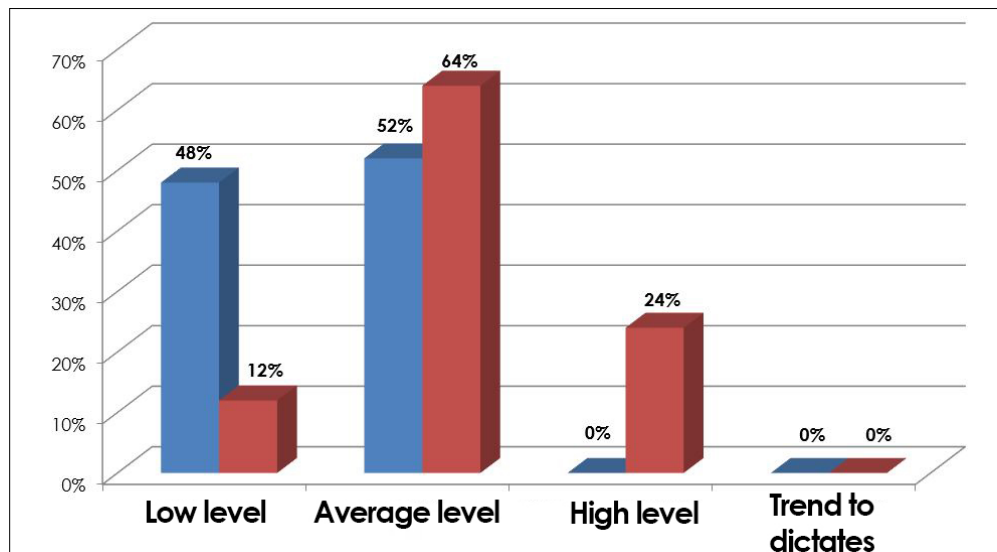*Figure 1.* Percentage changes in the levels of leadership abilities (Diagnostics of Leadership Abilities inventory by E. Zharikov & E. Krushel'nitskii)

Note: hereinafter, in the figures, the first columns refer to the primary diagnosis results; the second columns refer to the secondary diagnosis results.
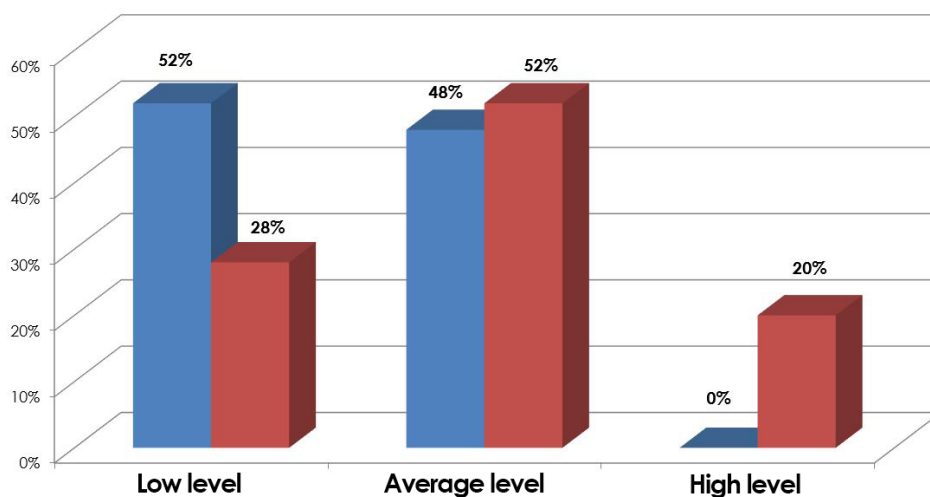

Figure 2. Percentage changes in communication skill levels as a factor of leadership abilities

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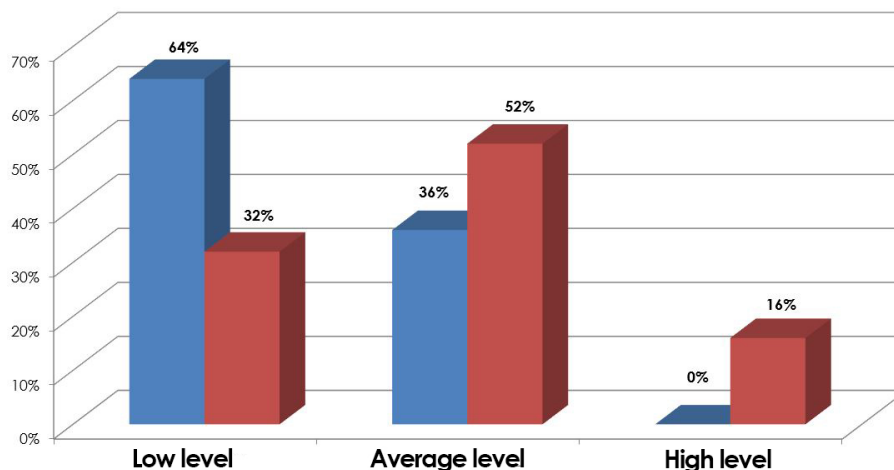
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Figure 3. Percentage changes in organizational skill levels as a factor of leadership abilities

Thus, leadership abilities were quite flexible in terms of their development in psychological counseling. Psychology students improved their ability to manage a group; now they can set clearer goals and objectives in problem communication and show leadership initiative. In general, they became more enterprising and active in communication and acquired motivation for leadership, which became attractive to them. In our study, the leadership abilities changed because of their involvement in the process of solving psychological problems facing students (consulting, training, etc.) and their multiple connections with other communicative and emotional qualities of students. Thus, almost any impact on empathy, reflection, and emotional intelligence develops leadership skills.

Among the levels of communication skills, the scores of the low and medium levels changed to the same extent – the low level decreased from 52 % to 28 %, the average increased from 48 % to 72 %. After counseling, 5 psychology students showed high levels of communication skills, which were absent in the group before the counseling work.

The number of students with low levels organizational abilities decreased by 2 times (from 64 % to 32 %); the number of those with average levels of organizational abilities increased from 36 % to 52 %. During the initial diagnosis, not a single student demonstrated a high level of organizational abilities. The control measurements indicated the presence of organizational abilities in 4 students (16 % of the sample).

Thus, after psychological counseling aimed at the development of leadership abilities among psychology students, we found significant improvements in communication and organizational skills. Therefore, we may consider them as components of leadership or use them as its factors. Psychology students have developed the ability to manage communication, to solve communicative and organizational professional tasks, to work confidently with a group, and to show initiative in problem-based professional communication.

