

ACCESSIBILITY OF THE URBAN ENVIRONMENT FOR FAMILIES WITH CHILDREN: THE CASE OF A RUSSIAN METROPOLIS

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Abstract

One of the factors shaping conditions for successful parenting is a family-friendly urban environment. We analysed how satisfied urban parents are with the urban environment conditions and assessed the impact the proximity to children infrastructure has on the overall perception of the urban life quality. We surveyed residents with pre-school and school children from different residential neighbourhoods of Ekaterinburg. The key results are as follows: 1) parents' satisfaction with the quality of urban environment is somewhat higher than the evaluation of emotional perception of neighbourhoods; 2) parents mostly lack sports objects, extracurricular centres, children's developing centres, and recreational areas in territorial proximity; 3) evaluations of the quality of urban environment in residential neighbourhoods are markedly differentiated in groups of respondents with children, varying in location of objects of children's infrastructure; 4) the coincidence test for school, institutions for children's extracurricular education and sports infrastructure with the residential neighbourhoods is directly related to the evaluations of the quality of the urban environment in the neighbourhood. Our research shows that an infrastructure-rich urban environment accessible within the walking distance, which minimises forced costly mobility of families for the children's education, development, and leisure, can act as a significant resource for successful parenting.

Key words: families with children, urban environment quality, urban environment accessibility, Russian metropolis

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Introduction

Developing and taking care of children is demanding process for parents. A number of studies examined the material, labour, and emotional costs associated with children (Bagirova, 2017; Erickson, 2005; Pedersen et al., 2011; Robertson et al., 2019). Conditions for parenting can be created at different levels — state, regional, corporate, family. One of the factors shaping such

conditions is the urban environment. It can be both family-friendly and not family-friendly. Most notably, the lack of children's infrastructure in close proximity to their homes poses challenges for parents, who have to spend more physical, financial, and time resources for taking their children to educational, cultural, recreational, and sports facilities every day. With large cities typically having transportation issues, the geographical remoteness of key children's educational and developmental facilities negatively impacts parents' mental and physical health, which ultimately hinders the successful fulfilment of parental responsibilities.

In the context of the "quality of life" concept, improving the quality of the urban environment is of strategic importance for any city concerned with preserving and developing human capital. This fact determines the relevant directions of modern foreign and domestic urban studies, which are now largely focused on analysing comfort, humaneness, environmental friendliness, and anthropocentricity of the urban environment (Gehl, 2010; Vysokovsky, 2014; Ballas, 2013; Kabisch et al., 2018; etc.). The studies of the urban environment "friendliness" for children and teenagers (e.g., see Filipova et al., 2019; Cushing, 2015; Agarwal et al., 2021; etc.), parents with young children (e.g., see Balakireva, 2015; Shpakovskaya et al., 2017) are implemented in line with the provisions of a comfortable, liveable city. To note, researchers focus more on analysing if urban public areas comply with the criteria of emotional, psychological, and social comfort of families with children and on identifying various kinds of physical barriers in accessing urban benefits and conveniences.

Our research aims to analyse parents' satisfaction with the urban environment and estimate the influence of territorial proximity of children's infrastructure on the general perception of the urban life quality.

Data and Methods

In October-November 2020, we empirically studied the quality and accessibility of the urban environment in residential neighbourhoods of Ekaterinburg, one of the largest Russian metropolises. At the first stage, we surveyed more than 3,500 residents of the city; respondents were recruited using river sampling and a set of websites, providing representation of the general population (the website of the city administration; the most popular information portal of the city e1.ru; Ekaterinburg-centred communities on social media; thematic groups of city activists, etc.). At the second stage, we made a calibration adjustment using frequency alignment procedures (i.e., post-stratification by gender, age, neighbourhood of residence). In the final data set, we selected 1,374 parent respondents with children of preschool and school age for the analysis.

Based on respondents' answers, we analysed the following:

- 1) Satisfaction ratings of the quality of the urban neighbourhood environment in the group of respondents with preschool and school-age children. We calculated the average evaluation of satisfaction with the urban environment quality according to 15 elements representing vital components of the city environment, social and domestic, consumer, recreational, children's, transport infrastructure, and improvement of residential neighbourhoods;
- 2) The emotional perception of the neighbourhoods in the group of respondents with preschool and school-age children. We used 8 criteria (aesthetic appeal of the residence, "brightness" – having a local image, level of amenities, tranquillity, cleanliness, noise, safety, open space). Then, we calculated the average evaluation of emotional perception according to these criteria;
- 3) The lack of urban infrastructure facilities for families with children in walking distance;
- 4) Differences in estimations of satisfaction with the quality of urban environment and emotional perception of neighbourhoods in the two groups of respondents: 1) those living in the same neighbourhoods where they use children's infrastructure facilities, 2) those using children's infrastructure facilities outside the neighbourhoods they live in. As children's infrastructure facilities, we studied kindergartens, schools, hobby clubs and development centres, sports clubs.

