

## SCIENTIFIC ARTICLES

**Authors:** Erik ŠOLTÉS, Mária VOJTKOVÁ, Tatiana ŠOLTÉSOVÁ

**Title:** Changes in the geographical distribution of youth poverty and the social exclusion of youth in EU member countries between 2008 and 2017.

**pp. 2-15**

**Abstract:** With respect to the fulfillment of the objectives of the Europe 2020 strategy, the threat of poverty and social exclusion has not been sufficiently reduced in the European Union (EU) over the past decade, and large regional disparities persist. Young people are the most affected by the problems of income poverty, material deprivation and labour market exclusion, which are the three dimensions of poverty and social exclusion. In this article, we focus on comparing the EU countries in terms of the three listed dimensions, while revealing similarities and differences in the incidence and severity of these social phenomena among youth. In addition to measuring dimensions by the currently used AROPE (at risk of poverty or social exclusion) rate, we also use a larger spectrum of relevant indicators for a more comprehensive analysis. While the AROPE aggregate indicator uses the same methodology for the population of young people as for the whole population, our approach includes indicators that are specific to young people. We assume that all dimensions affect each other, so we apply multi-dimensional statistical methods such as principal components and cluster analysis to analyse them. These methods have revealed that some dimensions affect poverty and social exclusion to a greater extent and others to a lesser extent than might appear to be the case, based on AROPE's partial rates. Moreover, we present quantified integral indicators that together with the results of the multivariate methods, provide a rather complex picture concerning the geographical distribution of poverty and social exclusion, as well as their dimensions in the EU, for the population of persons aged 18 - 24 years in 2008 and 2017.

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**Authors:** David BOLE, Jani KOZINA, Jernej TIRAN

**Title:** The socioeconomic performance of small and medium-sized industrial towns: Slovenian perspectives.

**pp. 16-28**

**Abstract:** The socioeconomic performance of industrial small and medium-sized towns (SMSTs) in comparison to that of non-industrial SMSTs, is subject to evaluation in this paper, to see if the presence of industry has adverse effects on socioeconomic factors. We studied 32 variables accounting for dimensions of socioeconomic performance in Slovenian SMSTs and conducted various statistical tests. We found only minor differences between the two groups, pertaining mainly to some elements of economic structure and demography, and some mixed relations of industrial employment and socioeconomic performance. The results demonstrate that industrial SMSTs should not be labelled automatically as 'disadvantaged'. We discuss why our results differ from general research expectations in the literature: in the local context, we outline the "egalitarian syndrome" and policies of polycentric spatial development; in the global context, we discuss the

“failed tertiarisation effect” and the differences between post-socialist and “Western” countries. We conclude by proposing that research should be re-oriented towards the more place-sensitive issues of industrial towns across Europe.

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**Authors:** Marta BOROWSKA-STEFANŃSKA, Michał KOWALSKI, Szymon WIŚNIEWSKI

**Title:** Changes in urban transport behaviours and spatial mobility resulting from the introduction of statutory Sunday retail restrictions: A case study of Lodz, Poland.

**pp. 29-47**

**Abstract:** The impact of statutory Sunday retail restrictions on the transport behaviours of people living in the Polish post-socialist city of Lodz is investigated in this article. One carrier of information on journeys undertaken in the city is data from induction loops - a part of the city's Intelligent Transportation System (ITS). The second source of data is a two-stage questionnaire survey (concerning trading and non-trading Sundays) of the city's inhabitants, aimed at defining any changes in their transport behaviours with reference to the introduction of retail restrictions. The research was conducted to assess the way in which the new statutory restrictions affect transport behaviour discharged after the political transformation. The results of the research conducted on the transport behaviours of Lodz residents indicate that the majority of their transport behaviours clearly depend on whether a given Sunday is a trading or non-trading day. The traffic load of the urban road network (perceived as the manifestation of residents' spatial mobility) is characterised by a distinct changeability due to the legislative restrictions related to Sunday trading. There is both a time (daily and hourly) differentiation of traffic flows and a spatial changeability of the load in the urban space, when a comparative analysis is conducted of the results of observations made in the weeks preceding trading and non-trading Sundays. The study also demonstrates that the time previously devoted to Sunday shopping is currently spent not only at home, but also allocated to new (and until now unperformed) activities that often require travelling.

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**Authors:** Cathy FRICKE, Rita PONGRÁCZ, Tamás GÁL, Stevan SAVIĆ, János UNGER.

**Title:** Using local climate zones to compare remotely sensed surface temperatures in temperate cities and hot desert cities

**pp. 48-60**

**Abstract:** Urban and rural thermal properties mainly depend on surface cover features as well as vegetation cover. Surface classification using the local climate zone (LCZ) system provides an appropriate approach for distinguishing urban and rural areas, as well as comparing the surface urban heat island (SUHI) of climatically different regions. Our goal is to compare the SUHI effects of two Central European cities (Szeged, Hungary and Novi Sad, Serbia) with a temperate climate (Köppen-Geiger's Cfa), and a city (Beer Sheva, Israel) with a hot desert (BWh) climate. LCZ classification is completed using WUDAPT (World Urban Database and Access Portal Tools) methodology and the thermal differences are analysed on the basis of the land surface temperature data of the MODIS (Moderate Resolution Imaging Spectroradiometer) sensor, derived on clear days over a four-year period. This intra-climate region comparison shows the difference between the

SUHI effects of Szeged and Novi Sad in spring and autumn. As the pattern of NDVI (Normalised Difference Vegetation Index) indicates, the vegetation coverage of the surrounding rural areas is an important modifying factor of the diurnal SUHI effect, and can change the sign of the urban-rural thermal difference. According to the inter-climate comparison, the urban-rural thermal contrast is the strongest during daytime in summer with an opposite sign in each season.

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## SCIENTIFIC COMMUNICATION

**Author:** Matt REED

**Title:** Scientific citizens, smartphones and social media – reshaping the socio-spatial networks of participation: Insects, soil and food.

**pp. 61-67**

**Abstract:** The conjunction of citizen science and social media through the mediation of the smartphone is investigated in this Scientific Communication, following on from the last issue of the Moravian Geographical Reports (2019, Vol. 27, No. 4). Through a reconsideration of three previously published articles, in part written by the author, this paper reflects on these topics with regard to farmer innovation, local food networks and citizen-informed ecology. Each of these papers has used Twitter to gather data about practices of innovation and observation that have revealed new insights about innovation networks amongst farmers, urban-rural connections and insect behaviours. The reflections reported here are embedded in a discussion of the rise of the term ‘Citizen Science’. Recent experiences in areas as diverse as fisheries management and combating Ebola, have informed societal needs for greater engagement in finding inclusive, comprehensive solutions to urgent socio-ecological problems. This paper suggests a compositional approach to studies using citizen scientists and their data as a new avenue of practice and investigation.

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