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Perception of Residential Environment in Cities: a Comparative Study

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Abstract

This paper deals with the issues relating to the quality of the residential environment and its perception by the population. The aim of the research was to identify the key indicators perceived by residents as the most significant from the perspective of the quality of the residential environment. A comparative study analyzing a set of 22 assessment indicators has been conducted for three cities: Brno, Prague and Ostrava. Data was collected using a web-based survey and processed in terms of indicator grades and weights. It was concluded that the significance of individual indicators affecting the quality of living in individual cities is generally similar, but when viewed in detail, partial differences can be observed. Research outputs may be utilized for municipal decision-making in relation to achieving satisfaction with the residential environment and sustainable development of cities.

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1. Introduction

The population in cities is constantly increasing due to the fact that large urban areas provide many benefits to inhabitants such as better employment opportunities and a wider spectrum of available services or leisure activities. On the other hand, high population density is closely related with several negative aspects (noise, pollution, heavy traffic, low level of safety on streets) that may significantly affect quality of life. Responsible city government

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should therefore observe how residents perceive various aspects affecting their satisfaction with life in certain locations. Continuous monitoring and evaluation of the key aspects promotes achieving sustainable development of the residential environment if appropriate measures are implemented timely.

Therefore, the research aim of this paper is to identify the most significant indicators that people strongly perceive as influencing elements of quality of their life in cities. In particular, this research explores and compares the three largest cities in the Czech Republic: Brno, Prague and Ostrava. The comparative study evaluates whether there are significant differences between those cities, or whether the perception of the individual indicators by inhabitants is universal regardless of the specifics relating to particular locations.

The authors begin by introducing the research background. Then, a methodology used for the purpose of realization of this research is explained. As a next step, the results are presented and finally discussed with a view to providing urban decision-makers with useful information that could help guide their work in accordance with sustainable development principles and promote public satisfaction.

2. Research Background

The issues of quality of life in cities, public satisfaction and sustainable development are the subject of intense attention of researchers worldwide. As examples the following references can be named: studies for Nigeria [1], Malaysia [2], China [3], Czech Republic [4], Estonia [5], France [6], UK [7] and South Korea [8]. Some of these studies deal with a specific population group (e.g. migrant workers [3] or elderly people [4]), while others focus on a narrow phenomenon, e.g. on police [8] or distance from highways [9].

The problem is how to measure and evaluate satisfaction with residential environment and/or sustainable development of urban areas, as there is no general consensus among experts. The literature identifies a number of different approaches based on a heterogeneous set of indicators. The variety of approaches related to the measurement of sustainability and satisfaction of residential areas is presented in Table 1. The above results from the assertion that built environment does not constitute a tightly structured system, rather it is an arena where a certain various interactions and actors become visible [10].

Table 1. Approaches to measuring sustainability and satisfaction (list of examples)

Research source	Aspect	No. of indicators
[1]	Satisfaction	31
[2]	Satisfaction	45
[3]	Satisfaction	36
[6]	Satisfaction	23
[11]	Sustainability	15
[12]	Sustainability	22
[13]	Satisfaction	2

The crucial factor is whether the issue of residential satisfaction encompasses both housing and neighborhood satisfaction [13]. From this perspective some negative impacts can be reduced by individuals (e.g. by using quality sound insulation in wall structures [14] – housing satisfaction), while others, such as outdoor noise, should be addressed in another way (e.g. by implementation of noise barriers by the authorities – neighborhood satisfaction). Although there are some serious housing phenomena (e.g. aspect of healthy buildings [15] and indoor air pollution [16]), in this study, we focus solely on neighborhood satisfaction, which is primarily within the purview of authorities.

In many cases, neighborhood satisfaction and environment are significantly affected by construction projects. For example, transportation projects such as underground railways may cause vibration [17], urban highways are related to noise and pollutants [18] and execution of construction works creates e.g. dust (in this context type of material used is important [19]). Since relevant socio-economic benefits and costs also affect economic efficiency of transport infrastructure project [20], the influence of these projects cannot be neglected. In addition, transport infrastructure may have significant spatial impact since they may cause segregation. However, such spatial

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