INTERNATIONAL REVIEW OF CITY WELL BEING RANKING: OBJECTIVE RATION

Natalia Vukovic[1], Uliana Koriugina[1], Daria Nekhorosheva[1]

[1] HSE University, Moscow, Russia

Abstract: Global academic interest in human well-being in the urban environment has grown dramatically over the past decade. This growth is primarily associated with the global transition to the principles of sustainable development and continuously increasing migration of rural populations to cities. The Covid-19 pandemic and its consequences have provided additional stimula for interest in this topic for both business and academic communities. As the current statistics demonstrate, issues of human well-being are developing most actively in the interdisciplinary field, while the available research methodology explores both subjective and objective well-being of a person. In this study, eight international city rankings were analyzed according to the criterion of the well-being of citizens and included both objective and subjective indicators of a person's well-being in the city. In our opinion, the most promising and correct is the methodology for assessing well-being that includes both objective and subjective assessment indicators. Based on this approach, our analysis contains three rankings (37.5%). Among the objective indicators of the well-being of urban residents, the sphere of the environment and work are in the lead and are included in all the rankings. The results obtained during the study can be used to improve the current international rankings of cities in assessing the level of well-being of citizens and create new ones. Direct rankings of cities by the level of well-being can be effectively used for case study analysis identifying the best and most effective policies for the development of the level of well-being of citizens.

Keywords: *well-being, city ranking, urban environment, objective rations, sustainability.*

Introduction

The history of mankind is the search and formation of adequate socio–economic systems that provide the necessary level of human well–being as the highest social value. People carry out their activities in ever changing natural and man–made space–time coordinates, as well as in the virtual–temporal and value-oriented sphere of dynamically formed social and personal ideas and ideas, which have found expression in the relevant regulations of life conditions.

According to the international scientific citation database Scopus, more than 10,414 academic papers were published on the topic of human well-being in 2021 across the world. It should be noted that, in 2013, the figure was 2,744. Thus, the growth of research on human well-being during the eight year span was 3.8 times, i.e., demonstrating a +50% annual increase. It should also be noted that the share of publications in the field of business and economics on the topic of human well-being is almost 40% with 3,472 published articles addressing the issues of an objective assessment of human well-being. As a result, the topic of human well-being becomes not only more popular but also more interdisciplinary.

At the same time, it is important to point at the influence of megatrends on human well-being issues. One of the pronounced global trends of our time is the increasing migration of the world's population to cities and urbanization. In this context, the well-being of urban residents becomes important for modern academia and practice [1, 2, 3, 4]. The study of the well-being of urban residents has also facilitated the emergence of such a phenomenon as well-being rankings for cities and countries [5,6,7]. In our opinion, several factors contribute to this.

Firstly, today the world is involved in a global "war for talents". In the modern globalized economy, human capital contributes to the development of regions. The concentration of knowledge, experience, creativity and innovation allows the region to develop faster than others, become richer and more comfortable. There is also a "positive feedback loop" when talents prefer to go to a place where they find a community of people close in spirit and where they will be able not just to live, but also communicate and generate new ideas.

At the same time, talents are one of the most mobile categories in the modern world, and countries and businesses are "hunting" for them. As a result, talents have an option to choose where to work and live. One of the important factors affecting their choice is the living conditions in a particular city. The comfort and development of the urban environment, the peculiarities of the city structure, the presence of not only material, but also intangible

infrastructure – communities, additional spaces supporting high-quality social and business contacts – are taken into account by professionals around the world. For each person, an integral indicator of the quality of life is the level of perceived well-being and personal happiness. This is an integral indicator that covers different aspects of life. There are different models that comprehensively describe and show the key aspects important for human happiness. Among them are professional, social, public, financial, as well as physical and mental health aspects and the quality of the urban environment. The study of these factors is actively conducted by researchers around the world and these factors are included in the basis of city rankings. Today, a modern city is developing according to a scenario that contributes to the well-being of its residents and positively affects their quality of life. In the long term, this approach works to attract and retain key talents in the region that are important for its development.

