# Life Goals of Education Online Volunteers: Intrinsic or Extrinsic Aspirations?



Alexander Voiskounsky 💿, Evgeniy Bryzgalin 💿, and Stanislav Kozlovskiy 💿

## 1 Introduction

During recent decades, Internet-mediated (distributed or peer-to-peer) activities have become widespread in cyberspace. As an example, everyone is aware of enlightening forms of online activities: Volunteers keep disinterestedly spreading and sharing useful knowledge in an online regime. Despite the fact that by estimated calculations, during several decades, the accumulated amount of scientific knowledge has exceeded the amount gained in all the previous centuries, the current cloudy cyberspace gives all the chances to efficiently and cost-effectively fill it with an unprecedented abundance of digital information materials. Thus, online volunteers (education/educational online volunteers) pretend to collect and share widely an unprecedentedly gigantic pool of easily-available knowledge, which means a huge step in up-to-date self-education for thousands and thousands knowledge seekers [1–4].

Among Russia-based online volunteers committed to education, we first investigated Wikipedians, or the authors of the Russian-language segment of the Internet encyclopedia "Wikipedia," and second, experts in an online reference service of question answering (Q&A service) "Otvety" (formerly "Otvety Mail.ru").

Thanks to their multiplicative online work, Wikipedia and Q&A "Otvety" Service have gone through a thorny, but rather viral path of their formation: from general belief in the fundamental impossibility of the existence of such public services which are exclusively based on the questionable competence of heterogeneous and remote volunteers (that means educated amateurs, far from being narrow-field experts), to the recognition and respect from even the most radical skeptics.

A. Voiskounsky · E. Bryzgalin (⊠) · S. Kozlovskiy

Lomonosov Moscow State University, Moscow, Russia e-mail: r0ld@psy.msu.ru

<sup>©</sup> The Author(s), under exclusive license to Springer Nature Switzerland AG 2024 R. Bolgov et al. (eds.), *Digital Geography*, Springer Geography, https://doi.org/10.1007/978-3-031-50609-3\_14

Accordingly, those knowledgeable in the history of science would drop that both Wikipedia and Q&A "Otvety" Service have already certainly passed two of the three stages of the acceptance of great innovations: the first stage sounding "what you state cannot happen, because it can never happen," the second stage "there is something peculiar and interesting in what you state and do," while the third and not yet reached stage sounding "what you say and do is the only way all this should happen" means that what the innovator states and represents is already extremely close to being accepted as a common unquestionable truth.

At the same time, by the fact of their development, Wikipedia and Q&A "Otvety" Service vividly demonstrate one of major meta-scientific principles, namely, the principle of complementarity: By combining methods and statements from diverse fields of knowledge, these newly built encyclopedic services support particular participating sciences in effective discovering of new concepts, fragments, and elements of knowledge.

The accelerated growth of academic research held during the last two decades, which is based on the multi-language Wikipedia use, shows that this methodology has turned to become an important part of scientific discourse. In particular, this new discourse has not bypassed psychology: The practice of collecting, checking, editing, formatting, reformatting, using, and sometimes abusing new generation of online encyclopedic sources has given wealthy materials referring to previously unknown phenomena dealing with organizational and social psychological mechanisms of productive remote group work [5].

At the same time, psychological studies have only recently started to enhance problem areas such as personality traits, systems of values, motivation and prosocial orientation, mechanisms of seeking consensus, etc., referring to Russian-speaking Wikipedians [6–8]. Moreover, the Russian Q&A "Otvety" Service experts have not yet been subjected to psychological study at all. Thus, the two volunteer groups of "online educationalists" are for the first time being investigated and compared in the further study.

#### 2 **Problem Description**

The current chapter deals with the reasons encouraging educational online volunteers to engage in altruistic activity. One of the most developed approaches in psychology that may help to clarify the reasons (volitional mechanisms) of online volunteering in the educational field is the meta-theory of self-determination (SDT) by R. M. Ryan and E. L. Deci [9, p. 272–292]. The SDT theory is based (in the status of sub-theory) on the analysis of the content of life goals (Goal contents theory; GCT), or conscious (that means, having clear representations, or anticipations) aspirations to achieve a distal life-long result, which arise from logics of the embodiment of values internalized by the person. The latter means the expression of value orientations, or talking differently, the sources of energization being either externally stimulated (exogenous) or intrapersonal (endogenous). According to the conceptual provisions of the SDT, the realization of life goals is conditionally equated with value implementation, differing in this regard from proximal (or short-term) goals – to be fulfilled (or on the contrary – prevented and suppressed); these psychological mechanisms should initially be filtrated through certain value procedures, which are specially tuned by weighty personalized values, apart from all other possible motivators.

