

## SPECIAL ISSUE:

### Current issues, methods and applications in Time-Geography

#### SCIENTIFIC PAPERS

**Authors:** Pavel KLAPKA, Kajsa ELLEGÅRD, Bohumil FRANTÁL

**Title:** What about Time-Geography in the post-Covid-19 era?

**pp. 238–247**

**Abstract:** In this year, 2020, the Covid-19 pandemic has imposed new challenges for most human activities. Time geography is a theoretical approach with great potential for analysing the consequences of the new disease and other disturbances, and this article aims at identifying possible developments of interest for the approach in the post-Covid era. The article addresses challenges that emerge for time-geographic research from the perspective of massive changes in human behaviour, regarding time-space activity patterns, caused by the globally diffusing disease. The implications of the pandemic are discussed with respect to four areas: (i) time-geographic techniques; (ii) activities and rhythms; (iii) activity spaces; and (iv) social issues and perceptions. The time-geographic concepts to be scrutinised are constraints, virtual time space and bundles, and stations and paths. In addition, the article introduces this Special Issue of the Moravian Geographical Reports on 'Current issues, methods and applications in time-geography', contributions which for evident reasons were written before the onset of the pandemic.

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**Authors:** Martin ŠVEDA, Michala SLÁDEKOVÁ MADAJOVÁ, Peter BARLÍK, František KRIŽAN, Pavel ŠUŠKA

**Title:** Mobile phone data in studying urban rhythms: Towards an analytical framework.

**pp. 248–258**

**Abstract:** Mobile phone data are considered one of the most promising information sources for monitoring and measuring the spatio-temporal activities of the population. Today, large-volume mobile phone datasets are widely applied to monitor the daily life of the urban population and to examine the structuring of the urban environment. In this paper, we discuss and develop a methodological procedure that uses such data to observe temporal differences of human presence in Bratislava, Slovakia. The study is based on a large-scale dataset of hourly records of signalling exchanges (VLR data) from all major mobile network operators in Slovakia. The records of the mobile network infrastructure are used as a suitable proxy variable for complex human activity at the city level, in the sense that they capture various kinds of spatial practices, and not only some specific activities (work cycle of a given locale, shopping, and similar events). Such an approach allows the classification of urban space using diurnal logs activity curves of mobile network cells. Six temporality types in Bratislava were identified, which may be designated as examples of an urban chronopolis. The results show the potential of the proposed method for measuring place temporality in cities and monitoring the urban environment with geo-referenced mobile phone data.

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**Authors:** Stanislav KRAFT, Tomáš KVĚTOŇ, Vojtěch BLAŽEK, Lukáš POJSL, Jiří RYPL

**Title:** Travel diaries, GPS loggers and Smartphone applications in mapping the daily mobility patterns of students in an urban environment.

**pp. 259–268**

**Abstract:** Mapping the daily spatial mobility of university students in an urban environment is the focus of this paper. It uses the city of České Budějovice in the Czech Republic as a case study, employing three different research tools – travel diaries, GPS loggers and Smartphone applications. We focus our attention on the analysis of spatial patterns of mobility using basic mobility indicators (distance, number of daily trips, time spent mobility), travel behaviours (use of transport modes) and the detection of time-space bundles (spaces of concentration of particular time-space trajectories) within the city. We identified four main time-space bundles. Then we compare the three main research methods according to their tracking accuracy and informative value. The Smartphone applications (using the A-GPS technology) provided the best results for the spatial mobility of respondents, although the travel diaries method is still unique due to the extent of some socio-demographic and transport characteristics.

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**Authors:** Robert OSMAN, Vladimír IRA, Jakub TROJAN

**Title:** A tale of two cities: The comparative chrono-urbanism of Brno and Bratislava public transport systems.

**pp. 269–282**

**Abstract:** Time policies in urban environments are discussed in this article, including some difficulties in comparing such policies between cities and in an international comparison of urban times in general. In response to the need to systematise methodological approaches to the comparison of urban time policies, we offer a concrete solution in terms of a comparative chrono-urbanism. The main issues under consideration are the theoretical framings, systematic procedures and an empirical illustration comparing two urban times. The comparison serves as a tool for assessment, when one urban time becomes a criterion for another urban time. This approach is applied in the case of an international comparison of two similar cities – Brno (Czech Republic) and Bratislava (Slovak Republic). Their urban times are operationalised through the timetables of their public transport systems, the lines of which are conceived as the institutional carriers of urban time. Based on the analysis of timetables from 2016, we present a detailed description of urban times of Brno and Bratislava, as well as their comparison, which makes it possible to assess the time policies in both cities, as well as their implications for planning.

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**Author:** Gunnel ANDERSSON, Katerina VROTSOU, Anne DENHOV, Alain TOPOR, Per BÜLOW, Kajsa ELLEGÅRD

**Title:** A diversity of patterns: 10-year trajectories of men and women diagnosed with psychosis for the first time. A time-geographic approach.

**pp. 283–298**

**Abstract:** People with severe mental illness face a different ‘interventional’ landscape compared to some decades ago, when mental hospitals were dominant, in Sweden as well as in the rest of the Western world. The aim of the research reported in this article was to follow men and women diagnosed with psychosis for the first time over a 10-year period, and to explore what interventions they experienced. The interventions, here defined as “spheres”, were either community-based or institutional. A third sphere represents no interventions. Based on data from registers and using a time-geographic approach, the individuals were visualised as 10-year trajectories where their transitions between the different spheres were highlighted. The results show a great diversity of trajectories. Two main categories were detected: two-spheres (community-based and no interventions) and three-spheres (adding institutional interventions). One third of the population experienced only community-based interventions, with a higher proportion of men than women. Consequently, more women had institutional experience. Two sub-categories reveal trajectories not being in the interventional sphere in a stepwise manner before the 10th year, and long-term trajectories with interventions in the 10th year. The most common pattern was long-term trajectories, embracing about half of the population, while one-fifth left the institutional sphere before the 5th year.