The data was processed and analysed using SPSS 23.0. We used statistical procedures of descriptive statistics, frequency analysis, and estimation of statistical significance of differences adopting the Mann-Whitney test for the analysis.

Results

1. Table 1 shows indicators for the overall satisfaction with the quality of the urban environment and its emotional perception by city residents with pre-school and school-age children. We measured these indicators on a scale of 1 to 5.

Tab. 1: Descriptive statistics on perceptions of neighbourhoods by parents with preschool and school-age children

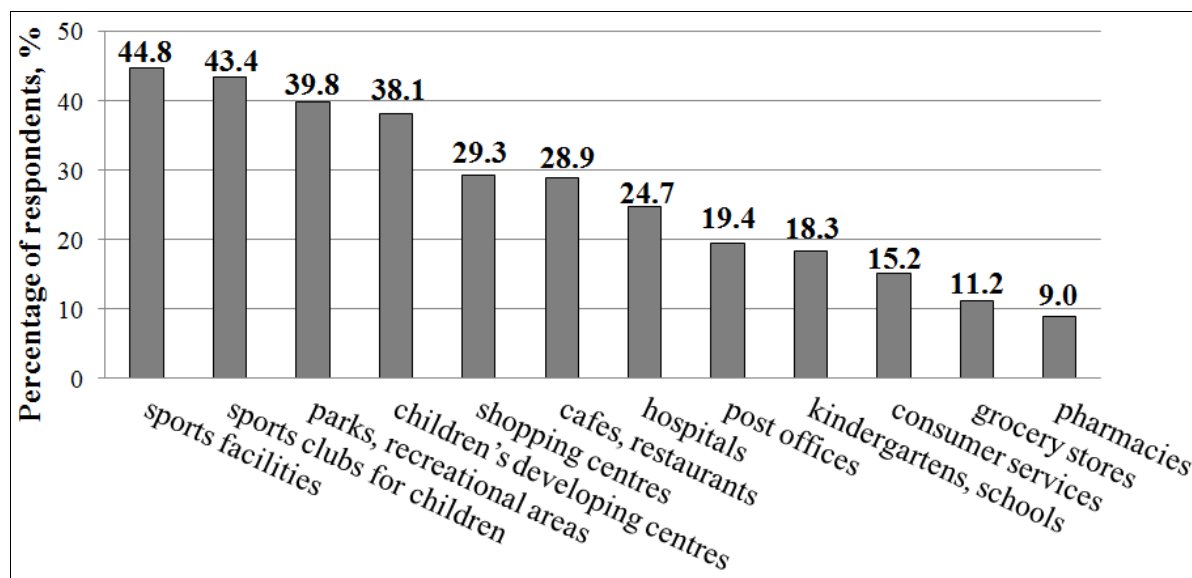
	Mean	Std. dev.	Median	Mode
Average evaluation of satisfaction with the urban environment quality in the neighbourhood of residence	3.30	.750	3.33	3.27
Emotional perception of the neighbourhood of residence	3.03	.809	3.03	2.86

Source: Authors' Calculations

Satisfaction with the quality of the urban environment among parents is slightly higher than the evaluation of the emotional perception of the neighbourhood.

Figure 1 shows parents' opinions on the lack of infrastructure within walking distance in the neighbourhood of residence.

Fig.1: Lack of urban infrastructure within walking distance for parents



Source: Survey Data

2. The evaluations of the urban environment quality in neighbourhoods of residence are markedly differentiated by groups of respondents with children differing in the location of children's infrastructure facilities (Table 2).

Tab. 2: Statistical differences in evaluations of urban environment quality and emotional evaluations of neighbourhoods