The structure of leadership abilities can undoubtedly be studied separately using factor and cluster analysis. However, in our study we specifically focused on testing the fundamental

'developability' of future psychologists' leadership abilities by means of psychological counseling. Besides, we consider that communicative and organizational skills, as well as leadership qualities are to some extent conditional components of leadership abilities and their factors. In so doing, we realize that the clarification of this thesis requires a special study.

We confirmed the reliability of percentage changes using Fisher's angular transformation (Table 2). The table shows that all the differences before and after psychological counseling are statistically significant. Moreover, we observed an improvement of communicative abilities in the structure of leadership abilities even at the one-percent level of error significance. That may be explained by both their greater plasticity (susceptibility to developmental influences) and the fact that group counselling, which includes elements of social and psychological training, aims at communication and, therefore, at leadership as one of its products. Table 3 presents percentage changes in the ITQ scores among subjects with significant changes in certain personality traits after group counseling.

Table 2

Factors of statistically significant and insignificant results of leadership development

Factors of leadership abilities	Statistically significant	Statistically insignificant
Leadership qualities	$\varphi^*_{эмп} = 2{,}29$; $p \leq 0{,}05$	
Communication skills	$\varphi^*_{эмп} = 2{,}53$; $p \leq 0{,}01$	
Organizational skills		$\varphi^*_{эмп} = 1{,}89$; $p \leq 0{,}05$

Table 3

Statistical assessment of changes in personal correlates of psychology students' leadership abilities after psychological counseling (the ITQ)

The proportion of subjects with high levels of extraversion (increased)	$\varphi^*_{эмп} = 1{,}68$; $p \leq 0{,}05$
The proportion of subjects with high levels of anxiety (decreased)	$\varphi^*_{эмп} = 1{,}72$; $p \leq 0{,}05$
The proportion of subjects with high levels of lability (increased)	$\varphi^*_{эмп} \, 1{,}89$; $p \leq 0{,}05$
The proportion of subjects with high levels of spontaneity (increased)	$\varphi^*_{эмп} \, 1{,}83$; $p \leq 0{,}05$

A decrease in the anxiety level, an increase in the levels of lability, extraversion and spontaneity on the scales of lability, extraversion and spontaneity after psychological counseling indicates that we stimulated the development of both leadership abilities and leadership qualities associated with leadership. Undoubtedly, many personality traits could not be drastically changed after a series of psychological counseling. Therefore, individuals with pronounced introversion remained introverts; hypersensitive individuals also remained hypersensitive. However, we managed to achieve significant changes in certain levels of these leadership qualities – to increase the proportion of individuals with extraversion, to reduce the proportion of individuals with high anxiety, and to increase the proportion of individuals with high spontaneity. These ITQ scales are the most indicative in assessing the development of leadership abilities.

Discussion

Our counselling work with psychology students helped to increase their levels of leadership abilities, as they exist in their conventional form according to the Diagnostics of Leadership Abilities inventory by E. Zharikov and E. Krushel'nitskii. Moreover, it helped to increase the levels of associated communicative and organizational skills and the levels of four indicative leadership qualities. That indirectly indicates the integral nature of leadership abilities in relation to certain individual communication skills and leadership qualities.

After psychological counseling, psychology students show greater communicative initiative, self-criticism, and communicative endurance. They can more easily manage personal and professional communication and take a leadership role in communication. Future psychologists learned to defend their individual points of view and to clearly express their opinions. Leadership became more attractive for them; they understood what professional challenges it solves. Thus, leadership became more attractive for psychological assistance to children and adults. Students started to understand it as a tool for influencing, as a means of managing professional communication in solving professional problems. The creative effect of the development of leadership abilities by means of psychological counseling was also pronounced. Psychology students become freer and more open to professional challenges; they understood the role of leadership in establishing professional contact have become ready to take a leadership role in psycho-diagnostic, psycho-preventive, and psycho-corrective work, as well as in psychological training as a practicing psychologist's area of work. According to the participants themselves, psychological counseling helped them reduce anxiety related to leadership in the group, understand current needs and prospects, and increase self-confidence. This was possible because within psychological counseling we created an opportunity to transfer leadership experience. Therefore, according to the participants' subjective assessments and the results of psycho-diagnostic measurements, psychological counseling helped to relieve tension and contributed to a conscious attitude towards leadership.

Conclusion

Our study convincingly showed that psychological counseling that incorporates modeling, developmental, teaching, and analytical methods contributes to an increase in the level of future psychologists' leadership abilities. Such an increase manifests itself in a comprehensive improvement of leadership abilities, other communication and organizational skills associated with leadership, and leadership qualities. The results obtained in this study may be used to support the educational process of future psychologists, including training courses on the development of professionally

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important qualities, specialized electives on the development of psychological self-management and leadership in the psychological profession, tutorials on psychological counseling and social psychology, and optional psychological trainings for future specialists in other helping professions (social workers, physician, etc.).

References

Abramova, G. S. (2018). *Practical psychology*. Moscow: Prometei. (in Russ.).

Anopchenko, T. Yu., Grigan, A. M., Lysochenko, A. A., Chernyshev, M. A., Temirkanova, A. V., Novosel'tseva, L. A., ... Pryadko, M. A. (2019). *Management: Cases, trainings, business games: Tutorial* (4th ed.). Moscow: Dashkov and K. (in Russ.).

Aspanova, G. R. (2017). The essence of the concept of 'leadership skills'. In S. S. Chernov (Ed.), *Teaching and education: Methods and practice of the 2016/2017 academic year* (pp. 126–130). Novosibirsk: Center for the Development of Scientific Cooperation. (in Russ.).

Bazunova, A. G. (2017). International experience of effective development of social leadership in the educational sphere. In T. N. Gushchina (Ed.), *Social leadership in the educational environment* (pp. 17–22). Yaroslavl: Yaroslavl State Pedagogical University. (in Russ.).

Bykova, E. A. (2015). Features of professionally important qualities of a psychologist. *Vestnik Shadrinskogo gosudarstvennogo pedagogicheskogo instituta (Journal of Shadrinsk State Pedagogical University)*, 3, 108–115. (in Russ.).

Chernetskaya, N. I. (2016). Features of the value-meaning sphere among the representatives of the 'subject-subject' professions. *Izvestiya Irkutskogo gosudarstvennogo universiteta. Seriya: Psikhologiya (The Bulletin of Irkutsk State University. Series 'Psychology')*, 16, 57–66. (in Russ.).

Davletova, A. I. (2007). *Development of leadership qualities of pedagogical university students* (Doctoral dissertation). Moscow Psychological and Social Institute, Moscow. (in Russ.).