Secondly, one of the global trends today is human-centricity. This is an approach that implies the design and development of any systems with a focus on humans. This approach allows cities and businesses to create conditions for keeping a person inside such a system. Moreover, it establishes conditions for the disclosure of a person' potential, realization of opportunities, and deep involvement in the life of an organization or city, making a significant public contribution. In this regard, cities today compete in terms of creating conditions for the well-being of their residents, and such an approach is increasingly becoming a guideline when setting goals for the development of any region.

Thirdly, the pandemic and the subsequent focus on remote or hybrid work unexpectedly opened up opportunities for professionals to choose a city where they can live for any period of time. A separate phenomenon has appeared called digital nomads. These are people who choose regions for living that meet their requirements. Often, the key factor is personal happiness and the ability to provide for their own needs in a variety of aspects. It is in this regard that the development of the region through the prism of assessing the well-being of its residents as a comprehensive system allows for creating conditions that attract this category of modern active professionals. They, in turn, spend financial resources earned in different countries in a particular destination. They also create new consumption models and become a driver of local business development.

Fourth, while planning business development scenarios, companies evaluate the possibilities of opening production facilities or offices in different countries and cities. One of the key evaluation factors in this case is the possibility of attracting talents needed for business in a particular region. The relocation capabilities of the region are also considered, i.e how easy or difficult it will be to attract the needed specialists and provide them with a decent quality of life. Such costs, entailing attracting local professionals and specialists from other regions ultimately affect the creation of jobs in a particular city. This drive is aimed at generating additional taxes, as well as attracting people who are willing to spend their money in this destination.

Methodology

This article is focused mainly on the analysis of objective indicators of well-being while analyzing modern rankings. This approach is currently popular among many researchers [8, 9, 10]. This research is based on the Van Praag concept [11], according to which the objective well-being of a person is considered in six areas, namely work, and finance, well-being of living conditions, well-being of the environment, health, and leisure. In this article, the analysis of modern ratings of cities for assessing the level of well-being of citizens was carried out by methods of comparative and qualitative analysis based on the concept of objective human well-being developed by Van Praag [11].

Analysis

Table 1 presents various rankings of cities based on the level of human well-being, which consider different aspects of urban life: work, finances, living conditions, environment, health and leisure. The indicators used in the rankings that we have observed are divided into the following categories: work, finance, living conditions, environment, health, and leisure. Some of the rankings include indicators that cannot be assigned to any particular aspect. Thus, an additional column 'Other' is included. In total, eight rankings are analyzed.

The Knight Frank rating [12] uses eight indicators, such as:

- Hours worked per vacation day
- Level and diversity of private investment
- Green space %
- Sunshine hours
- Traffic free of congestion (traffic without traffic jams)
- Safety
- Healthcare
- Happiness

As a result of the distribution of indicators by the categories under study, it is clear that the living conditions and leisure categories in the Knight Frank rating are not considered at all, and the environment is assessed by four indicators. The categories of work, finance, and health are measured by one indicator.

The Techtalk rating [13] includes fifteen indicators, seven of which assess the state of the environment. The category of finance is evaluated by two indicators: monthly salary and youth unemployment. Human health in this ranking is also assessed by two indicators: the quality of health care and mental health and the financial sector is assessed by living expenses and expenses for children. Living conditions and leisure, as in the Knight Frank rating, are not evaluated by any indicators.

The Mercer quality of living rating [14] does not have an open access to its methodology, but it is stated that they assess thirty nine factors among following categories: Political and social environment, Economic environment, Socio-cultural environment, Medical and health considerations, Schools and education, Public services and transport, leisure, Consumer goods, Housing, and Natural environment. All these categories were sorted into seven spheres that we had initially. Environment is assessed by three indicators, while leisure and living conditions are assessed by two. At the same time, work and health are rarely measured with only one indicator in each category. Finally, the finance sphere is measured by the economic environment indicator.

