

# Demographic and Behavioral Characteristics of Individuals with Global, Local or Glocal Connectivity Patterns

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## Abstract

All individuals connect to a set of places with which they interact through travel, migration, social interactions, telecommunication, and more abstract thoughts and proclivities. The extent of these connections can be called an individual's *extensibility*, a human geography concept that quantifies an individual's geographic reach. Yet, we know little about how to characterize (i.e. measure) the extensibility of a diverse set of individuals and what demographic and behavioral factors correlate with extensibility.

In this study, we used k-means clustering algorithm to classify 950 connection sets from self-reported surveys into four extensibility patterns. We described each pattern visually by their connection distances, strengths, types, and the diversity of destinations (i.e. the input variables that were used in the classification). We then tested whether individuals' local social support, ability to leverage social networks for disaster evacuation, frequency to travel or migrate between cities, and sociodemographic characteristics tended to be disproportionately associated with a pattern, using ANOVA and Chi-Square post-hoc tests.

We found that people are likely to have hyperlocal, majority local, glocal, or regional global patterns with distinct distance distribution, type compositions, and richness of ties. Individuals within the glocal pattern are more likely to travel or resettle across cities, enjoy higher local social support, and have more evacuation options along social networks, than patterns concentrated with local ties. People who are white, married and have higher education attainment were significantly associated with the glocal pattern, while those who reported as Black and African American, single, and having high school (or less) educational attainment tend to invest in local social and spatial ties. Our findings can help policymakers understand that certain individuals may be predestined towards having different types of extensibilities, and can be used as a 'rule of thumb' for estimating who may be influenced by distant or nearby connections.