Simulation Models of Ethnocentrism and Diversity

Special Issue of *Social Science Computer Review (SSCR)*

SSCR Volume 38, No. 4

August, 2020 (print version)*
* All articles published in 2018 or 2019 on Sage Online First.

Guest Editors

Bruce Edmonds
Manchester Metropolitan University

David Hales
Manchester Metropolitan University and the Open University

Laurence Lessard-Phillips
University of Birmingham.

Special issue contents:

Abstract. The theme and key ideas behind the special issue are discussed, in particular the terms: "ethnocentrism" and "diversity". It picks out three very influential simulation models in this area, pointing out that these are at the abstract end of the simulation spectrum, thus not strongly related to any data and over-interpreted by many subsequent readers. It also briefly discusses four themes that emerged in an associated workshop. Finally, the four papers in the special issue are outlined and this concludes with a plea for research which (a) makes greater use of social science data, (b) is more open-minded about the assumptions made, and (c) is more cautious as to the interpretation of simulations.

Abstract: International migration implies the coexistence of different ethnic and cultural groups in the receiving country. The refugee crisis of 2015 has resulted in critical levels of opinion polarization on the question of whether to welcome migrants, causing clashes in receiving countries. This scenario emphasizes the need to better understand the dynamics of mutual adaptation between locals and migrants, and the conditions

that favor successful integration. Agent-based simulations can help achieve this goal. In this work, we introduce our model MigrAgent and our preliminary results. The model synthesizes the dynamics of migration intake and post-migration adaptation. It explores the different acculturation outcomes that can emerge from the mutual adaptation of a migrant population and a local population depending on their degree of tolerance. With parameter sweeping, we detect how different acculturation strategies can coexist in a society and in different degrees among various subgroups. The results show higher polarization effects between a local population and a migrant population for fast intake conditions. When migrant intake is slow, transitory conditions between acculturation outcomes emerge for subgroups, e.g., from assimilation to integration for liberal migrants and from marginalization to separation for conservative migrants. Relative group sizes due to speed of intake cause counterintuitive scenarios, such as the separation of liberal locals. We qualitatively compare the processes of our model with the German portion sample of the survey "Causes and Consequences of Socio-Cultural Integration Processes among New Immigrants in Europe" (SCIP), finding preliminary confirmation of our assumptions and results.

Immigration, social networks and the emergence of ethnic segmentation in a low-skill labour market / Ruth Meyer & Huw Vasey

Abstract: Post-war migration to 'western' countries has gone hand-in-hand with the development of ethnically segmented labour markets, particularly in low-skill roles where entry requirements are minimal. Whilst numerous theories have been forwarded as to why such situations occur, it has remained difficult to empirically test the relative impact of the many interacting processes that produce segmentation in the labour market. In this paper, we investigate the processes of ethnic segmentation in low-skilled labour markets, where referral hiring is the norm, with particular reference to the role of ethnically homogenous social networks and forms of discrimination. We employ an agent-based modelling (ABM) approach, adapting key elements from Waldinger & Lichter's (2003) widely cited networked explanation of ethnic labour market segmentation. This ABM approach allows us to provide a different lens on theories of ethnic labour market segmentation, investigating the relative impacts of different causal processes that are difficult to investigate in this way using other social science approaches. The overall results from our model indicate that ethnically homogenous social networks have the effect of increasing the level of ethnic segmentation within a referral-based labour market, but that these networks also help immigrant populations grow and protect them from the negative impacts of employer discrimination. Furthermore, these networks have a greater impact on labour market segmentation than discrimination alone. In conclusion, this sociologically-informed ABM provides important insights into the manner and extent in which changes in social conditions may affect population-level phenomena.

Cooperation and conflict in segregated populations / Giangiacomo Bravo & Victoria Yantseva

Abstract: Humans behaviour often varies depending on the opponent's group membership, with both positive consequences (e.g., cooperation or mutual help) and negative ones (e.g., stereotyping, oppression or even genocide). An influential model developed by Hammond and Axelrod highlighted the emergence of macro-level "ethnocentric cooperation" from the aggregation of micro-level interactions based on arbitrary tags signalling group membership. We extended this model to include a wider set of agents' behaviours, including the possibility of harming others. This allowed to check whether and under which conditions xenophobia can emerge beside or in alternative to ethnocentric cooperation. The model was compared to Swedish data documenting social unrest and proxies of cooperative behaviours at the municipal level. The validation results supported the model predictions on conflict but not the ones on cooperation, casting doubts on Hammond and Axelrod's original argument.