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**Author:** Eva MAGNUS, Klara JAKOBSEN, Randi Johansen REIDUNSDATTER

**Title:** Meaningful everyday life projects and activities in breast cancer survivors.

**pp. 299–307**

**Abstract:** The time-geographic diary, supplemented by interviews, is presented in this study as a useful method to demonstrate that desirable everyday life projects, with associated activities, may positively influence an individual’s quality of life. Breast cancer survivors can experience challenging everyday life activities due to late effects of treatment. Despite improvements in survivorship follow-up programs, we still lack knowledge about how the women themselves prioritise activities that are positive in everyday life. The aim of the present study was to identify everyday life projects that improve the quality of life in breast cancer survivors. The multi-method design included the time-geographic diary method and in-depth semi-structured interviews, carried out with a sample of fifteen breast cancer survivors. The interviews were performed with stimulus from the diary notes and consecutively analysed by directed content analysis. Meaningful everyday life activities were emphasised, and four projects were generated: 1) To do what is good for my body and soul; 2) To create something that is nice and for joy; 3) To keep my family and social network together; and 4) To keep my mind active. These findings can be directed to the development of more individual and peer-driven health care services.

**Article history:** Received 10 March 2020, Accepted 2 September 2020, Published 31 December 2020

**Author:** Petr ŠIMÁČEK, Miloslav ŠERÝ, David FIEDOR, Lucia BRISUDOVÁ

**Title:** To fear or not to fear? Exploring the temporality of topophobia in urban environments.

**pp. 308–321**

**Abstract:** The concept of topophobia has been known in Geography for decades. Places which evoke fear in people's minds can be found in almost every city. The perception of fear within an urban environment shows a certain spatio-temporal concentration and is often represented by fear of crime. The meaning of topophobic places, however, derived from the experience of fear of crime changes over time, and thus can alter the usual patterns of population behaviours in relation to time (in the time of the day and over longer periods) and space. A spatiotemporal understanding of these changes is therefore crucial for local decision-makers. Using data from the Czech Republic, this paper deals with the analysis of topophobic places, and is based on an empirical survey of the inhabitants of four cities, using the concept of mental mapping. In contrast to most similar geographical studies, the paper emphasises the temporal dimension of the fear of crime. The results have shown that over time there are significant differences in the meanings of topophobic places, and they have demonstrated the necessity of taking local specifics into account. The paper shows how the intensity of and the reasons for fears vary, depending on time and place. In general, the results provide support for the idea of place as a process and contain useful information for spatial planning and policy in urban areas.

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**Author:** Bohumil FRANTÁL, Pavel KLAPKA, Eva NOVÁKOVÁ

**Title:** When home becomes a cage: Daily activities, spacetime constraints, isolation and the loneliness of older adults in urban environments.

**pp. 322–337**

**Abstract:** The geography of ageing is addressed in this article by providing new empirical evidence about the significant role of daily activities on the perceptions of isolation and loneliness. The developed model of socio-spatial isolation is based on data from time-space diaries and questionnaires completed by older adults living in three cities in the Czech Republic. The study suggests that socio-spatial isolation is a multicomponent (consisting of passivity, isolation and loneliness components), place-dependent and gendered issue. The passivity is significantly associated with the income and leisure sport activities. The isolation can be well predicted by the age, gender and education, and the frequency of work and specific leisure activities, which are constrained by health conditions, financial opportunities and spatial mobility. Particularly trips to nature, sport activities, cultural events, get together with friends, and visits to restaurants have a positive effect on reducing isolation. Women, particularly those who raised more children, more likely feel lonely in old age when family contacts are reduced. Visits to restaurants, shopping malls and cultural events have a positive effect on reducing loneliness. A constrained mobility and higher time consumption for necessary activities also proved to be an age-related and gendered problem. In this respect, policy interventions should seek to improve flexible work opportunities, the digital skills of older people, and the accessibility and safety of public transport with regard to perceived constraints, which is gaining in importance in the Covid-19 era.

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**Author:** Chunjiang LI, Yanwei CHAI, Yoshio ARAI

**Title:** The diffusion and development of time-geography in East Asia: The academic life paths of two key scholars.

**pp. 338–352**

**Abstract:** A summary of the diffusion and development of time-geography in East Asia, specifically in Japan and China, is presented in this article. Previous studies have provided reviews of time-geographic research and space-time behaviour research in both countries. Few studies, however, have told the story about how and why time geography diffused into East Asia. By showing and analysing the academic life paths of Yoshio Arai and Yanwei Chai, we conclude that the development of time-geography in Japan and China goes hand in hand with their academic progress. Moreover, the interactions within their academic life paths mark some key events that promoted time-geography significantly. The similarities and differences between their academic life paths are also analysed in this article. Both scholars shared some common research topics, such as childcare problems, urban spatial structures and socioeconomic transformations, which were also the most prominent characteristics of time-geography in East Asia. In addition, the socioeconomic backgrounds of their academic life paths are also quite similar, which reflects the close relationship between time-geography and societal needs. Finally, this article discusses the effectiveness and disadvantages of the academic life path method, as the method has proven to be an important tool in analysing the role that key scholars play in promoting a certain discipline. In conclusion, the diffusion and development of time-geography in East Asia can hardly have happened without both individual scholars' hard work and the exchange and cooperation activities between scholars.

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