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Human Relationships and Kinship Analytics from Big Data Based on Data Science: A Study on Ethnic Marriage and Identity Using Taiwan's Indigenous Peoples as an Example

With data science as the foundation for research, this study aims to exploit the complexity of individual networks of human relationships and kinship through methods of computational social science in the context of ethnic marriage and identity formation using Taiwan's indigenous peoples () as the population. To achieve this goal, the research offers operational definitions for marriage practices and individual ethnic identity formation, then synthesizes information from various data sets to construct a micro databank of human relationships and kinship through the use of high-performance in-memory computing methods. Construction of individual data on human relationships and kinship through the use of high-performance computing facilities serves as the most important step to unveil the complex individual network of human relationships and kinship. With ' marriage practices and identity formation as an example, the main findings are: contemporary practice more exogamy than their parents; intra-ethnic endogamy is prevalent in the large ethnic groups; female TIP practice more exogamy than their male peers; education exhibits a monotonically positive effect on the choice of exogamy. The research identifies 97% of ' individual ethnic identity formation, with 50.6% of ' ethnic identity originating from mono-ethnic identity, 19.4% from patrilineal-ethnic identity, and 27.0% from matrilineal-ethnic identity. In effect, the research's potential contribution lies in using methods embedded in the discipline of data science to enrich complex micro data sets which enable us to understand hard-to-measure real-world phenomena like parental marriage practices and children's ethnic identity formation.

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