At the same time, as R. Kadzikowska-Wrzosek points out [10, p. 24–29], in order to understand human actions (including disinterested ones), it is necessary to adhere to the position of scientific interactionism, which takes primarily into account the relationships (or interpenetrations) with the particular social context in diverse situations; besides, individual traits need to be taken into account, for example, such factors as the ones which I. Lingart jointly designated as motivational constellations [11].

In this regard, relying on the results of fundamental analysis of the facets of altruism, made by V.R. Keiselman (Dorozhkin) [12] and fully taking into account that such sort of behavior is associated with a significant concession of the ego resource in favor of a valuable object, the current study aims to consider the life-long goals of Wikipedians that are lined up according to the subordination principle and responsible in the focus of referent online communities which exist on the online platforms of Wikipedia and Q&A Service "Otvety."

The main contextual feature of the digital altruism of Wikipedians and "Otvety" experts by default is its informational reciprocity as a sort of practice in which someone shares knowledge, certainly believing that other people respond in the same way, regardless of their initially motives. Reciprocity, in particular, is considered according to the game theory as a "win-win game," in which all the participants benefit, if they follow the basic postulate highlighted by A. Gouldner (which essentially resembles the categorical imperative introduced by Immanuel Kant): The one who helps may reciprocally benefit from receiving help, but not get harm. "I help you, you help me" – this is the most rigorous formula of mutual altruism, implying two-way circulation of assistance, maintaining a balance between the "give-receive" processes, which is possible only in strong/solid alliances (coalition unions), even if they are decentralized [Ibid.].

However, due to the facts that the specifics of online behavior characterizing both the samples of volunteer educators are oriented to enlightenment and have somewhat similar elements but at the same time differ in mechanics of functioning; the two groups' life goals may have both anticipated similarities and at the same time expected or unexpected differences. In addition, the simultaneous study of the two groups of educating online volunteers, when compared with each other, makes it possible to identify the differences quite effectively. Thus, such an approach contributes to a detailed construction of their personality image, not least because the researchers' attempts to investigate and describe their life goals started relatively recently.

Therefore, based on the previously identified multi-variability of internal or external value orientations of wiki-volunteers [8] and in accordance with the categorical system of K. M. Sheldon, the resonance with the inner essence (i.e.,

conformity to the principles and standards of the sphere of one's own self-conception [7]), as well as their internal locus of control in constructing their own lives [6], we put forward the hypothesis: In the process of self-management by their own behavior, experienced Wikipedians and Q&A "Otvety" Service experts are guided primarily by intrinsic life goals, which, prevailing over extrinsic ones, determine the life vector of educating online volunteers. Moreover, this effect is to a greater extent noticeable taken the core sample of Wikipedia authors, compared to the Q&A "Otvety" Service experts.

## 3 Methodology

In the study, we used the Rank order assessment of life goals questionnaire by developers of the SDT E.L. Desi and R.M. Ryan in the adaptation of N.V. Klyueva and V.I. Chirkov [13], which provides an opportunity to reveal the manifested priority life goals (in fact, value orientations), assuming for this a direct ranking in descending order of 15 life goals in terms of their importance for the individual. Number 1 is the most important goal, number 2 is the second most important, and so on, up to the 15th (least important). In this case, the ranks cannot be repeated.

The totality of these ranked categories, as established in the SDT, has a decisive impact on the degree of fulfillment of the three basic needs (autonomy, competence, and belonging). At the same time, four life goals are strictly defined by SDT as intrinsic (personal growth, affection and love, service to people, and richness of spiritual culture) and four as extrinsic (financial success, attractiveness, fame, and power and influence). The remaining seven life goals are included for additional analysis, as well as stopping by means of a quantitative imbalance of life goals, the likelihood of respondents revealing (due to their disorientation) a tendency to identify their motivational orientation in the course of self-ranking [14, p. 1513].

Ultimately, the resulting ranking hierarchy of intrinsic and extrinsic life goals is divided into several groups according to their degree of significance: 1-5 rank – the highest level of significance, 6-10 – the average level, 11-15 – weak significance.