Denisova, E. A., Kostakova, I. V., & Kuzmichev, S. A. (2017). Psychological support for psychology students' professional formation. *Russian Psychological Journal*, *14*(2), 135–150. https://doi.org/10.21702/rpj.2017.2.8 (in Russ.).

Fetiskin, N. P., Kozlov, V. V., & Manuilov, G. M. (2002). *Socio-psychological diagnostics of the development of personality and small groups*. Moscow: Institute of Psychotherapy. (in Russ.).

Fomina, L. Yu. (2009). Development of psychology students' professionally important qualities in the process of professional training. *Uchenye zapiski Pedagogicheskogo instituta SGU im. N. G. Chernyshevskogo. Seriya: Psikhologiya. Pedagogika (Proceedings of the Chernyshevsky Saratov State University: Series: Psychology. Pedagogy)*, 2, 48–52. (in Russ.).

Gran'ko, A. S. (2015). Psychological counseling as a type of psychological assistance. *Dialog nauk v XXI veke (Dialogue of Sciences in the 21 Century)*, *1*(2), 14–16. (in Russ.).

Hayitov, O. E. (2020). Levels of leader psychological competence. *European Journal of Research and Reflection in Educational Sciences*, *8*(10), 99–103.

Kaigorodov, B. V., & Demin, N. S. (2018). A study of student leadership abilities. In I. A. Eremitskaya, O. A. Khalifaeva (Comp.), *Spring psychological and pedagogical readings* (pp. 77–79). Astrakhan: Astrakhan State University. (in Russ.).

SOCIAL PSYCHOLOGY

Karpova, L. G. (2012). The essence of leadership abilities. In A. E. Eremeev (Ed.), *Science and society: Issues in contemporary research* (pp. 351–355). Omsk: OmGA. (in Russ.).

Khapacheva, S. M. (2015). Conditions for the development of leadership qualities in the process of professional training of future psychologists and educational psychologists. In *The Seventh international conference on Eurasian scientific development: Proceedings of the conference* (pp. 113–117). Vienna: 'East West' Association for Advanced Studies and Higher Education GmbH. (in Russ.).

Lin, S.-H., Scott, B. A., & Matta, F. K. (2019). The dark side of transformational leader behaviors for leaders themselves: A conservation of resources perspective. *Academy of Management Journal*, *62*(5). https://doi.org/10.5465/amj.2016.1255

Mahasneh, A. M., Alwan, A. F., & Al-Rawwad, Th. M. (2019). The level of multidimensional perfectionism and motivational orientation among undergraduate students. *Psychology in Russia: State of the Art*, *12*(2), 94–114. https://doi.org/10.11621/pir.2019.0208

Mao, J.-Y., Chiang, J. T.-J., Chen, L., Wu, Y., & Wang, J. (2019). Feeling safe? A conservation of resources perspective examining the interactive effect of leader competence and leader self-serving behavior on team performance. *Occupational and Organizational Psychology*, *92*(1), 52–73. https://doi.org/10.1111/joop.12233

Morozova, E. N. (2017). Project activities as a means for developing social leadership of pedagogical college students in the framework of the interdisciplinary course 'Theoretical and methodological foundations of children's theatrical activities'. In T. N. Gushchina (Ed.), *Social leadership in the educational environment* (pp. 149–153). Yaroslavl: Yaroslavl State Pedagogical University. (in Russ.).

Moya, B. L., Chamorro, R. M., Reparaz, C., & Mora, P. (2020). Assessing the leadership competence of Master of Science in mining engineering students. *Engineering Studies*, *12*(3), 218–226. https://doi.org/10.1080/19378629.2020.1821696

Musaeva, T. (2016). Leadership development among students in the process of university education. In *Contemporary scientific and practical solutions and approaches* (pp. 55–60). Ufa: Infinity. (in Russ.).

Naumova, T. A., Baranov, A. A., & Tarakanov, Ya. L. (2015). The development of leadership qualities among university students. *Internet Journal of Science*, *7*(4), 127. (in Russ.).

Phillips, J. C., Hargons, C., Chung, Y. B., Forrest, L., Oh, K. H., & Westefeld, J. (2017). Society of counseling psychology leadership academy: Cultivating leadership competence and community. *The Counseling Psychologist*, *45*(7), 965–991. https://doi.org/10.1177/0011000017736141

Rekesheva, F. M. (2008). Professionally important qualities and skills of a psychologist as a factor for professional readiness. *Vestnik Novgorodskogo gosudarstvennogo universiteta (Bulletin of Novgorod State University)*, 45, 13–16. (in Russ.).

Ryabysheva, Yu. Yu. (2014). Essential and meaningful characteristics of the concept of 'leadership abilities'. In *Actual directions of the development of scientific and educational activities* (pp. 154–160). Cheboksary: Interaktiv plyus. (in Russ.).

Serdyuk, I. I., & Krivtsova, M. F. (2014). Problems of the formation of leadership skills. *Scientific and Methodical Electronic Journal Concept*, S30, 41–45. (in Russ.).

SOCIAL PSYCHOLOGY

Shingaev, S. M., Simagina, I. K., & Nyrova, I. V. (2020). Emotional intelligence as an important quality of a leader in education. *Gertsenovskie chteniya: psikhologicheskie issledovaniya v obrazovanii (The Herzen University Conference on Psychology in Education)*, 3, 640–647. https://doi.org/10.33910/herzenpsyconf-2020-3-25 (in Russ.).

Shpak, T. K. (2017). Conditions for the effectiveness of the development of students' leadership qualities. In T. N. Gushchina (Ed.), *Social leadership in the educational environment* (pp. 178–184). Yaroslavl: Yaroslavl State Pedagogical. (in Russ.).

Sobchik, L. N. (2003). *Psychology of individuality. Theory and practice of psychodiagnostics.* St. Petersburg: Rech'. (in Russ.).

Solov'eva, O. V. (2008). *Leadership psychology: textbook.* Stavropol: SSU. (in Russ.).

Teten'kin, B. S. (2012). Counseling as the most important function of the psychological service of the university. *Vyatskii meditsinskii vestnik (Vyatka Medical Bulletin)*, 2, 66–69. (in Russ.).

Thoroughgood, C. N., & Sawyer, K. B. (2018). Who wants to follow the leader? Using personality and work value profiles to predict preferences for charismatic, ideological, and pragmatic styles of leading. *Journal of Business and Psychology*, *33*(2), 181–202. https://doi.org/10.1007/s10869-016-9486-1

Uvarova, M. Yu., & Kedyarova, E. A. (2014). A study of personal anxiety and achievement motivation among first-year students. *Izvestiya IGU. Seriya Psikhologiya (The Bulletin of Irkutsk State University. Series 'Psychology')*, 8, 74–86. (in Russ.).

