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Effects of social network structures and behavioral responses on the spread of infectious diseases

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Highlights

1. This paper analyzes the effects of four different imitation principles for updating strategies on the scope of disease transmission.
2. The spread size of infectious diseases is sensitive not only to imitation principles, but also to the structures of network topology and model parameters.
3. In networks with community structures, no matter which imitation principle individuals adopt, the counter-intuitive phenomenon exists.
4. In networks without community structures, the counter-intuitive phenomenon is influenced by imitation principles for updating strategies.

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