#### Sampling and Methods of Involvement

To obtain a representative sample, a link to an online questionnaire generated in Google Forms with an invitation to participate in a free and anonymous Internet survey was distributed among the most competent Wikipedians and participants of the Q&A "Otvety," Service within the framework of the "nuclear" structures of Wikipedia and Q&A Service.

As a result, 43 Wikipedians (contrast group) took part in the Internet study, among which (according to the so-called "gender gap" characteristic of Wikipedia [5, p. 133]) men predominate (93%). Their average age is 37 years, and the average "length of time" in writing and editing encyclopedic wiki articles is 9.37 years.

Of the 77 "respondents" belonging to the Q&A "Otvety" Service who took part in the study (comparison group), 65% were men, the average age 51 years, and the average amount of experience in answering questions 8.71 years.

#### 4 Results and Discussion

The processing of raw data was reduced to averaging the obtained rank values (r), set in order of subjective importance by Wikipedians and Q&A "Otvety" Service experts. After that, the value of preference for each life goal was calculated according to the formula: C = n - r, where n is the number of life goals in the methodology. Next, frequency distributions were built, reflecting the probabilities of setting certain rank values: P(c) = C/(n - 1). At the final stage, the result P(c) was converted into z-units to obtain indicators on a scale of equal intervals [15, p. 258–260]. The results obtained are presented in Table 1:

Figure 1 clearly demonstrates the exact way the life goals differ within the two communities: the Wikipedia and the Q&A Service "Otvety" core experts (by levels of relevance):

Below we give possible explanations for the results obtained for each life goal:

1. The highest level of life goals:

*Health*: The parity in the sustainable dominance of health among the Wikipedia authors and the Q&A "Otvety" Service experts lies in the fact that without the presence of optimal well-being (i.e., a healthy mental and physical state), it is impossible to fruitfully engage in other activities, especially in pro-social ones.

Autonomy (Self-assertion): Freedom from the control of other people is essential for the virtual volunteers of Wikipedia and the Q&A "Otvety" Service, due to the fact that they are largely driven by an increased "leitmotif" to perform what they consider necessary as often as possible, while being masters of their own destiny, which quite congruently and authentically mirrors their true "self-conception."

*Personal growth*: It seems that the Q&A "Otvety" Service online volunteers, being by their age more mature individuals compared to Wikipedians and, as a result, having richer life experience behind them, believe that they first of all need to share their already accumulated knowledge and skills, instead of continuing to engage in personal self-development, relegating it to the particular background.

*Security and safety*: Both groups of the analyzed online volunteers usually prefer to be in the most predictable, reliable environment, which is largely and diversely compensated within the online platforms such as Wikipedia or Q&A "Otvety" Service.

*Freedom, openness, and democracy in society* are very important for both Wikipedians and the Q&A "Otvety" experts, primarily due to the fact that the

Wikipedians $(N = 43)$					"Otvety" experts $(N = 77)$				
r	С	P(c)	z	Life goals (significance)	r	С	P(c)	z	Life goals (significance)
4.53	10.47	0.75	0.67	1. Health	6.43	8.57	0.612	0.29	1. Health
5.23	9.77	0.7	0.52	2. Autonomy	6.52	8.48	0.61	0.27	2. Freedom, openness, and democracy in society
5.58	9.42	0.67	0.45	3. Personal growth	6.9	8.1	0.58	0.2	3. Affection and love
5.95	9.05	0.65	0.38	4. Security and safety	7.12	7.88	0.56	0.16	4. Autonomy
6.09	8.91	0.64	0.35	5. Freedom, openness, and democracy in society	7.29	7.71	0.55	0.13	5. Security and safety
6.19	8.81	0.63	0.33	6. Affection and love	7.38	7.62	0.54	0.11	6. Personal growth
7.02	7.98	0.57	0.18	7. Richness of spiritual culture	7.61	7.39	0.53	0.07	7. Financial success
7.07	7.93	0.566	0.17	8. Financial success	8.16	6.84	0.489	-0.027	8. Service to people
7.26	7.74	0.55	0.13	9. Service to people	8.17	6.83	0.487	-0.03	9. Interpersonal contacts and communication
8.33	6.67	0.48	-0.06	10. Interpersonal contacts and communication	8.36	6.64	0.47	-0.07	10. Richness of spiritual culture
9.65	5.35	0.38	-0.3	11. Hedonism	9.08	5.92	0.423	-0.19	11. Attractiveness
10.49	4.51	0.322	-0.46	12. Attractiveness	9.12	5.88	0.420	-0.2	12. Fame
10.51	4.49	0.32	-0.47	13. Fame	9.18	5.82	0.416	-0.21	13. Power and influence
10.86	4.14	0.3	-0.54	14. Power and influence	9.53	5.47	0.391	-0.278	14. Rich religious life
11.63	3.37	0.24	-0.7	15. Rich religious life	9.55	5.45	0.390	-0.28	15. Hedonism