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Author Contributions

Elena Aleksandrovna Sukneva formulated the hypothesis, carried out the empirical study, analyzed and interpreted findings, and prepared the manuscript for publication (40 %).

Nadezhda Igorevna Chernetskaya contributed to the research design and provided methodological supervision (25 %).

Elena Aleksandrovna Kedyarova wrote the literature overview (15 %).

Vera Vladimirovna Monzhievskaya contributed to the research design and worked with the text of the manuscript related to the assessment tools (10 %).

Margarita Yurievna Uvarova contributed to study conceptualization and compiled the list of references (10 %).

The authors declare no conflicts of interest.

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Russian Psychological Journal, 2021, Vol. 18, No. 3, 145–158. **doi**: 10.21702/rpj.2021.3.10

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A Three-factor Model of Social Media Addiction

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Abstract

Introduction. Social media addiction is one of the most widespread non-medical addictions. Its numerous negative consequences have created a psychological problem, which has made it essential to study factors of social media addiction. The corresponding model can solve the problem and add insight into the factor structure. This study aims to construct such a model. We hypothesized that the 'psychological state' factor plays a dominant role in this model. **Methods**. We used exploratory and confirmatory factor analysis to examine the social media addiction factor structure. Also were used Kendall's nonparametric correlations and Pearson's parametric correlations. Used software: R-based statistic tools, Jamovi, IBM SPSS-22. Respondents: 618 social media users (430 women aged 16–76 years, M = 37.01; 188 men aged 16–67 years, M = 31.3). **Results and Discussion**. The model of social media addiction includes three factors – 'psychological state', 'communication', and 'information receiving'. A reliability index for the model was 0.828 (p-value < 0.001). We confirmed the initial hypothesis. Moreover, correlations of the 'psychological state' factor with anxiety, depression, loneliness, extraversion, self-esteem, and life satisfaction (closely related to social media addiction) exceed the correlations of other factors and the Inventory as a whole. A stronger correlation between the 'psychological state' factor and the personality states mentioned above and traits explains greater social media addiction severity among females. In different societies, the model of social media addiction may have a fundamentally different factor structure. The three-factor model of social media addiction demonstrated a high degree of reliability. The model adequately describes the essence of this kind of addiction and may be used to examine theoretical and practical perspectives of this problem.

Keywords

social media, addiction, addiction inventory, consequences of addiction, factor model, psychological state, communication, information receiving, personality traits, gender factor

Highlights

➤ We constructed the three-factor model of social media addiction that consists of the following factors: 'psychological state', 'communication', and 'information receiving'.

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➢ The 'psychological state' factor plays a dominant role in this model, explaining users' main motivations to use social media.
➢ More social media addiction severity among females has been explained by stronger correlations between the 'psychological state' factor and those personality traits and states closely related to social media addiction.
➢ The three-factor model demonstrated a high degree of reliability.
➢ The model explains the essence of social media addiction and may be used to examine theoretical and practical perspectives of this problem.

Introduction
Social media are increasingly penetrating every aspect of our everyday lives. Today, many individuals spend more time communicating online than offline communication.

The use of social media is increasing and has already reached over one-third of the world's population. The number of social media users is growing by 10 % annually. Besides, during the COVID-19 pandemic, individuals began to spend more time on social media (Kashif, A.-U.-R., & Javed, 2020). Thus, if before the pandemic, the maximum time spent on social media was on Sundays (which is quite natural), now it is on Tuesdays when individuals work and study.

Social media seriously affect the lifestyle and psychology of individuals. This makes studying the phenomenon and its impact on modern life's aspects the most critical issue.

Many studies carried out in the USA, Germany, Great Britain, China, the Republic of Korea, Israel, Turkey, Afghanistan, Bangladesh, and so on, present numerous experimental results on social media addiction and its associations with personality states and traits of their active users.

We only use the reliability results in this study since they were obtained from numerous authors' studies. Social media addiction is associated with depression and anxiety. Moreover, the most addictive and active users of social media tend to develop symptoms of depression and anxiety more quickly (Sheinov, 2021).

In a study involving a sample of German participants, Facebook addiction was associated with personality narcissism and mental health disorders (depression, anxiety, and stress symptoms) (Brailovskaia & Margraf, 2017). The association between social media addiction and anxiety has been shown in other works (Liu & Ma, 2020; Baltaci, 2019). The association between social media addiction and depression has been established in numerous studies (Dailey, Howard, Roming, Ceballos, & Grimes, 2020; Al Mamun & Griffiths, 2019; Dalvi-Esfahani, Niknafs, Kuss, Nilashi, & Afrough, 2019).

Highly neurotic individuals are more likely to experience negative emotions and social anxiety. Therefore, they may prefer online communication where they have the opportunity to portray an idealized image of themselves to seek confirmation of this image, attract social support, and improve their mood. These motives lead to increased social media addiction and its use (Abbasi & Drouin, 2019). For both extroverts and neurotics, receiving positive feedback from the increased activity is associated with an increased risk of social media addiction (Marengo, Poletti, & Settanni, 2020).

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There was a moderate negative correlation among life satisfaction, self-esteem, and social media addiction (Guven, 2019). For example, Facebook addiction was associated with lower self-esteem and negatively affected life satisfaction (Acar, Avcılar, Yazıcı, & Bostancı, 2020; Andreassen, Pallesen, & Griffiths, 2017; Błachnio, Przepiorka, & Pantic, 2016; Şahin, 2017).

Other studies have also shown that overuse of social media is negatively associated with self-esteem, which, in turn, is negatively associated with life satisfaction. Moreover, self-esteem mediates the impact of social media addiction on life satisfaction (Hawi & Samaha, 2017). Besides, the coefficient of negative correlation between the level of self-esteem and social media addiction is significantly higher for users who have more than 500 subscribers (Köse & Doğan, 2019).

Loneliness and depression are the most important predictors of social media addiction (Dalvi-Esfahani et al., 2019). Indeed, the risk of Facebook addiction is higher if an individual experiences loneliness (Al Mamun & Griffiths, 2019; Andreassen et al., 2017). In general, there is a positive relationship between social media addiction and the level of loneliness (Baltaci, 2019).

The negative consequences of social media addiction (depression, anxiety, stress symptoms, loneliness, low self-esteem, neuroticism, and dissatisfaction with life) may lead to the exploitation of the victims of this addiction (Sheinov, 2019a). Social media addiction makes an individual vulnerable to cyberbullying (Sheinov, 2019b) and other manipulations on the Internet.

Thus, social media addiction has created an urgent psychological problem that still awaits investigation.

