POPULATION STRUCTURE AND LARGE-SCALE COOPERATION IN POHANG, SOUTH KOREA [1]

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Large-scale cooperation is one of the fundamental questions in the social sciences. In order to explain cooperation beyond household members and explain the creation of public goods, the peculiarities unique to human culture must be explored. Humans uphold cultural norms and have developed sanctions for those who do not follow them, or for those who take advantage of altruistic behaviors in others. Cultural group selection theory incorporates these "moral sentiments" in explaining between-group differences of social norms and cooperativeness. With this cultural group selection theory and multilevel selection theory in the background, my dissertation is composed of three related components. The first component uses a newly developed method to empirically test for the preferential interaction among prosocial individuals that is necessary for the evolution of altruism. The higher the level of preferential interaction, the greater the chances that altruism can evolve and be maintained. The ERGM results revealed a significant level of assortment: prosocial individuals are favored as friends by the population overall, especially by other prosocial individuals. Having established the existence of preferential interaction, the second component of my research considers whether the structure of individual friendship is correlated with neighborhood quality. In the language of multilevel selection, this is the issue of perspective switching. Perspective switching refers to the idea that the evolution of altruism can be described by two equivalent perspectives: broad individualism and multilevel selection theory. To see whether both perspectives provide the same description, I compared social network measures of assortment (e.g. degree) and neighborhood quality measures (e.g. average prosociality within each neighborhood). While hierarchical analysis suggests higher quality neighborhoods tended to be composed of more prosocial individuals, the high quality neighborhoods did not show more popularity of ties between prosocial individuals in the friendship network. The third component examined the external validity of my survey instrument. I examined whether the game behavior in three types of economic games (the ultimatum game, the dictator game, and the third party punishment game) at the village (as a subunit of city) and individual level was explained by prosociality measures in the survey. At the individual level, prosociality predicted game behavior in the ultimatum and dictator games, but not in the third party punishment game. However, none of covariates predicted game behavior at the village level. Although there is some heterogeneity in cooperation, the overall results suggest patterns of cooperation predicted by multilevel selection characterize this population.
[1] https://anthropology.washington.edu/research/graduate/population-structure-and-large-scale-cooperation-pohang-south-korea
[3] https://anthropology.washington.edu/research/graduate