

# Culture as Configurations of Categories: Analyzing Peer Effects via Dual-to-Regression Modeling

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## Abstract

In this paper we reimagine linear regression modeling as a relational method for cultural analysis. In a study of peer effects and achievement in an academic institution, we show how the regression model itself may be understood as positing a network of pairwise influence relations among social actors that produces the outcome modeled by the regression. Moreover, this network is appropriate for studying homophily (the tendency for individuals with similar characteristics to have social network connections). We further show how the dual-to-regression analytical framework of Schoon, Melamed, & Breiger (*Regression Inside Out*, Cambridge University Press, 2024) can be used to identify intersections of variables and configurations of cases (in our study, individual students) that provide novel insights into regression modeling. At the same time, we push the new, case-oriented thinking about the regression model of Schoon et al. by incorporating information on networks of social relations connecting the cases. We find that, when homophily boosts academic performance, high-density social network clusters are discovered. We demonstrate that it is sometimes useful to consider configurations of cases as the “variables” in a regression model. We argue that this methodological innovation has a distinctive pragmatic value and strong theoretical motivation in the specific empirical context of our study, and beyond.

**KEYWORDS:** Duality of cases and variables; regression analysis; peer effects; homophily; social network cohesion; configurational analysis

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