The Vaay rating [15] includes sixteen indicators, most of which, namely ten indicators, assess the state of the environment. The remaining six indicators are distributed as follows: two evaluate work, one evaluates finance, and three evaluate the health sector. The spheres of living conditions and leisure remain unmeasured.

The Urban environment quality index [16] observes quality of urban spaces in two dimensions of evaluation, i.e. urban spaces and assessment criterions. Urban spaces are housing and adjacent spaces, public and business infrastructure and adjacent spaces, street network, green spaces, social infrastructure and leisure, and the entire metropolitan area. Assessment criterions include the level of safety, level of comfort, level of ecologically friendliness, up-to-dateness and relevance, identity and diversity, and effectiveness of management. The urban spaces and assessment dimensions create 36 precise indicators generalized for a better comprehension. The indicators of city assessment fall into four categories. The first one is the structure of the urban economy accounting for the work category, followed by the housing conditions and utilities quality, which correspond to living conditions. Urban form diversity, public services, urban governance, car accidents, traffic congestions, walkability, urban spaces accessibility, green spaces, and transport indicators assess the quality of urban environment, focusing on either the social aspect of urban life or the built environment. The last two indicators evaluate the leisure sphere of urban life by the diversity of leisure activities and the quality of sport infrastructure.

Table 1. Examined ratings with the used indicators

№	Ratings of cities by well-being level	Objective indicators of human well-being[1]						Subjective indicators of human well-being
		Work	Finance	Living conditions	Environment	Health	Leisure	
1	**The Knight Frank: City Well-being Index[12]**	Hours worked per vacation day	Level and diversity of private investment		Green space %, sunshine hours, traffic free of congestion, safety	Healthcare		Happiness
2	The Techtalk: Best Cities Well-being Index[13]	Monthly salary, youth unemployment, city innovation	Living costs, childcare costs		gender equality, safety, LGBTQ acceptance, vegan friendly, green spaces, CO2 emissions, traffic	Health care quality, mental health		Happiness
3	Mercerquality ofliving [14]	School and education	Economic environment	Consumer goods, housing	Political and social environment, public services and transport, natural environment	Medical and health considerations	Socio-cultural environment, leisure	
4	The Vaay: Stressful Cities Index[15]	Unemployment rate, social security	Financial stress		Safety & security, gender equality, minority equality, density, traffic congestion, weather, air pollution, noise pollution, light pollution, socio-political stability	Mental health, access to healthcare, covid response stress impact		
5	Urban Environment Quality Index [16]	Urban economy structure		Housing conditions, utilities	Urban form diversity, public services, urban governance, car accidents, traffic congestions, walkability, urban spaces accessibility, green spaces, transport		Diversity of leisure activities, sports infrastructure	
6	City prosperity initiative - Perception Index [17]	Local economic development, employment	Municipal finance	Adequate housing, energy and ICT	Environmental sustainability, safety and security, gender and youth inclusion, economic inclusion, social development, urban mobility, urban governance, urban form, urban land, public space			
7	Quality of life in Russian cities Index [18]	Income, job, employment, education, work-life balance		Housing conditions, location of residence, consumption of goods and services, waste management	Transport, road quality, public spaces, safety, urban ecology, human rights, level of trust in society	Health, medical access	Leisure, socialization	Satisfaction of life, future life evaluation

[1]Van Praag, B. M., Frijters, P., & Ferrer-i-Carbonell, A. (2003). The anatomy of subjective well-being. Journal of Economic Behavior & Organization, 51(1), 29-49.

