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Odour nuisance and urban residents' quality of life: A case study in Kraków's in Plaszow district ☆

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Highlights

- The odour issues are still a serious concern for people living in an industry area.
- Odour nuisance has an impact on residents' life comfort and health factors.
- The unpleasant odour cause that the people decide more often move out of their home.
- The longer inhabitancy cause by people less negative feelings for the unpleasant odour.

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Abstract

This paper aims to assess the level of odour nuisance in the south-eastern part of Kraków (Płaszów) and the related quality of life. It includes two aspects: life comfort and the health aspect. Kraków is one of the largest urban centres in Poland. It is globally perceived as the cultural capital of Poland and is the country's main tourist destination. It is also one of the most polluted cities in Poland. Płaszów, as a district of Kraków, is characterised by the largest increase in urbanised areas and changes in the spatial development of the municipality of Kraków.

The research methodology was divided into the phases comprising of qualitative and quantitative research. Qualitative research included (1) the analysis of the content on Internet forums and social networking sites as regards odour nuisance concerns, (2) in-depth ethnographic interviews with residents of Płaszów's housing estates, which were conducted in the form of strolling groups created specifically for this purpose, combined with the recording of impressions, remarks and associations of their participants and representative residents of the studied area.

A measurement tool, developed according to the VDI 3883 guidelines, based on the latest outcome of research on odour and noise nuisance, was used for assessing odour nuisance. The questionnaire was developed based on German experience. Empirical research was conducted for the area sample of 2000 respondents. The selection of respondents was carried out by a random stroll.

Questions scaled according to two scales of annoyance constituted the key part of the questionnaire. One of them was a 7-point ordinal scale and the other a 10-point interval scale. These scales allowed collecting information from respondents significantly related to the purpose of the study. The research sample consisted of respondents representing households using the water supply and sewage disposal services located in the area of Płaszów. Within that area, according to the data obtained, 21,925 people utilised these services.

The conducted qualitative and quantitative research carried out on a large wide scale in one of Poland's largest cities in Poland -- Kraków -- undoubtedly constitutes the beginning of the identification and assessment process concerning of the scale of this problem in urban spaces. The results of this research work indicate unequivocally point to the influence of perceived odours and fragrances smells on the health and the sense of comfort of local residents. The assessment of this phenomenon is common and does is not dependent on the gender or age of respondents. However, it has an impact on everyday life and subjective feelings about concerning the state of health caused by living in an area with unpleasant odours. This research proves that the more intense the and unpleasant the odour is, the less resistant one is to move out of their current home. The longer people live in the area, the less negative their feelings are, which may mean they get used become accustomed to the environment they are living in. According to the respondents, the unpleasant odours have the greatest impact on health factors, which in turn determines the sense of life comfort. The results obtained in this study indicate the need for further, in-depth research in this area.

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