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IONIAN: Investigation of Negative Influence in Adolescents' Networks

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Opinion dynamics models building upon assimilation to others' opinions (positive influence) as a core mechanism fail to explain opinion polarization – the tendency of a group to fall apart into opposing camps with increasing disagreement. Scholars have proposed negative influence as an additional mechanism: distancing from the opinion of a discrepant source. However, empirical evidence for negative influence is debatable. Two common drawbacks in studies supporting negative influence are (1) lab experiments lack external validity; and (2) model designs disallow disentangling positive influence from negative influence. To address these drawbacks, we employ the Stochastic Actor-Oriented Model (SAOM) to analyze *The Arnhem School Study* (TASS) data, a longitudinal dataset that tracks students' social networks and opinions' evolution. Two new SAOM effects were developed: the *p*-near similarity and *p*-far similarity effect, capturing the influence of others (irrespective of friendship ties) whose opinions are sufficiently similar or dissimilar, respectively, given a threshold *p*. Preliminary results suggest that for the topic of music taste, a model including positive influence from relatively similar others provides a good fit to the data, controlling for positive influence from friends (average similarity effect). We conclude that our approach can successfully distinguish positive and negative influences in adolescents' networks within classes.

Keywords

negative social influence, social network analysis, stochastic actor-oriented model

Topics

• Statistical methods and models for network analysis

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