8	Global Liveability Index 2022 [19]	Education		Housing, consumer goods, sewage, telecommunication, electricity	Crime and safety, weather, quality of air, water and parklands, social and religious rights, services, corruption, roads, transport	Health care accessibility	Cultural diversity	

The next index is the 'Perception index' developed by the City prosperity initiative [17], which is a part of the UN Habitat. This index assesses four spheres: work, finance, living conditions, and environment. The majority of indicators were assigned to the Environment category, while others, which are local economic development, adequate housing, energy, ICT, and municipal finances fall into the following categories: work, living conditions, and finance respectively. Health and leisure are not evaluated. The indicators in the environment category can be divided into the physical environment, which consists of urban form, urban land, public spaces assessment, and the social environment, which is represented by gender and youth inclusion, safety and security, and urban mobility among other factors.

The Quality of life in Russian cities index [18] is created to measure the well-being of the Russian citizens. Contrary to other examined indices, this one has fewer indicators in the environment category compared to other categories within this rating. Income, job, employment, education, and work-life balance refer to the work sphere and cover various aspects of it. Housing conditions, location of residence, consumption of goods and services, waste management account for living conditions, while transport, road quality, public spaces, safety, urban ecology, human rights, and level of trust in society fall into the environment category covering not only physical environment quality, but social environment as well. Health is measured by total health, and access to medicine. Leisure possibilities and possibilities of communication with friends and family are two major measurements of leisure. Besides objective indicators, this index includes two subjective indicators, which fall into the 'Other' category, namely satisfaction with life and future life evaluation. Thus, it is a multidimensional index which considers both objective and subjective evaluation of the urban environment.

Last but not least is the Global Liveability Index [19]. This index assesses the appeal of cities for living in them. It has seventeen indicators that fall into five spheres: work, living conditions, environment, health, and leisure. Three of these categories are assessed by one indicator only: education, healthcare accessibility, and cultural diversity refer to work, health, and leisure spheres respectively. Moreover, while healthcare accessibility is a common indicator in the examined ratings and has an immediate relation to health, education and cultural diversity are indirectly connected to their spheres. Thus, work and leisure are not well represented in the index. Living conditions are assessed through housing conditions, consumer goods access, and various utilities (telecommunication, sewage, electricity). Crime and safety, weather, quality of air, water and parklands, social and religious rights, services, corruption, roads, transport are the indicators that evaluate the quality of the environment. Some indicators consider the social environment and others consider the physical environment. Weather indicator is a rare one considering the geographical location of a city. Thus, it is assumed that weather influences a human's well-being living in a city.

Results

According to conducted analysis, we see that the environment sphere and work are included in all ratings. Only four ratings measure leisure. Living conditions and finance are included in five ratings. Six ratings assess the health sphere. To conduct the further analysis, we created a matrix of indices and ratings included in the research and all indicators used (Annex 1). This matrix illustrates which particular indicators are most common in the studied indices. For instance, healthcare and safety levels are the most examined indicators among given selection and are included into seven and six indices respectively. The next most used parameters are those that are referred to as socio-political stability, green spaces, and housing conditions. Meanwhile, the vast majority of indicators are unique and quite specific, requiring

generalization. Further research may imply the synthesis of given indicators into broader thematic groups, which are shown in Graph 1.

Graph 1 show how the indicators in ratings are divided into thematic groups within the observed spheres, according to Van Praag [11] conceptualization. Environment sphere is the most measured: it is included in all ratings and the number of indicators and their usage is the highest. There are twenty one indices with fifty five mentions that assess the environment in eight ratings. Moreover, these indicators can be divided into two types: urban environment and social environment. Each of them still has the biggest number of mentions, thirty and twenty five respectively.

We also discovered that there are eight indicators in ratings measuring Work and nine that assess Housing. Nine mentions go for work characteristics and eight for work environment. Housing sphere indicators are divided into three types: built environment, utilities, and living environment with six, five and five mentions respectively.

Health sphere is assessed by five indices that are distributed into three categories: mental health with three mentions, healthcare system with nine, and an impact of the environment on health with one mention.