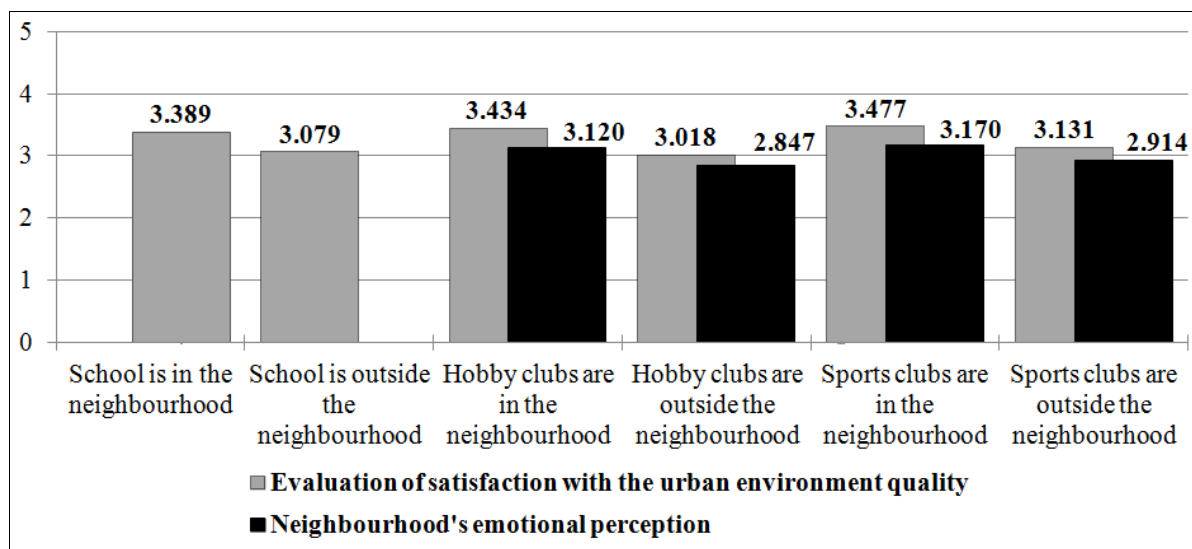
Groups of respondents based on the location of children's infrastructure facilities	Differences in average evaluations of neighbourhood urban environment quality: the Mann-Whitney test			Differences in average emotional evaluations of neighbourhood: the Mann-Whitney test		
	U	Z	Asymp.Sig.	U	Z	Asymp.Sig.
Kindergarten's location						
Located in the neighbourhood of residence	42353.500	-.240	.810	39114.000	-1.118	.263
Located outside the neighbourhood of residence						
School's location						
Located in the neighbourhood of residence	37492.000	-4.480	.000	42713.500	-1.488	.137
Located outside the						

neighbourhood of residence						
Clubs' and development centres' location						
Located in the neighbourhood of residence	53885.500	-6.975	.000	58384.000	-4.761	.000
Located outside the neighbourhood of residence						
Sports clubs' location						
Located in the neighbourhood of residence	51945.000	-6.209	.000	55818.000	-4.240	.000
Located outside the neighbourhood of residence						

Source: Authors' Calculations

3. The coincidence test for school, children's extracurricular centres, and sports infrastructure with neighbourhood of residence is directly related to evaluations of the neighbourhood urban environment quality; interestingly, both to the satisfaction evaluation and the emotional perception (Figure 2 shows indicators for which statistically significant differences were found).

Fig. 2: Satisfaction with the urban environment quality and emotional perception of the neighbourhood in the groups of parents with different accessibility of facilities for children's development



Source: Authors' Calculations

Discussion

Our study showed that parents' satisfaction with the quality of the urban environment and emotional perception of their residence are quite far from the maximum possible values and are at the slightly above average level. In the overall range of urban services and benefits in

walking distance, it is the children's infrastructure (sports, development, recreation) that are noted by parents as the most lacking. The specific lifestyle and needs of the parent group predetermine the direct correlation identified between the location of children's infrastructure and the overall perception of the urban life quality. Parents having children's education and development facilities in close proximity to their place of residence provide higher ratings than those who have to use children's infrastructure outside their neighbourhoods. The proximity of children's infrastructure is of high subjective significance for parents' perception of the urban environment, which should be considered when designing neighbourhood development projects.

At present, it is important to ensure that the urban environment is convenient, which is reflected both in Russia's national projects [federal project] and in the strategic development plans of major Russian cities. At the same time, it should be understood that the improvement of the urban environment should not be limited only to eliminating physical barriers (inconvenient stairs, high curbs, slippery playground surfaces, etc.) and formal "decorations" (placing benches, urns, lighting, landscaping yards, etc.) masking more serious problems, such as unbalanced infrastructure development of urban areas, increasing differentiation of areas by functional saturation and quality of local services. To successfully implement the priority federal project "Shaping a Comfortable Urban Environment" in Russia, it requires not only minor tactical solutions for "beautification" of urban spaces, but also more serious changes to ensure the territorial accessibility of infrastructure for families with children.

Conclusion

Based on the research conducted, we conclude that an infrastructure-rich urban environment accessible within walking distance that minimises forced "costly" mobility families have to take for their children's education, development, and leisure can be a significant resource for successful parenting and for combining it with professional labour. In addition, such an environment substantially saves physical and time costs associated with transit and enables to reallocate them to other activities, which contributes to improving the quality of life and subjective well-being of city residents with children. The results obtained have practical value for developing strategic directions to enhance conditions for implementing quality parenthood through improving the quality of the urban environment at the neighbourhood level in accordance with the needs of families with children living there.

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