 Table 1
 The results of the analysis of the life goals of educational online volunteers Wikipedia and Q&A "Otvety" Service

Note: Intrinsic life goals are underlined and extrinsic life goals are not underlined

majority of them are openly involved in the (self)management model of the Wikipedia and the Q&A Service as its integral attributes.

2. Average level of life goals:

*Affection and love (Relatedness)*: Respondents from the community of Q&A "Otvety" Service experts recorded this life goal as the highest, most likely because they are more often married than Wikipedians.

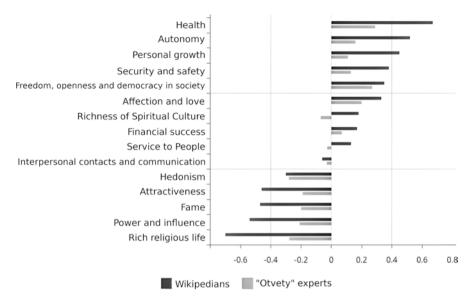


Fig. 1 Interval ratios of z-values of life goals of Wikipedia and Q&A "Otvety" Service participants

*Richness of spiritual culture (Intellectual growth)*: Perhaps this life purpose characterizes Wikipedia authors more often probably because they do more creative work to prepare and edit wiki papers than "Q&A Service" experts do to compose rather short answers to the incoming questions.

*Financial success*: This life goal does not contradict the fact of gratuitous prosocial behavior of educational online volunteers, if success is understood as the need to earn a living.

*Service to people (Community service)*: Based on the *z*-scores for this aspiration, Wikipedians are noticeably more committed to helping people than the Q&A "Otvety" Service experts.

*Interpersonal contacts and communication (Group affiliation)*: Negative *z*-scores for an average rating of this life goal may indicate that the high intensity of interactions associated with the implementation of this life goal greatly depletes the energy resources of volunteering online educationalists.

3. The lowest level of life goals:

*Hedonism*: Since the Wikipedia community is younger than the Q&A "Otvety" Service experts community, this is probably the reason that the authors of Wikipedia rank this life goal higher, presenting it as more important.

At the same time, such external life goals as attractiveness, fame, power and influence, as well as a rich religious life do not fit into the paradigm of the real and ideal self-conceptions of the volunteers of Wikipedia and Q&A "Otvety" Service at all, since they all enslave and obscure personal self-will, self-giving which always maintains the productive tone of any volunteer activity, being its cornerstone.

Educational online volunteers	Life goals				
Wikipedians	All intrinsic > all extrinsic	1.98 > - 1.33			
	Basic intrinsic > basic extrinsic	1.09 > -1.3			
Q&A "Otvety" experts	All intrinsic > all extrinsic	0.38 > - 0.44			
	Basic intrinsic > basic extrinsic	0.21 > - 0.53			

**Table 2** Comparison of the final z-values of life goals: Wikipedia authors and Q&A "Otvety"

 Service experts

Thus, a comparison of the total *z*-values of 2 groups of life goals, reflecting their generalized relative importance, demonstrates (see Table 2) that the long-term behavior of Wikipedians and Q&A "Otvety" Service experts is generated to a greater extent by intrinsic rather than extrinsic life goals. This result confirms our hypothesis.

## 5 Conclusions

The results show that Wikipedians and Q&A "Otvety" Service experts demonstrate a similar (though with some reasonably explainable differences) picture of dominant intrinsic and less important extrinsic life goals. This result determines their internal way of life functioning, which, coordinating with the self-concept system, shows the nature of the autonomous orientation, which determines the subjective perception (interpretation) of self-will from the perspective of the internal locus of causality, and thus resembles a democratic self-regulation of activity (versus self-control) according to J. Kuhl [16, p. 12–13].

