Taking a computational social neuroscience approach to examine social psychological processes

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Abstract

Social psychological processes are complicated processes. In order to examine the complexity of these processes, computational methods are needed. In this talk, I will demonstrate how computational techniques can help to understand these complexities across two studies. In the first study, I will demonstrate how I can develop a brain-based model of trust in the context of economic exchange and use construct validation to characterize the psychological processes associated with this construct of trust. In the second study, I will demonstrate how social interactions can have positive influences on health outcomes via socially transmitted beliefs. By using machine-learning methods, a model of pain facial expressions was built in the training data and made out-of-sample predictions of pain experience in doctors and patients. Interestingly, this expectation manipulation also impacted patients’ perceptions of providers’ empathy during the pain procedure and manifested as subtle changes in facial expression behaviors during the clinical interaction. This work has important implications for understanding the mechanisms underlying healing clinical relationships. Across these studies, I hope to show how a computational social neuroscience approach, combining experimental social psychology and computational methods can help to gain a better understanding of social psychological processes.