PRESS RELEASE

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Do Food and Drink Preferences Influence Migration Flows?

Researchers at the Max Planck Institute for Demographic Research used Facebook data to investigate the influence of cultural similarities on migration flows and found that cultural proximity plays as important a role in the choice of destination country as shared language and history.

Rostock, Germany. When people migrate, many factors play a role in their choice of destination: How well do you speak the new country's language? Do you already have family or a community there? Do the country's values and norms match your own? How far is the new place from home? In 2022, Carolina Coimbra Vieira of the Max Planck Institute for Demographic Research (MPIDR) and colleagues developed a way to measure cultural similarity between countries using Facebook data. In a recent *paper*, the authors show the impact of adding the cultural similarity measure to gravity models[1] (see explanation below) used to predict migration. Until now, these models have tended to analyze the importance of variables such as population, location, language, distance, and shared history. Using Facebook data, the researchers have shown that there is also a correlation between migration patterns and food and beverage preferences. "Cultural distance is difficult to measure and has not been widely included in gravity models to assess and predict migration. However, culture does play a very important role in migration processes and we wanted to examine the importance of cultural similarity in migration research. Specifically, we tested measures of cultural similarity based on food and drink interests on Facebook to analyze international migration flows," the researcher explains.

Predicting migration using Facebook data

Facebook data from 16 countries was analyzed: Argentina, Australia, Brazil, Chile, the United Kingdom, France, Indonesia, Japan, South Korea, Malaysia, Mexico, Russia, Singapore, Spain, Turkey and the United States. Facebook data can be used to read and predict the evolution of migration flows. What does it mean, for example, if the number of Facebook users living in the US who are interested in certain Brazilian traditional dishes is increasing? One possible reason is that the number of Brazilian immigrants in the US has increased. This could increase the number of Americans interested in Brazilian culture. If these Brazilian immigrants form a large Brazilian community in the U.S., it is very likely that the number of Brazilian immigrants will continue to increase. "In this case, the number of Facebook users interested in Brazilian food and drink serves as an indicator of the size of the Brazilian community in the U.S.. One of our key findings shows the importance of cultural similarities between countries in predicting migration flows between them," says Coimbra Vieira. Similarities in food and drink play as important a role in predicting migration as standard static factors. "Variables such as language, history, and geographic distance are static and symmetric, meaning that the distance between the United States and Brazil would hardly change and it's the same regardless of the direction from which it is viewed. We found that cultural aspects of daily life are sensitive to changes in the environment and can be represented as an asymmetric and dynamic measure of similarity between countries. For example, interest in

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Brazilian food in the U.S. does not have the same level as interest in U.S. food in Brazil. This is a significant added value for migration modeling, both in terms of content and forecasting," says the researcher.

Using Facebook Ads data as a source represents an effective method of passive data collection to develop metrics of similarity that are timely, cost-effective, reproducible and scalable. For example, the measures of cultural similarity derived from Facebook Ads data are able to quickly capture changes, especially when migration numbers change rapidly due to crises or conflicts, such as the Russian invasion of Ukraine. By drawing on information from social media, researchers can gain valuable insights into evolving cultural dynamics and migration patterns, enabling policymakers to make more responsive and informed decisions on how to host refugees in the face of complex global challenges.

Social media data to analyze complex social issues

Due to the limited availability of data and the small number of countries included, there are limitations to the study. The proposed methodology for measuring cultural similarities is based solely on Facebook users' interests in food and drink, which may exclude other relevant attributes such as interest in entertainment, celebrities, or sports. In addition, social media data can be subject to bias.

As Coimbra Vieira concludes, more research is needed to validate these findings. Nevertheless, the study represents a significant step forward in understanding the drivers of migration and highlights the importance of considering cultural factors alongside traditional variables. It also underscores the feasibility of incorporating measures derived from Social media data, such as Facebook, into migration research. This innovative approach not only provides a more dynamic and nuanced understanding of migration patterns, but also opens new avenues for using big data to address complex societal issues.

[1]Gravitiy Model of Migration:
The gravity model of migration is based on Newton's law of gravity, which describes the force of attraction between two bodies as a function of their mass and distance from each other. In the gravity model of migration, "body" and "mass" are replaced by "location" and "population". The theory assumes that more populous places attract immigrants from less populous areas and the closer two places are to each other, the greater the interaction/movement between them. As the distance increases, the interaction/movement between the locations decreases. Until now, gravity models have tended to consider static and symmetrical variables such as distance, language, or shared history. In this case, symmetric means that the variable does not change regardless of the direction from which it is viewed. For example, the distance from Berlin to Paris is the same as the distance from Paris to Berlin. The researchers extend this traditional model to include an asymmetric and dynamic variable of cultural similarity based on Facebook users interests in food and drink. For example, interest in Spanish food in Chile may be greater than interest in Chilean food in Spain. But this could change in the future.

About the MPIDR

The Max Planck Institute for Demographic Research (MPIDR) in Rostock investigates the structure and dynamics of populations. The Institute's researchers explore issues of political relevance, such as demographic change, aging, fertility, and the redistribution of work over the life course, as well as digitization and the use of new data sources for the estimation of migration flows. The MPIDR is one of the largest demographic research bodies in Europe and is a worldwide leader in the study of populations. The Institute is part of the Max Planck Society, the internationally renowned German research organization.

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