In addition, the life goals of the Q&A "Otvety" Service experts are noticeably dense, while those of the Wikipedia authors are more clearly delineated from each other, which may indicate the ability of Wikipedians to set life priorities more firmly and clearly and stubbornly follow them.

Judging by the results, three basic self-determined needs seem to be successfully satisfied in the lives of Wikipedians and Q&A "Otvety" Service experts, the vital conditions for which are produced (among diverse contexts) within the framework of the online educational activities that are highly meaningful [6] for them. Both Wikipedians and Q&A "Otvety" Service experts definitely oppose to numerous restriction or heteronomic factors. The favorable environment for the expression of their will, which has developed within the communities of Wikipedia authors and the Q&A "Otvety" Service experts, largely contributes to the realization of values associated with the manifestation of free initiative [10, p. 82]; in the future, on this basis, the same kind of personal meanings and meaningful life orientations is very likely to be formed.

It is indicative that any possible directive attempts to block the educational selfexpansion of online volunteers fail, gaining the opposite effect [17]: The "architectonics" of the Internet does not strongly reinforce their inner freedom to personal self-expression, as shown by the reflexive-activity approach in the psychological will for freedom [18].

For example, at the late February 2022, a resonant event took place in relation to Russian-speaking Wikipedians, when, during the military conflict in the Ukraine, the Russian authorities preventively tried to censor the Russian-language Wikipedia due to a publication of a wiki paper entitled "Russian invasion to the Ukraine (2022)" (as well as several other thematically related wiki-articles), justifying that this content is illegal.

The authorities threaten to block the access to all the Russian language domains of the online Wikipedia, in case the needed corrective measures (such as omitting the "illegal" information from the abovementioned paper) are not immediately implemented.

In response, the community of Russian Wikipedia authors resolutely issued a prospective appeal containing a reasoned refusal to comply with the requirements which the authorities put before them. The authors of this appeal made their best to explain that not only the "recommended" claim is technologically unfeasible, but also that maintaining access to reliable knowledge is crucial for the onset of peace and harmony within the society. Needless to explain, easy access to the information instruments such as the Wikipedia and the Q&A "Otvety" Service are among the most wanted and the most highly valued online sources [2].

Such brave sociotypical behavior of "online educators" convincingly demonstrates that for many of them, the value of knowledge based on facts is above all: Despite cardinal shocks (e.g., intimidation by criminal punishment), they are not inclined to overestimate their values (life goals), staying true to themselves under any pressure.

#### 6 Limitations and Future Research

The substantial and easily distinguishable age bias (up to generational biases) between the two groups of respondents may be very likely explained by the lack of strict subordination within the online communities of volunteer educators, namely, Wikipedians and the Q&A Service "Otvety" experts. Indeed, a person of any age (or generation) has equal chances to advance into the "core" of the each community. Therefore, any approach based on splitting the samples into subsamples – to be further compared – based on a "similar age" or "same generation" rule would not seem correct: First, the cores of enlightenment-oriented online volunteers are organized holistically, viz. as a single emergent whole, and, second, the two administrative cores include a relatively small number of people; thus, their placement within the core seems to overweight such factors as too young or too old age.

Notwithstanding, the results reported in the paper may turn to be determined to some extent by age and/or generational characteristics – both sorts of characteristics are known to impact life goals [19, 20]. Therefore, further studies are welcomed, especially those targeted to making comparisons between life goals of (1) online

volunteer educators and (2) diverse representatives of non-volunteer or noneducating populations of similar age (if it is worth mentioning – the same generational affiliation as well).

## 7 Theoretical Significance

The abovementioned results represent one of the many links in a comprehensive understanding of the essential specifics of the activists of Wikipedia and Q&A "Otvety" Service and the cyber-volunteer educational community in general. The description of online volunteer educators and their lifestyles essentially expand the boundaries of scientific psychology. The enthusiasts of information society tempting to achieve useful up-to-date results in the synthesis of knowledge are working in tune with the highest values of mankind.

#### 8 Practical Significance

Psychological analysis of the orientations of education online volunteers can help not only optimize their work activities by increasing productivity but also extrapolate the identified mechanisms to other people who were previously unmotivated (e.g., being only readers), which can ultimately favor the intensification of stimulation and consolidation processes.

Acknowledgments The study was supported by the Russian Science Foundation (project no. 18-18-00365) "Digital socialization in the cultural-historical paradigm: intra- and intergenerational analysis."