Understanding the psychological mechanisms of such an addiction may be facilitated by identifying its factors and their roles. This approach may be implemented by developing and analyzing a factor model of social media addiction.

The analysis of the current state of the subject area showed that in the Russian-speaking society, there are no studies on factor models of social media addiction, which (in combination with the above-stated considerations) indicates the importance of this study.

The *object* of this study is social media addiction; the *subject* is a factor model of social media addiction.

This *study aims* to identify factors of social media addiction and analyze the model of this addiction.

This *paper aims* to develop and analyze a factor model of this addiction.

We *hypothesized* that social media users' 'psychological state' factor exerts the most significant influence on social media addiction.

Research objectives were as follows: (a) to construct a factor model of social media addiction; (b) to analyze its factors; (c) to determine the degree of reliability of the model; (d) to find out the role of factors in the model of social media addiction; (e) to examine the impact of the factors among men and women; (f) to find out whether society affects the factor structure of the model of social media addiction.

These objectives are consistent with the aim of the study. The first two objectives meet this aim directly, and the research logic dictates the following purposes. Thus, having received and analyzed the factor model of social media addiction, we must be sure of its reliability and find out the role of its factors, including the influence that gender and social environment exerts on them.

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Methods
Sample
A large group of active social media users agreed to participate in our study in response to the following invitation: "Dear colleague! We invite you to participate in the study examining the influence of social media on the psychological states of their users. Your answers to the test questions will help a psychologist discover and inform you about your personality traits that you do not even know. You will explore yourself anonymously and completely for free while facilitating psychological science development. The program will process your responses. Therefore, you will receive information about your traits no later than 1 hour after you sent your last response. We wish you success in self-knowledge!"

The study sample comprised 618 respondents, 430 of whom were women aged 16–76 years (M = 37.01; SD = 9.6) and 188 of whom were men aged 16–67 years (M = 31.3; SD = 9.5).

Assessment tools
This study used the Social Media Addiction Inventory (Sheinov & Dziavitsyn, 2021).

We assessed *anxiety* and *depression* using the Hospital Anxiety and Depression Scale (HADS), developed by A. S. Zigmond and R. P. Snaith and modified by M. Yu. Drobizhev (see Belova et al., 2002, pp. 80–82).

Life satisfaction was assessed using the questionnaire by E. Diener, R. A. Emmons, R. J. Larsen, and S. Griffin, modified in Russian and validated by E. N. Osin and D. A. Leont'ev (Osin & Leont'ev, 2008).

We assessed the *degree of loneliness* using the UCLA Loneliness Scale by D. Russell and M. Ferguson (Raigorodskii, 2002, pp. 77–78).

Extraversion, neuroticism, and *social desirability* of responses were diagnosed using the well-known Eysenck Personality Inventory, EPI (see Rimskii & Rimskii, 1995, pp. 217–224). We assessed *self-esteem* using the diagnostic tool by R. V. Ovcharova (Assessing self-esteem of adolescents…, n.d.).

Statistical analysis was carried out using the SPSS-22 package, the R-based open-source software Jamovi), and specialized statistical modules. The accepted level of significance was p = 0.05.

Results and Discussion
This section is structured following the sequence of the objectives: (a) to construct a factor model of social media addiction; (b) to analyze its factors; (c) to determine the degree of reliability of the model; (d) to find out the role of the factors in the model of social media addiction; (e) to examine the impact of the factors among men and women; (f) to find out whether society affects the factor structure of the model of social media addiction.

1. *Constructing the factor model*
Testing 618 social media users with the Social Media Addiction Inventory (Sheinov & Dziavitsyn, 2021) was the initial material for constructing the model. These materials have been analyzed using descriptive statistics and tested for the distribution of values.

The variables in this Inventory have the same scales, and the overall score is calculated of their sum. Therefore, all these variables are within predictable boundaries. The standard deviation of the variables is close to 1, which indicates that the results are grouped relative to the mean

scores and that they have a low degree of uncertainty. All these criteria indicate the reliability of the subjects' answers.

The distribution of questions answers is close to normal, which is confirmed by the quantile-quantile plot and the Shapiro–Wilk test. That indicates that the data may be subjected be factor analysis.

Exploratory factor analysis. Exploratory factor analysis was carried out using the R-based open-source software Jamovi and specialized statistical modules.

For modeling, we chose the method of minimum residuals factor extraction using oblique rotations. This choice may be explained by the fact that the questions in the Inventory have hidden connections, and the general system is far from orthogonality.

Exploratory factor analysis underlay an initial three-factor model (Table 1).

Table 1
General (initial) three-factor model

Inventory items	Factor 1	Factor 2	Factor 3
4	**0.685**		
2	**0.661**		
6	**0.592**		
15	**0.552**		
12	0.512		
1	0.507		
11	0.369		
8		**0.564**	
5		0.473	
3		0.380	
7		*0.310*	*0.305*
14		*0.274*	
10			**0.644**
13			**0.585**
9			0.421

Note: different types rank variables according to the degree of their influence on the result – the highest one is in bold, the lowest one is in italics.

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The initial three-factor model describes more than 36 % of the total variance. We tested this model using four statistical tests.

The *Bartlett test* showed the following: Chi-square = 2365, Df = 105, p-value < 0.001. According to the test results, we can conclude that the model has a significant 'margin of safety', and the compatibility scores are tens of times higher than those sufficient to pass the test successfully.

In the *Kaiser-Meyer-Olkin test*, we obtained KMO = 0.915, which is remarkable (Kaiser, 1974, p. 33). Such a high measure indicates that the resulting description of the factors is the best possible.

The *RMSEA* (root mean square error of approximation) value is 0.0386 (acceptable value < 0.08), which indicates an excellent fit index.

The TLI/NNFI test value is 0.957 (acceptable value 0.95), which indicates an excellent fit index.

Thus, checking against all the available tests has shown the reliability of our model.

2. Analyzing the identified factors

Variables (test questions) were distributed according to 3 factors; insignificant variables were not considered at this stage. Significant variables (with their numbers in the Inventory and content) were distributed as follows:

Factor 1:

4. How often do you use social media to get away from personal problems?

2. How often do you feel an irresistible urge to access social media platforms?

6. How often do you feel irritable and anxious when you cannot visit your page on a social media platform?

15. How often do you suffer because your favorite social media platform does not work?

12. How often do your visits to social media platforms improve your mood?

1. How often do you stay online for more than 2 hours a day?

11. How often are you late for work or study after a night spent on social media?

Factor 2:

8. How often do you feel the need to add photos to your social media album?

5. How often do you update your page?

3. How often do you spend time thinking about social media and planning actions in it?

Factor 3:

10. How often do you get all the news via social media?

13. How often do you discuss news on social media with friends?

9. How often do you check your phone for updates on social media?

From this grouping, we may conclude the purpose of the factors:

1. Factor 1 – 'psychological state' of a social media user.

2. Factor 2 – 'communication' of a social media user.

3. Factor 3 – 'receiving information' by a social media user.

This three-factor model was taken as the basis for further research.