The next lower number of mentioned indices is the leisure sector, which includes four indices. They can be divided into two types: infrastructure for leisure and social opportunities, each of which has four mentions. At the same time, the finance sphere has the same number of indices but has two times fewer mentions, compared with the leisure sector. These four indicators show human finances and city finances. Finally, there are two subjective parameters with four mentions.

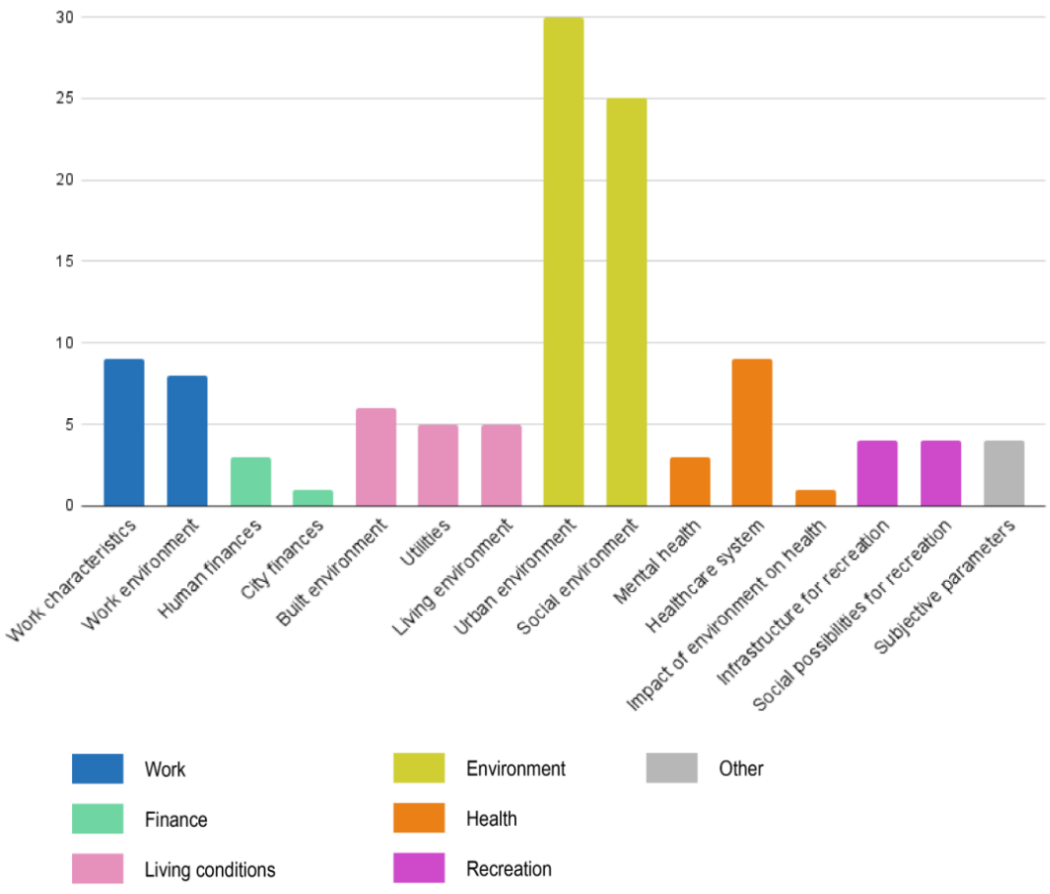

Figure 1. Number of mentioned indices by spheres in international well-being ranking of cities
Source: authors

Overall, these categories represent indicators most commonly used in the ratings. Given that we studied ratings of human well-being in cities, it is natural to find the environment in the leading position. While the urban environment is the most used category of evaluation when studying the well-being in a city, it is the social environment which comes after it. Society is a major part of urban life; hence different aspects of it affect human well-being directly. In the examined ratings and indices, we found the indicators which may fall into a general framework of understanding what may influence the citizens' well-being. However, there are also those which seem to fall out of it. For instance, climate indices, weather and sunshine hours, may measure the level of well-being. Furthermore, human finances tend to be underrepresented in the indices, as well as living conditions and health. In this way, city rankings evaluate the urban environment more than the other parts of citizens' lives.

