TOPIC: Emotion, Tie Persistence and Network Structure on Twitter
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ABSTRACT

Online social networks, articulated through many of the today's popular Web applications such as Facebook and Twitter, provide people with ways to create connections, seek support, share ideas, form and maintain relationships, and receive information. In these environments, the structure of a user's "network neighborhood" (ego-centric social network) is likely to be correlated with various aspects of the user's activity and presence in the service. In particular, we present work that uses Twitter to examine the connection between an individual's social network and a) their emotive communication patterns, and b) persistence of ties in their network.

First, we investigate the connection between individuals' social sharing of emotion and the properties of their networks on Twitter. We look at emotions that are prevalently expressed by an individual, and correlate those with structural ego-centric network properties. Our analysis suggests that expression of emotion co-varies with users' network properties, and the expression of emotion in directed interactions between users plays an important role.

Second, we investigate how network properties impact tie persistence on Twitter. Building on social theories such as strength of ties, embeddedness, and status, we examine how network structure influences the breaking of ties between individuals in Twitter's directed social network. We investigate this "unfollowing" phenomenon using a large set of Twitter edges, and the persistence or disappearance of these edges after nine months. Our analysis suggests that structural properties of the network have a significant effect on the persistence of ties and unfollowing activity on Twitter.