Assessing insignificant variables. To confirm the results, we carried out a confirmatory analysis of male and female samples using the values of the factors as the sums of the variables included in them; the correlations were verified by multivariate modeling and reliability analyses.

As a result, insignificant variables were distributed as follows: variable no. 7 – into the 'information' factor, variable no. 14 – into the 'psychological state' factor.

Therefore, we obtain a logical model for the formulation of questions, which is confirmed by correlation analysis and multivariate modeling.

3. *Determining the degree of reliability of the constructed model*
Confirmatory factor analysis of the *model refined on the entire sample*, composed of male and female samples, showed an average factor loading of the variables equal to 0.561 and an average standard deviation of 0.039. Testing the model on the entire sample showed Chi-square = 210, Df = 87, and p-value < 0.001. The standard deviation of the RMSEA was equal to 0.0479, which is a good indicator, as it is significantly below the threshold value of 0.08.

Confirmatory factor analysis of the *model refined on the male sample* also showed a good average factor loading (0.504) and an average standard deviation of 0.074. Testing the model on the male sample showed Chi-square = 182, Df = 87, and p-value < 0.001. The standard deviation of the RMSEA was equal to 0.0764.

Confirmatory factor analysis of the *model refined on the female sample* also showed a higher average factor loading of 0.577 and an average standard deviation of 0.046. Testing the model on the female sample showed Chi-square = 184, Df = 87, and p-value < 0.001. The standard deviation of the RMSEA was equal to 0.0510.

Thus, the model passed all statistical tests on the entire, male, and female samples. However, the model coefficients are different in the male and female samples, being more stable in the female sample, and a more excellent distribution of values characterizes the male sample.

The following coefficients characterize the reliability of the three-factor model: Cronbach's alpha = 0.805 and McDonald's omega = 0.828, which indicates a *high degree of reliability* (McDonald's omega turned out to be higher than Cronbach's alpha since the model has various factor loadings – in such cases, Cronbach's alpha is calculated with underestimation, and McDonald's omega shows the actual value of Cronbach's alpha).

The study presented above was initially carried out on a sample of 514 respondents, then on a sample of 618 respondents (this option is described above). With an increase in the number of respondents, the model's coefficients improved, which indicates that when constructing the model, we made correct assumptions and is an additional confirmation of its statistical validity.

Thus, the analysis and testing of the three-factor model fully confirmed its consistency and reliability, including data with a different structure of connections (male and female samples). Using correlation analysis, this model makes it possible to answer the question about associations between social media addiction and personality traits and states of their users.

4. *The role of factors in the social media addiction model*
The choice of methods of correlation analysis. Before identifying possible relationships, it is necessary to determine which methods are acceptable to use. We answered this question using the one-sample Kolmogorov–Smirnov test, which identifies the correspondence of the experimental samples to normal distribution.

Applying this criterion showed that the distribution of some of the studied variables differs from the normal distribution. Therefore, it would be better to identify correlations between variables using the nonparametric Kendall coefficient, which establishes linear and nonlinear relationships. For comparison, we also calculated Pearson correlations.

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Tables 2–3 show Kendall's correlations of the identified factors and the social media dependency questionnaire with states and personality traits that are closely related (Sheinov & Dziavitsyn, 2021) with social media addiction.

Table 2
Kendall rank correlation coefficients for the factors of social media addiction and personality traits and states among women

Factors	A	D	LS	SE	L	Ex	N	SDR
Psychological state	0.285**	0.256**	–0.169**	–0.089**	0.206**	0.281**	–0.096**	–0.072*
Communication	0.130**	0.094**	–0.056	0.004	0.047	0.149**	0.107**	–0.009
Information	0.176**	0.108**	–0.071*	–0.057	0.114**	0.173**	–0.047	–0.090*
Social media addiction	0.249**	0.200**	–0.135**	–0.061	0.168**	0.251**	–0.045	–0.072*

Notes (in tables 2–3): A – anxiety, D – dispersion, LS – life satisfaction, SE – self-esteem, L – loneliness, Ex – extraversion, N – neuroticism, SDR – socially desirable responding, social media addiction – values from the Social Media Addiction Inventory; ** – the correlation is statistically significant at p = 0.01; * – the correlation is statistically significant at p = 0.05; statistically significant correlations are in bold.

Table 3
Kendall rank correlation coefficients for the factors of social media addiction and personality traits and states among men

Factors	A	D	LS	SE	L	Ex	N	SDR
Psychological state	0.196**	0.207**	–0.151**	–0.105*	0.140**	0.247**	–0.033	0.015
Communication	0.212**	0.055	–0.016	–0.052	0.076	0.132*	0.098	0.091
Information	0.152**	0.096	–0.075	–0.066	0.145**	0.133*	0.040	0.031
Social media addiction	0.215**	0.158**	–0.104*	–0.090	0.153**	0.214**	0.026	0.051

We present only Kendall rank correlation coefficients here because Pearson correlations, exceeding them quantitatively, show the same relationships as in Tables 2 and 3.

These tables demonstrate a clear predominance of the 'psychological state' factor in the associations of women and men. Moreover, the association of the 'psychological state' factor with personality states and traits closely related to social media addiction is more potent than in the Social Media Addiction Inventory, which indicates the leading role of the psychological factor in the development of social media addiction.

The associations of social media addiction presented in Tables 2 and 3 emphasize the importance of this problem and provide new insights into this subject area. Our findings are in line with those of many researchers from different countries. Thus, numerous studies have shown that social media addiction has positive correlations with *depression* and *anxiety* (Sheinov & Dziavitsyn, 2021; Al Mamun & Griffiths, 2019; Baltaci, 2019; Brailovskaia & Margraf, 2017; Dailey et al., 2020; Dalvi-Esfahani et al., 2019; Liu & Ma, 2020), negative correlations with *life satisfaction* and *self-esteem* (Sheinov & Dziavitsyn, 2021; Acar et al., 2020; Andreassen et al., 2017; Błachnio et al., 2016; Şahin, 2017), and a positive correlation with *loneliness* (Sheinov & Dziavitsyn, 2021; Al Mamun & Griffiths, 2019; Andreassen et al., 2017; Baltaci, 2019; Dalvi-Esfahani et al., 2019).