Discussions

The impact of the urban environment on human well-being has been addressed in many publications [20, 21]. As contemporary studies show, this issue can be considered from the standpoint of a person's active influence on the state, formation, and development of each of the main indicators of objective well-being (Figure 2). Reversely, it can consider the influence of the main urban elements of well-being on the level of well-being of a particular individual (Figure 2).

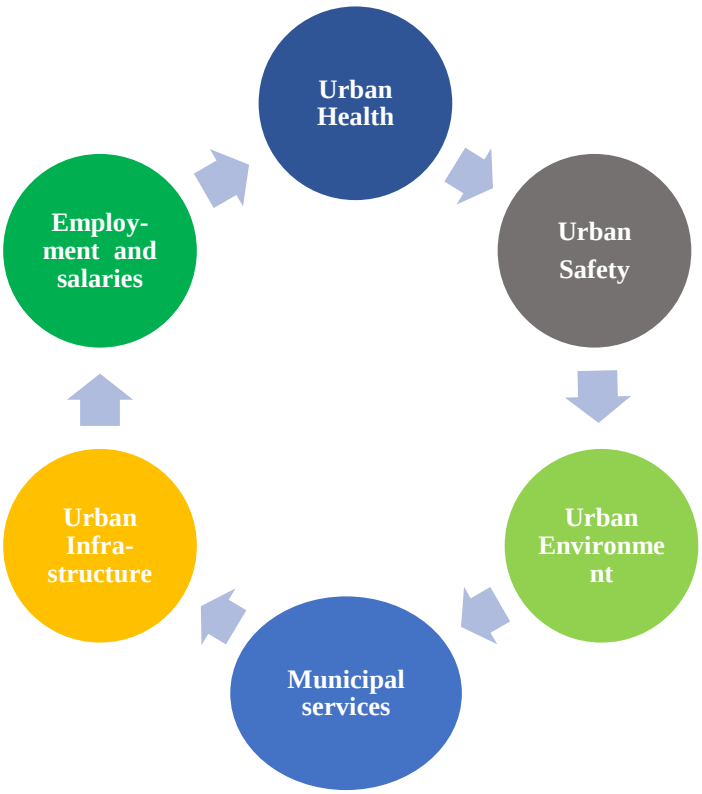

Figure 2. The impact of the city on the resident's well-being
Source: authors

What is primary in this case and what is secondary has not yet been clearly defined, since there are successful practical cases implementing either approach. These issues require additional research and will be tackled in future studies.

Conclusion

According to the research results, objective indicators prevail in the international metrics of urban human well-being. Subjective indicators are rarely used, so out of eight ratings analyzed, only three included subjective indicators of well-being, which is less than 37.5%. Among the objective indicators of the well-being of urban residents, the sphere of the environment and work are in the lead and are included in all the rankings. Also, it can be concluded that, in accordance with the concept of subjective human well-being by Van Praag [11], the indicators of objective well-being are fully presented and affect all areas of objective well-being in modern city ranking.

Historically, there has been a focus on the environment and employment as the basic elements of human well-being in accordance with Maslow's hierarchy of needs [22]. Also, the indicators of living conditions and finances are widespread. . It is noteworthy that leisure indicators are quite common and have the potential to become widely used in city rankings for well-being. This is the result of a global commitment to sustainable development and the development of sustainable cities (SDG 11). Hence, the global transition to the principles of sustainable development creates favorable conditions for the development and use of subjective indicators in city rankings.

Concerning the current research, it is important to note that in our opinion, the methodology for assessing well-being including both objective and subjective assessment indicators is the most promising and correct. Three rankings (37.5%) in our analyses are based on this approach.

