Extended Abstract

The role of reports from a third party in many violent and sexual crime cases is crucial. Beyond the direct effect that the reports would help solve cases, there is a potential indirect deterrent effect on future crimes as well. Despite this intuition, there are many instances of chronical abuse in which the victim may be silenced for the sake of the community's security while the offender enjoys both the exploitation of the victim and protection from the community. This paper argues that the network structure of relationships in a community has an important influence on one's decision to report criminal behavior, such that individuals of a given moral disposition may act differently depending on the pattern of connections in the community.

This paper examines how the network structure of a community, especially with respect to the triad of the victim, the offender, and the witness, affects the witness's reporting incentive through a model of favor exchange over a social network. People are connected through recurring opportunities to exchange favors, much in the spirit of Jackson, Rodrigues-Barraquer, and Tan (2012). At each time, an agent can choose to abuse neighbors and earn extra utility from the bilateral relationship at the expense of the victim's utility. If abuse takes place, the mutual neighbors of the offender and victim observe the abuse and decide whether to report it. An agent's morality is captured by two parameters that model the agent's sensitivity toward maximizing local efficiency within her network and providing justice for the victim.

The main implication of the model is that an equally moral person can behave differently depending on where the person is located in the network. A key factor that affects the reporting decision of a witness is the 'impact' of the offender on the witness's neighbors, where the impact is defined as the difference between the average contribution of neighbors to the witness's network and the contribution of the offender to the witness's network in terms of the number of links. Thus, holding individuals' characteristics fixed, the more influential the offender is to the witness's local network, the more difficult it is for the witness to report the crime.

The result identifies what kind of society is more susceptible to the hidden crime. It gives a warning especially for a closed community through the potential harm of overly intertwined mutual neighbors and suggests that we can mitigate the harm by adding channels to expand one's social network. Furthermore, the model can shed light on how an offender chooses the victim concerning the subsequent reporting incentives. The model admits the characterization of the equilibrium strategy in terms of the network structure, and the analysis provides a tool to identify vulnerable individuals in the network by studying possible configurations of the graph structure in different types of equilibria. I plan to explore the applications of the model to real-world data of violent and sexual crime to gauge its predictive power, which would become a useful measure to prevent future crime.