Disruptive norms - Assessing the impact of ethnic minority immigration on non-immigrant voter turnout using a complex model. / Thomas Loughran, Edward Fieldhouse, Laurence Lessard-Phillips & Lee Bentley

Abstract: This paper explores whether introducing an external group into a population with different characteristics to the existing population may lead to behavioural change. Specifically we test whether introducing ethnic minority immigrants with varying levels of civic duty (commitment to voting) norms into a previously homogenous non-immigrant ethnic majority population influences voter turnout among the non-immigrant majority group. The findings have been produced using a complex agent based model ('The Voter Model') where the parameters and characteristics have been developed through the extensive synthesis of existing findings from real world social science research on voter turnout. The model adopts the KIDS ('Keep it Descriptive Stupid') approach to this form of modelling complex systems (Edmonds and Moss 2005). The model puts a particular emphasis on exploring the dynamic social aspects that influence turnout by focusing on the role of networks and spatial composition factors such as ethnic diversity and levels of internal and external immigration. It uses an approach based on aggregative neighbourhood dynamics to go beyond existing static models of the influence of social norms on voting similar to the classic approach of Schelling (1971). The main findings from this paper suggest that, other factors being equal, increased levels of immigration lead to a small but significant increase in turnout among the non-immigrant population and show that higher levels of civic duty among immigrants lead to higher levels of turnout among non-immigrants over time. This challenges the popular belief that increased immigration and diversity in a specific community will always lead to lower turnout levels.

Additional Non-Symposium Articles

How internet content mobilizes protests: The case of two anti-government protests in Korea / Jarim Kim

Abstract: This study enhances our understanding of the interplay between Internet content and protests. Utilizing 47 in-depth interviews conducted during two mass protests in South Korea, the study investigated how Internet content affects the mobilization of people and if or how the emergence of social networking sites has changed Internet use. Applying qualitative methods, it revealed that the Internet helps mobilize protests by providing a space for reproduced and affective content and exposing people to multiple perspectives against which they can test the legitimacy of their personal beliefs. The study showed that, unlike the Internet, social networking sites are less-than-ideal tools for political participation. By focusing on Internet content and examining the use and perception of the Internet in two protests separated by an eight-year interval, this study makes unique contributions in the realm of the Internet and mobilization.

Facebook digital traces for survey research: Assessing the efficiency and effectiveness of a Facebook ad–based procedure for recruiting online survey respondents in niche and difficult-to-reach populations / Laura Iannelli, Fabio Giglietto, Luca Rossi, & Elisabetta Zurovac

Abstract : Survey-based studies are increasingly experimenting with strategies that employ digital footprints left by users on social media as entry points for recruiting participants and complementary data sources. In this perspective, the Facebook advertising platform provides unique opportunities and challenges through its marketing tools that target advertisements based on users' demographics, behaviors, and interests. This paper presents a procedure that employed the most recent developments in Facebook marketing tools to evaluate the efficiency and effectiveness of an innovative method for recruiting niche and traditionally hard-to-reach respondents. Although the multiple innovations introduced in the method hinder a proper comparison with previous studies, the survey provides evidence concerning the efficacy of the procedure and offers scholars a set of implementations to design future comparable Facebook ad–based surveys. Challenges, opportunities, and results for effectiveness are discussed in light of a previous survey on Italian adults carried out with a panel-based CAWI method.

Factors affecting completion times: A comparative analysis of smartphone and PC web surveys / Christopher Antoun & Alexandru Cernat

Abstract: This paper compares the factors affecting completion times (CTs) to web survey questions when they are answered using two different devices: personal computers (PCs) and smartphones. Several studies have reported longer CTs when respondents use smartphones than PCs. This is a concern to survey researchers because longer CTs may increase respondent burden and the risk of breakoff. However, few studies have analyzed the specific reasons for the time difference. In this analysis we analyzed timing data from 836 respondents who completed the same web survey twice, once using a smartphone and once using PC, as part of a randomized crossover experiment in the LISS panel (Longitudinal Internet Studies for the Social Sciences). The survey contained a mix of questions (single-choice, numeric entry, text entry) that were displayed on separate pages. We included both page-level and respondent-level factors

that may have contributed to the time difference between devices in cross-classified multilevel models. We found that respondents took about 1.4 times longer when using smartphones than PCs. This difference was larger when a page had more than one question or required text entry. The difference was also larger among respondents who had relatively low levels of familiarity and experience using smartphones. Respondent multitasking was associated with slower CTs, regardless of the device used. Practical implications and avenues for future research are discussed.

Reports and Communications

A note on how prior survey experience with self-administered panel surveys affects attrition in different modes / Tobias Gummer & Jessica Daikeler

Abstract: Attrition poses an important challenge for panel surveys. With respect to these surveys, respondents' decisions about whether to participate in re-interviews are affected by their participation in prior waves of the panel. However, in self-administered mixed-mode panels, the way of experiencing a survey differs between MAIL mode and WEB mode. Consequently, this study investigated how respondents' prior experience with the characteristics of a survey—such as length, difficulty, interestingness, sensitivity, and the diversity of the questionnaire—affects their informed decision about whether to participate again or not. We found that the length of a questionnaire seems to be of such importance to respondents that they base their participation on this characteristic, regardless of the mode. Our findings also suggest that the difficulty and diversity of questionnaires are readily accessible information that respondents use in the MAIL mode when making a decision about whether to participate again, whereas these characteristics have no effect in the WEB mode. In addition, privacy concerns have an impact in the WEB mode but not in the MAIL mode.