The results obtained during the study can be used to improve the current international rankings of cities assessing the level of well-being of citizens and to create new ones. Direct rankings of cities by the level of well-being can be effectively used for case analysis and identifying the best and most effective policies for the development of the level of well-being of citizens.

References

1. *Barton, H. (2016).* City of well-being: A radical guide to planning. Routledge.https://www.taylorfrancis.com/books/mono/10.4324/9781315438689/city-well-being-hugh-barton
2. *Ala-Mantila, S., Heinonen, J., Junnila, S., &Saarsalmi, P*. (2018). Spatial nature of urban well-being. Regional Studies, 52(7), 959-973.https://www.tandfonline.com/doi/pdf/10.1080/00343404.2017.1360485
3. *Krefis, A. C., Augustin, M., Schlünzen, K. H., Oßenbrügge, J., & Augustin, J.* (2018). How does the urban environment affect health and well-being? A systematic review. Urban Science, 2(1), 21.https://web.archive.org/web/20190304114155id_/http://pdfs.semanticscholar.org/c612/d854322ba3e250df1cdcf217087bab5217b0.pdf
4. *Sharifi, F., Levin, I., Stone, W. M., &Nygaard, A.* (2021). Green space and subjective well-being in the Just City: A scoping review. Environmental Science & Policy, 120, 118-126.https://www.sciencedirect.com/science/article/abs/pii/S1462901121000794
5. *Okulicz-Kozaryn, A., & Valente, R. R. (2019).* Livability and subjective well-being across European cities. Applied Research in Quality of Life, 14(1), 197-220.https://ideas.repec.org/a/spr/ariqol/v14y2019i1d10.1007_s11482-017-9587-7.html
6. *De Neve, J. E., & Krekel, C.* (2020). Cities and happiness: a global ranking and analysis. World Happiness Report 2020, 14.http://rando-saleve.net/pdf/whrhappinessr20.pdf#page=51
7. *Bian, J., Ren, H., & Liu, P.* (2020). Evaluation of urban ecological well-being performance in China: A case study of 30 provincial capital cities. Journal of Cleaner Production, 254, 120109.https://www.sciencedirect.com/science/article/abs/pii/S0959652620301566
8. *Diener, E. (2009).* Subjective well-being. The science of well-being, 11-58.https://psycnet.apa.org/doiLanding?doi=10.1037%2F0033-2909.95.3.542
9. *Pykett, J., Osborne, T., & Resch,* B. (2020). From urban stress to neurourbanism: how should we research city well-being?. Annals of the American Association of Geographers, 110(6), 1936-1951.https://www.tandfonline.com/doi/abs/10.1080/24694452.2020.1736982?journalCode=raag21
10. *Mouratidis, K. (2019).* Compact city, urban sprawl, and subjective well-being. Cities, 92, 261-272.https://www.sciencedirect.com/science/article/pii/S0264275118316184
11. *Van Praag, B. M., Frijters, P., & Ferrer-i-Carbonell, A.* (2003). The anatomy of subjective well-being. Journal of Economic Behavior & Organization, 51(1), 29-49. https://www.econstor.eu/bitstream/10419/18249/1/dp265.pdf

