Behavioral Attenuation in Networks

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<u>Abstract</u> :

Social networks shape individual behavior and public policy increasingly leverages networks to enhance effectiveness. It is therefore important to understand how individuals behave in network interactions. This paper uses lab experiments to examine behavior in games on networks involving strategic substitutes and strategic complements. Theory suggests that an individual's choice is proportional to their (Bonacich) centrality. Our experiments, however, find that while choices increase with centrality, the relationship is weaker than predicted. The total action levels individuals choose and the total payoff they achieve are higher than the Nash outcomes in some cases while lower in others. We find that these results can be coherently explained by individuals' behavioral attenuation: they have incomplete adjustments to the strategic differences across network positions, exhibiting a bias toward generally high-payoff choices in complex networks—even when these choices are not optimal for their specific network positions.