# Demographic Determinants of Spatial Patterns of Urban Crime

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**Abstract :** Abstract — The main research objective of the paper is to discover the relationship between the age groups of residents and crime in particular districts of a large city. The basic analytical tool is specific crime rates, calculated not in relation to the total population, but for age groups in a different social situation - property, housing, work, and representing different generations with different behavior patterns. They are the communities from which criminals and victims of crimes come. The analysis of literature and national police reports gives rise to hypotheses about the ability of a given age group to generate crime as a source of offenders and as a group of victims. These specific indicators are spatially differentiated, which makes it possible to detect socio-demographic determinants of spatial patterns of urban crime. A multi-feature classification of districts was also carried out, in which specific crime rates are the diagnostic features. In this way, areas with a similar structure of socio-demographic determinants of spatial patterns on urban crime were designated. The case study is the city of Szczecin in Poland. It has about 400,000 inhabitants and its area is about 300 sq km. Szczecin is located in the immediate vicinity of Germany and is the economic, academic and cultural capital of the region. It also has a seaport and an airport. Moreover, according to ESPON 2007, Szczecin is the Transnational and National Functional Urban Area. Szczecin is divided into 37 districts - auxiliary administrative units of the municipal government. The population of each of them in 2015-17 was divided into 8 age groups: babes (0-2 yrs.), children (3-11 yrs.), teens (12-17 yrs.), younger adults (18-30 yrs.), middle-age adults (31-45 yrs.), older adults (46-65 yrs.), early older (66-80) and late older (from 81 yrs.). The crimes reported in 2015-17 in each of the districts were divided into 10 groups: fights and beatings, other theft, car theft, robbery offenses, burglary into an apartment, break-in into a commercial facility, car break-in, break-in into other facilities, drug offenses, property damage. In total, 80 specific crime rates have been calculated for each of the districts. The analysis was carried out on an intra-city scale, this is a novel approach as this type of analysis is usually carried out at the national or regional level. Another innovative research approach is the use of specific crime rates in relation to age groups instead of standard crime rates. Acknowledgments: This research was funded by the National Science Centre, Poland, registration number 2019/35/D/HS4/02942.

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