

Institute for Law & Rationality

Title: Social and emotional influences on decision-making, trust and the brain

Presenter: Mauricio Delgado

Reputations in economic exchanges are typically acquired through experience. Social interactions that prove to be beneficial to both parties are often repeated with the expectation of long-term gains, as trust between the parties is developed. Reputation, however, can also be acquired through other means. For instance, knowledge of social and emotional information regarding an individual or a company may create an indirect reputation. In such situations, decision-making may be influenced by prior beliefs and, depending on the strength of those beliefs, may make the individual resistant to incorporating new information acquired through experience. Thus, it is imperative to understand how prior social and emotional information can bias learning and decision-making involved in economic exchanges. Neuroeconomics, an interdisciplinary approach combining economics, psychology and neuroscience, provides an ideal platform to study the relation between the adaptation of brain mechanisms during learning and decision-making and the behavioral changes that occur during social and economic exchanges.

We used a variant of the “trust game” to investigate how perceptions of moral character modulate the neural mechanisms of learning through experience and subsequent economic decisions. Participants were instructed that they would be playing repeated games with 3 fictional partners, each depicted to be of particular moral fiber (good, bad, neutral). During each game, participants were endowed with an initial investment (\$1.00) and faced with a choice between keeping and sharing the investment with one of the partners. If they chose to “trust” their partner, their investment would be tripled (\$3.00), and they would receive either positive (the partner shared back with you, overall profit \$1.50) or negative (the partner kept, loss of initial investment) feedback regarding their partners’ action. Irrespective of the partners’ perceived moral character, the reinforcement rate was similar across partners (50%). Yet, participants persistently made choices according to their acquired biases (e.g, more share decisions with good compared to bad partner). The neural mechanisms associated with trial and error learning, namely the human striatum, showed a differential learning response between positive and negative feedback, replicating previous studies. However, such response was only observed during games with the neutral partner, where previous information carried no biasing value. The results suggest that social and emotional information may bias decision-making by diminishing the reliance on feedback mechanisms and modulating the neural circuitry involved in learning and decision-making.