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## **STATISTICS ON BABIES' NAMES REFLECTS THE TRADITIONAL REGIONS IN UNITED STATES**

### **Abstract:**

The research is based on the data on given names in the United States in 1910-2010, as given by the Official Website of the U. S. Social Security Administration (2015). For each year, 100 names are selected which were most popular in the whole country. The contribution of each state to each of these names is calculated. For all pairs of states the Pearson correlation coefficients are calculated of the popularity profiles of the selected names. A weighted network is constructed, where states are nodes and the correlation coefficients are links. A similar study has been conducted recently in (Barucca, Rocchi, Marinari, Parisi and Ricci-Tersenghi, 2015). The community structure of the network is found for each year, based on the method of differential equations (Krawczyk, 2008). The obtained structure remains rather stable until 80's, and it reproduces three traditional regions of the U.S. : New England, the South, and the Midwest together with the West, as the third region, as given by Encyclopedia Britannica and the United States Census Bureau. Exceptionally, three states(Arizona, California and New Mexico) moved about 1960 from the South region to New England, despite their far distance from the East Coast. The related modularity index (Newman, 2006), although small, displays a maximum around 1940; this coincides with a local maximum of the fragmentation index (Krawczyk, Dydejczyk and Kulakowski, 2014).

### **Keywords:**

networks, demography, babies' names, communities