The above result on the dominant role of the 'psychological state' factor of social media addiction (and, accordingly, in its factor model) is explained by the highly significant correlations established in Tables 2 and 3 with personality traits directly related to psychological states, including depression, anxiety, low self-esteem, loneliness, and dissatisfaction with life.

The 'communication' factor is more decisive in women; it is associated with depression, extraversion, and neuroticism. The 'information' factor is associated with anxiety, depression, and extraversion. In men, the 'information' factor is more strongly associated with loneliness.

Particular attention should be paid to the 'self-esteem' variable, which demonstrated associations with the 'psychological state' factor for men and women. However, the associations between the Inventory and this variable are statistically insignificant because this association is absent for two other factors. What explains why there was a discrepancy with negative associations between social media addiction and self-esteem established in numerous studies (Andreassen et al., 2017; Błachnio et al., 2016; Guven, 2019).

The situation is similar to the female sample's 'neuroticism' variable (Abbasi & Drouin, 2019; Marengo et al., 2020). There were no associations with neuroticism in the male sample for social media addiction and all the factors forming this addiction. In the female sample, the associations between neuroticism and the factors of 'psychological state' and 'communication' are multidirectional and neutralize each other.

5. *The impact of factors of social media addiction in men and women*

We have previously found that the female gender is associated with higher levels of social media addiction (Andreassen et al., 2017; Chung, Morshidi, Yoong, & Thian, 2019; Turel, Poppa, & Gil-Or, 2018; Sheinov & Dziavitsyn, 2021). It is natural to determine the role of the predominant factor of social media addiction – 'psychological state'.

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Table 4

Kendall rank correlation coefficients for the factor 'psychological state' and personality traits and states among women and men

	A	D	LS	SE	L	Ex	N	SDR
Women	0.285**	0.256**	–0.169**	–0.089**	0.206**	0.281**	–0.096**	–0.072*
Men	0.196**	0.207**	–0.151**	–0.105*	0.140**	0.247**	–0.033	0.015

Table 4 shows that a higher level of social media addiction among women is explained by stronger associations of their 'psychological state' factor with personality states and traits closely related to this addiction.

In the female sample, we observed strong associations of the 'psychological state' factor with anxiety, depression, dissatisfaction with life, and loneliness, with the most difficult mental states.

6. The impact of society on the factor structure of social media addiction

The analysis of the current state of the subject area related to the aim of this paper – a factor model of social media addiction – revealed the presence of three relevant studies and the absence of Russian-language publications.

When starting the study, we did not make any assumptions about the number of possible factors in the model of social media addiction. The three-factor model was revealed by exploratory analysis and confirmed by confirmatory analysis. Meanwhile, some researchers showed that a two-factor model is the most suitable for their society (Vintilă, Tudorel, Goian, & Bărbat, 2021), and others demonstrated that the five-factor model is more suitable for respondents from their countries (Hassim, Arifin, Kueh, & Yaacob, 2020; Pavia, Cavani, Di Blasi, & Giordano, 2016).

For the Russian-speaking society, the factor model of social media addiction includes three factors. Therefore, we conclude that this model may have a fundamentally different structure for different cultures, which may be explained by the manifestation of differences in the mentality of respondents.

Conclusion

The *implications of this study* include theoretical hypotheses and aims and research hypotheses for empirical research.

Most of the users log in to social media sites via their smartphones. That is, social media addiction should give rise to smartphone addiction (theoretical *hypothesis* no. 1). Will the factorial model of smartphone addiction reproduce the factorial model of social media addiction? Preliminary results suggest that this will be a fundamentally different model. It is theoretical hypothesis no. 2. Both hypotheses define the objectives and research hypotheses for relevant empirical research.

In practical terms, the result of this study, showing that in the model, the dominant role is played by the factor of the social media user's 'psychological state', may be used by teachers and psychologists of educational institutions, contributing to tremendous success in explaining dangers of excessive enthusiasm for social media use among schoolchildren and students.

Conclusions

Summarizing the results obtained above, we state the following.

We constructed and analyzed the model of social media addiction that includes three factors – 'psychological state', 'communication', and 'information'.

The analysis of the model showed the predominant influence of the factor of 'psychological state' on social media addiction, which confirms the validity of the research hypothesis.

The association of the 'psychological state' factor with anxiety, depression, loneliness, extraversion, self-esteem, and life satisfaction (closely related to social media addiction) is the strongest among the factors, exceeding the correlation of other factors and the Inventory as a whole.

Women's more significant social media addiction is explained by stronger associations of their 'psychological state' factor with the personality traits and states mentioned above.

We proved that our model is reliable and fully represents all the factors contributing to social media addiction. This model may be a valuable tool in studying social media addiction in theoretical and practical terms.

For different societies, the factorial model of social media addiction may have a fundamentally different structure.

References

Abbasi, I., & Drouin, M. (2019). Neuroticism and Facebook addiction: How social media can affect mood? *The American Journal of Family Therapy*, *47*(4), 199–215. https://doi.org/10.1080/01926187.2019.1624223

Acar, I. H., Avcılar, G., Yazıcı, G., & Bostancı, S. (2020). The roles of adolescents' emotional problems and social media addiction on their self-esteem. *Current Psychology.* https://doi.org/10.1007/s12144-020-01174-5

Al Mamun, M. A., & Griffiths, M. D. (2019). The association between Facebook addiction and depression: A pilot survey study among Bangladeshi students. *Psychiatry Research*, *271*, 628–633. https://doi.org/10.1016/j.psychres.2018.12.039

Andreassen, C. S., Pallesen, S., & Griffiths, M. D. (2017). The relationship between addictive use of social media, narcissism, and self-esteem: Findings from a large national survey. *Addictive Behaviors*, *64*, 287–293. https://doi.org/10.1016/j.addbeh.2016.03.006

Assessing self-esteem of adolescents using the test by R. V. Ovcharova (n.d.). *A test for assessing self-esteem of adolescents.* Retrieved from https://womanadvice.ru/test-na-samoocenku-dlya-podrostkov (in Russ.).

Baltaci, Ö. (2019). The predictive relationships between social media addiction and social anxiety, loneliness, and happiness. *International Journal of Progressive Education*, *15*(4), 73–82. https://doi.org/10.29329/ijpe.2019.203.6

Belova, A. N., Builova, T. V., Bulyubash, I. D., Grigor'eva, V. N., Novikov, A. V., Polyakova, A. G., … Shchepetova, O. N. (2002). *Scales, tests, and questionnaires in medical rehabilitation.* Moscow: Antidor. (in Russ.).