12. The city well-being index: how happy are the world's leading cities? (2020, March 03). Knight Frank. https://www.knightfrank.com/research/article/2020-03-03-the-city-wellbeing-index-how-happy-are-the-worlds-leading-cities
13. Best cities for wellbeing around the world. (n.d.). Retrieved October 20, 2022 from https://techtalk.currys.co.uk/gadgets/fitness-smart-watches/best-cities-wellbeing-index/
14. Quality of living 2020: Evaluating assignment locations. (n.d.) Mercer. Retrieved October 20, 2022 from https://mobilityexchange.mercer.com/Portals/0/Content/PDF/qol-2020-evaluating-assignment-locations.pdf
15. The least and the most stressful cities index 2021. (n.d.). Vaay. Retrieved October 20, 2022 from https://vaay.com/en/pages/stressful-cities-index
16. Urban environment quality index. (n.d.). Retrieved October 20, 2022 from https://xn----dtbcccdtsypabxk.xn--p1ai/#/
17. Perception index. (n.d.). City prosperity initiative. Retrieved October 20, 2022 from http://www.perceptionindex.org/Public/Methodology
18. Quality of life index. (n.d.). VEB.RF. Retrieved October 20, 2022 from https://citylifeindex.ru/methodology
19. The global liveability index 2022. (n.d.). Economist Intelligence. Retrieved October 20, 2022 from https://www.eiu.com/n/campaigns/global-liveability-index-2022/?utm_source=eiu-website&utm_medium=banner&utm_campaign=liveability22
20. *Schlegel, A., Pfitzner, R., &Koenigstorfer, J.* (2017). The impact of atmosphere in the city on subjective well-being of Rio de Janeiro residents during (vs. before) the 2014 FIFA World Cup. Journal of Sport Management, 31(6), 605-619. https://journals.humankinetics.com/view/journals/jsm/31/6/article-p605.xml
21. *Ma, B., Zhou, T., Lei, S., Wen, Y., &Htun, T. T.* (2019). Effects of urban green spaces on residents' well-being. Environment, Development and Sustainability, 21(6), 2793-2809. https://link.springer.com/article/10.1007/s10668-018-0161-8
22. Maslow, A. (2012). Pirámide de Maslow. Thorie des besoins de lhommeselon.http://liliane.chalon.free.fr/IMG/pdf/maslow_paysage.pdf

Annex 1. All indicators presented in the ratings

Rating		The Knight Frank: City Well-being Index	The Techtalk: Best Cities Well-being Index	Mercerquality of living	The Vaay: Stressful Cities Index	Urban Environment Quality Index	City prosperity initiative: Perception Index	Quality of life in Russian cities Index	Global Liveability Index: Best and Worst Performing Cities
Work	Youth unemployment		✓						
	(Un)employment Rate				✓		✓	✓	
	Monthly salary		✓					✓	
	Social security				✓				
	Job position							✓	
	Innovation, urbane economy			✓	✓	✓	✓		
	Education			✓				✓	✓
	Work-life balance	✓						✓	
Finance	Living costs		✓						
	Child care costs		✓						
	Municipal finance						✓		
	Financial stress				✓				
Housing	Housing conditions			✓		✓	✓	✓	✓
	Consumer goods			✓				✓	✓

	Light pollution				✓				
	Sewage					✓			✓
	Electricity								✓
	Telecommunication								✓
	Waste management							✓	
	Location and neighborhood							✓	
	Urban noise				✓				
Environment	Green spaces	✓	✓	✓		✓			✓
	Safety	✓	✓		✓		✓	✓	✓
	Crime rate	✓							✓
	Car accidents					✓			
	Traffic congestions	✓	✓		✓	✓			
	Weather				✓				✓
	Transport			✓		✓		✓	✓
	Roads							✓	✓
	Walkability					✓			
	Public spaces						✓	✓	
	Public services			✓		✓			✓
	Density				✓				
	Vegan friendly		✓						
	Minority equality and human rights		✓		✓		✓		✓
	Urban form					✓	✓		
	Urban governance					✓	✓		
	Urban mobility					✓	✓		
	Socio-political stability			✓	✓		✓	✓	✓
	Environmental sustainability						✓	✓	
	Air pollution		✓		✓				✓
	Sunshine hours	✓							
Health	Mental health		✓		✓				
	Medical access			✓				✓	
	Environmentally friendliness					✓			
	Healthcare	✓	✓	✓	✓	✓		✓	✓
	Covid response stress impact				✓				

Leisure	Socio-cultural environment			✓			✓		✓
	Leisure			✓		✓			
	Leisure infrastructure					✓		✓	
	Socialization							✓	
Other	Happiness/ Current life valuation	✓	✓					✓	
	Future life expectations							✓	