

N21 Evans, C., & Diesner, J. (2016). Interplay between personal morals with tie and cluster formation in a corporate communication networks.

A long line of prior work has shown that natural language use can have an impact on the formation of ties and the structure of communication networks and vice versa. In that sense, the content of information exchanged between network participants can be considered as one among multiple features that influence homophily, among other network phenomena. A so far small body of previous work has focused on the relationship between sentiment, opinion, factuality, credibility and trustworthiness - among other characteristics of information content - and network structure. We extend this line of work and make a novel contribution to it by studying the interplay of individual morals, which can be influenced by both personal characteristics and constraints of individuals' surrounding culture, as represented in communication data and the evolution of ties and clusters in a communication network. As a starting point for calculating node-level moral, we reuse the Moral Foundations Dictionary, which originates from theoretical work in moral studies (Graham et al., 2011). This dictionary contains indicator terms for five pairs of basic virtues and vices: care versus harm, fairness versus cheating, loyalty versus betrayal, authority versus subversion, and sanctity versus degradation. We adjusted this lexical resource to our domain (business) and data (longitudinal email corpus), applied it to the content of the data, accounted for negations, and translated aggregated morality scores into node-level attributes, where nodes are individual senders and receivers of emails. We observe the averaged individual moral to be fairly stable despite changes in corporate performance. The concept of authority was observed to be the most prevalent among all tested categories in our data, followed by loyalty. For most categories, virtues are stronger represented than vices, except for care versus harm, which feature about equally strongly in the data. In our talk, we also report on the relationship between homogeneity versus heterogeneity of personal moral in ties and clusters, and study this relationship over time. The proposed technique is novel and scalable, eliminates the need for manually annotating text data for moral, and overcomes limitations with inferring or relying on self-reported information on moral. However, validation of results computed over digital social trace data is often challenging as we lack a ground truth or gold standard. In this study, we compare our empirical results to a normative baseline for the magnitude of each moral category as derived from the code of ethics from the considered organization. We find the ethics code to be strongly focused on virtues as opposed to harms; serving as a face validity test for our approach.