Błachnio, A., Przepiorka, A., & Pantic, I. (2016). Association between Facebook addiction, self-esteem

SOCIAL PSYCHOLOGY

and life satisfaction: A cross-sectional study. *Computers in Human Behavior*, *55*, Part B, 701–705. https://doi.org/10.1016/j.chb.2015.10.026

Brailovskaia, J., & Margraf, J. (2017). Facebook Addiction Disorder (FAD) among German students – A longitudinal approach. *PloS ONE*, *12*(12). https://doi.org/10.1371/journal.pone.0189719

Chung, K. L., Morshidi, I., Yoong, L. C., & Thian, K. N. (2019). The role of the dark tetrad and impulsivity in social media addiction: Findings from Malaysia. *Personality and Individual Differences*, *143*, 62–67. https://doi.org/10.1016/j.paid.2019.02.016

Dailey, S. L., Howard, K., Roming, S. M. P., Ceballos, N., & Grimes, T. (2020). A biopsychosocial approach to understanding social media addiction. *Human Behavior and Emerging Technologies*, *2*(2), 158–167. https://doi.org/10.1002/hbe2.182

Dalvi-Esfahani, M., Niknafs, A., Kuss, D. J., Nilashi, M., & Afrough, S. (2019). Social media addiction: Applying the DEMATEL approach. *Telematics and Informatics*, *43*, 101250. https://doi.org/10.1016/j.tele.2019.101250

Guven, A. (2019). *Relationship between social media use, self-esteem, and satisfaction with life* (A Thesis). The University of Alabama, Tuscaloosa, Alabama. Retrieved from http://ir.ua.edu/handle/123456789/6133

Hassim, S. R., Arifin, W. N., Kueh, Y. C., & Yaacob, N. A. (2020). Confirmatory factor analysis of the Malay version of the smartphone addiction scale among medical students in Malaysia. *International Journal of Environmental Research and Public Health*, *17*(11), 3820. https://doi.org/10.3390/ijerph17113820

Hawi, N. S., & Samaha, M. (2017). The relations among social media addiction, self-esteem, and life satisfaction in university students. *Social Science Computer Review*, *35*(5), 576–586. https://doi.org/10.1177%2F0894439316660340

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, *39*(1), 31–36.

Kashif, M., A.-U.-R., & Javed, M. K. (2020). Social media addiction due to coronavirus. I*nternational Journal of Medical Science in Clinical Research and Review*, *3*(04), 331–336. Retrieved from https://ijmscrr.in/index.php/ijmscrr/article/view/93

Köse, Ö. B., & Doğan, A. (2019). The relationship between social media addiction and self-esteem among Turkish university students. *Addicta: The Turkish Journal on Addictions*, *6*(1), 175–190. https://doi.org/10.15805/ADDICTA.2019.6.1.0036

Liu, C., & Ma, J. (2020). Social media addiction and burnout: The mediating roles of envy and social media use anxiety. *Current Psychology*, *39*, 1883–1891. https://doi.org/10.1007/s12144-018-9998-0

Marengo, D., Poletti, I., & Settanni, M. (2020). The interplay between neuroticism, extraversion, and social media addiction in young adult Facebook users: Testing the mediating role of online activity using objective data. *Addictive Behaviors*, *102*, 106150. https://doi.org/10.1016/j.addbeh.2019.106150

Osin, E. N., & Leont'ev, D. A. (2008). Testing the Russian-language versions of two scales for express assessment of subjective well-being. In *the Materials of the 3rd All-Russian Sociological*

SOCIAL PSYCHOLOGY

Congress. Moscow: Institute of Sociology, Russian Academy of Sciences. (in Russ.).

Pavia, L., Cavani, P., Di Blasi, M., & Giordano, C. (2016). Smartphone Addiction Inventory (SPAI): Psychometric properties and confirmatory factor analysis. *Computers in Human Behavior*, *63*, 170–178. https://doi.org/10.1016/j.chb.2016.05.039

Raigorodskii, D. Ya. (2002). *Practical psychodiagnostics. Assessment tools and tests*. Samara: BAHRAH-M. (in Russ.).

Rimskii, R. R., & Rimskii, S. A. (1995). *Almanac of psychological tests*. Moscow: KSP. (in Russ.).

Şahin, C. (2017). The predictive level of social media addiction for life satisfaction: A study on university students. *Turkish Online Journal of Educational Technology*, *16*(4), 120–125.

Sheinov, V. P. (2019a). Intrapersonal predictors of victimization. *Institut psikhologii Rossiiskoi Akademii Nauk. Organizatsionnaya psikhologiya i psikhologiya truda (Institute of Psychology of the Russian Academy of Sciences. Organizational Psychology and Labor Psychology)*, *4*(1), 154–182. (in Russ.).

Sheinov, V. P. (2019b). Cyberbullying: prerequisites and consequences. *Institut psikhologii Rossiiskoi akademii nauk. Sotsial'naya i ekonomicheskaya psikhologiya (Institute of Psychology of the Russian Academy of Sciences. Social and Economic Psychology)*, *4*(2), 77–98. (in Russ.).

Sheinov, V. P. (2021). Social media addiction and personality characteristics: a review of research. *Vestnik Rossiiskogo universiteta druzhby narodov. Seriya: Psikhologiya i pedagogika (Bulletin of the Peoples' Friendship University of Russia. Series: Psychology and Pedagogy)*, *18*(3), 607–630. https://doi.org/10.22363/2313-1683-2021-18-3-607-630 (in Russ.).

Sheinov, V. P., & Dziavitsyn, A. S. (2021). Developing a reliable and valid inventory for assessing social media addiction. *Sistemnaya psikhologiya i sotsiologiya (Systems Psychology and Sociology)*, 2, 41–55. (in Russ.).

Turel, O., Poppa, N., & Gil-Or, O. (2018). Neuroticism magnifies the detrimental association between social media addiction symptoms and well-being in women, but not in men: A three-way moderation model. *Psychiatric Quarterly*, *89*, 605–619. https://doi.org/10.1007/s11126-018-9563-x

Vintilă, M., Tudorel, O. I., Goian, C., & Bărbat, C. (2021). Determining the structure of smartphone addiction scale: A bifactor model analysis. *Current Psychology*, *40*, 1107–1114. https://doi.org/10.1007/s12144-018-0035-0

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V. P. Sheinov contributed to the design and implementation of the research, developed research aims, objectives, hypotheses, and methods, collected the data, determined the role of the factors revealed by the study, performed the analysis, made conclusions, and compiled the list of references.

A. S. Dziavitsyn collected the data, developed the factor model, determined the role of the factors revealed by the study, assessed the reliability of the three-factor model, performed the analysis, and made conclusions.

The authors declare no conflicts of interest.