#### References

- 1. Patarakin, E.D. (ed.): Network Communities and Learning, 2nd edn. PER SE/IPR MEDIA, Saratov (2019) https://www.iprbookshop.ru/88223.html (in Russian)
- Jemielniak, D., Przegalinska, A.: Collaborative Society. MIT Press, Cambridge (2020). https:// doi.org/10.7551/mitpress/11587.001.0001
- 3. O'Neil, M., Pentzold, C., Toupin, S. (eds.): The Handbook of Peer Production. Wiley, New York (2021)
- 4. Bruckman, A.S.: Should You Believe Wikipedia?: Online Communities and the Construction of Knowledge. Cambridge University Press, Cambridge (2022)
- Bryzgalin, E.A., Voiskounsky, A.E., Kozlovskiy, S.A.: Psychological characteristics of the organizational behavior of Wikipedia online volunteers: a theoretical review. Org. Psychol. 10(2), 129–150 (2020) (In Russian)
- Bryzgalin, E.A., Voiskounsky, A.E., Kozlovskiy, S.A.: The meaning of life orientations of Wikipedia authors (on the example of Russian-language segment). In: Personality in the Era of

Changes: Mobilis in Mobili (Materials of the International Scientific and Practical Conference December 17–18), pp. 205–208. Smysl, Moscow (2018) (in Russian)

- Bryzgalin, E.A.: The specific features of self-determination of the authors of the Russian-language Wikipedia. In: Materials of the International Youth Scientific Forum "Lomonosov-2019". MAKS Press, Moscow (2019) https://lomonosov-msu.ru/archive/ Lomonosov\_2019/data/section\_26\_16356.htm (in Russian)
- 8. Bryzgalin, E.A.: Intercultural analysis of value orientations of Wikipedia authors. Natl. Psychol. J. **1**(37), 3–17 (2020). https://doi.org/10.11621/npj.2020.0101. (in Russian)
- 9. Ryan, R.M., Deci, E.L.: Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness. Guilford Publications, New York (2017)
- 10. Kadzikowska-Wrzosek, R.: Siła woli: autonomia, samoregulacja i kontrola działania. Humanitarian Center, Kharkiv (2022) (in Russian)
- 11. Lingart, I.: The Process and Structure of Human Learning. Progress, Moscow (1970) (in Russian)
- 12. Dorozhkin, V.R.: Edges of Altruism. Rostov-on-Don, Phoenix (2016) (in Russian)
- 13. Klueva, N.V.: Socio-Psychological Support of the Teacher's Activity (Value-Reflexive Approach). Ph.D. Thesis. P. G. Demidov Yaroslavl State University (2000) (in Russian)
- Ryan, R.M., Chirkov, V.I., Little, T.D., Sheldon, K.M., et al.: The American dream in Russia: extrinsic aspirations and well-being in two cultures. Personal. Soc. Psychol. Bull. 25(12), 1509–1524 (1999)
- 15. Vysokov, I.E., Kravchenko, Y.E., Sysoeva, T.A.: General Psychological Workshop. Yurait, Moscow (2020) (in Russian)
- Kuhl, J., Quirin, M., Koole, S.L.: The functional architecture of human motivation: Personality systems interactions theory. In: Elliot, A.J. (ed.) Advances in Motivation Science, 8th edn, pp. 1–62. Elsevier, Amsterdam (2021). https://doi.org/10.1016/bs.adms.2020.06.001
- 17. Hobbs, W.R., Roberts, M.E.: How sudden censorship can increase access to information. Am. Polit. Sci. Rev. **112**(3), 621–636 (2018)
- 18. Kuzmina, E.I.: Psychology of Freedom: Theory and Practice. Piter, St. Petersburg (2021) (in Russian)
- Soldatova, G.U., Chigarkova, S.V.: Social capital online: intergenerational analysis. In: Malykh, S., Nikulchev, E. (eds.) Psychology and Education – ICPE 2018. European Proceedings of Social and Behavioural Sciences, vol. 49, pp. 636–643. Future Academy (2019). https://doi. org/10.15405/epsbs.2018.11.02.73
- Pishchik, V.: Features of the mentality of generations X, Y, Z. In: E3S Web of Conferences 210 (Materials of Innovative Technologies in Science and Education (ITSE-2020)), p. 20007. EDP Sciences, Les Ulis (2020). https://doi.org/10.1051/e3sconf/202021020007