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# Suicide in the Hungarian Kingdom at the beginning of the 20th century – a spatial eigenvector approach

The most common and most persistent characteristic of the Hungarian suicide scenario is its spatial embeddedness. The areas with high suicide rates are mainly located in the south-eastern and eastern regions of today's Hungary. The spatial pattern has remained practically unaltered during one century, while there have been important changes in the socio-economic systems and the political regimes.

The present research analyses regional differences in suicide in the territory of the Hungarian Kingdom between 1901 and 1910 with county-level data and spatial models. The available detailed spatial scale (N=651) makes it possible to test the classical sociological theories of suicide – such as Durkheim [1897], Halbwachs [1930] and Tarde [1890] and their followers – on an ecological level.

The regional data series of a multi-national and economically divided country also allows for the analysis of the role of ethnic differences and modernization.

## Spatial empirical Bayes smoothed suicide rate per 10 000 inhabitants in the Hungarian Kingdom, 1901–1910



Slovakia
Ukraina
Austria
Romania
Croatia
Serbia

- 0,1 – 1,0
- 1,1 – 1,8
- 1,9 – 3,0
- 3,1 – 4,8
- 4,9 – 7,6
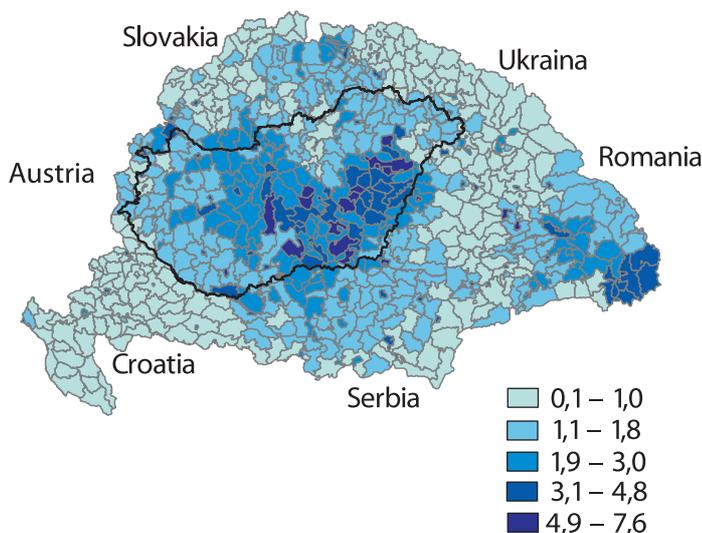
## Age- and sex-standardized suicide ratio by subregions in Hungary, 2006–2010



- 0,42 – 0,78
- 0,79 – 1,01
- 1,02 – 1,27
- 1,28 – 1,62
- 1,63 – 2,28
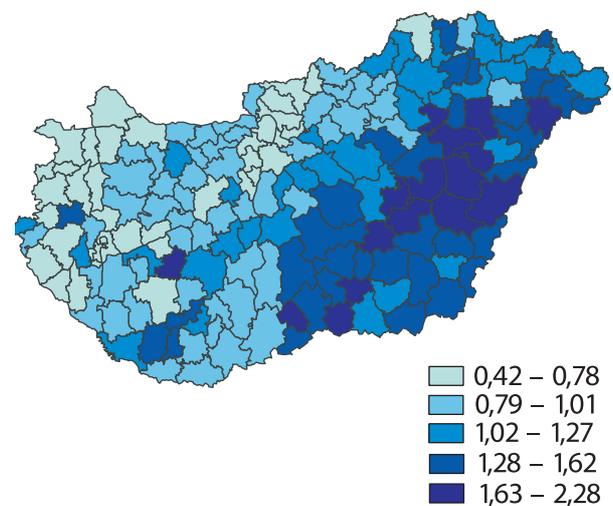
Poisson regression and its spatial variant (Moran eigenvector GLM filtering) were used in the analysis. Instead of its monocausality, the models draw our attention to the complexity of the phenomenon, which cannot be explained by one single approach. Ethnic variables (the proportion of the Hungarian and the German population) remained significant even after the introduction of control variables. The effect of the proportion of the Protestant population (Unitarian, Lutheran, Calvinist) fits the integration model of Durkheim. The higher occurrence of suicide in cities supports the modernization-integration theory of Halbwachs. The fact that higher literacy increased and higher fertility decreased the probability of suicide underlines the importance of the modernization approach.

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