Impact of a city's spatial structure on residents' stress levels - lessons learned from the Covid-19 pandemic

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**Session topic**: Geographies of quality of life, deprivation, and inequalities

**Abstract**:

The spatial structure of a city plays a crucial role in its functioning and development. It determines the efficiency of the economic system, the quality of the natural environment, and the accessibility of functional areas. However, it also has a significant impact on the stress levels of urban residents, which can affect their quality of life and public health.

The Covid-19 pandemic has brought the issue of a city’s spatial structure to the forefront. The pandemic was an additional severe source of stress for cities and their residents, highlighting the need to look for new models of internal structure for post-pandemic cities. These models should not only provide residents with a high level of service near where they live (e.g., the 15-minute city model) but also foster improvements in their health situation, including mental health (healthy city). Planning cities that help their residents cope with stress during and after a pandemic should be seen as a priority.

The main objective of the study is to analyze the impact of elements of the city’s spatial structure on the stress level of its residents during the Covid-19 pandemic. The specific objectives include (1) examining the impact of forms of residence on the stress level of residents, (2) identifying elements of the city’s spatial structure that intensify and reduce residents’ stress, (3) ways to reduce stress in the urban environment, and (4) desirable directions for changes in the spatial structure of cities. Conclusions from the research will help develop planning guidelines for shaping healthy, post-pandemic cities, and thus improve the quality of life of their residents.

The analysis will be carried out using a research tool - a geo-survey. The object of interest, however, will be three cities of different sizes and characters. This approach will make it possible to identify guidelines of a universal and more individualized nature.

Preliminary research results indicate that during the pandemic, elements of the city’s structure that are associated with the concentration of the population (city squares, shopping malls, public transport facilities) played a strongly stressful role. Additionally, the reducing role of green areas in terms of the stress of residents, in particular, urban parks, forest areas, or waterfront areas, was observed. Therefore, it is suggested that one of the ways to improve the health situation of urban residents would be to increase their accessibility to nature through appropriate and equitable distribution of green areas in the city.

Keywords: city spatial structure, stress, Covid-19, healthy city, quality of life, sustainable development

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