

Gaze bias reveals differences in decisional behavior of subjects involved in group dynamics

Pietro Piu, Francesco Fagnoli, Elena Pretegiani, Pamela Federighi, Alessandro Innocenti, Antonio Federico and Alessandra Rufa

Abstract

In information cascades, subjects making decisions sequentially tend to imitate former choices by elaborating the probability of available information. This leads to a reasonable convergence of preferences and to herding behavior. Gaze direction may reveal the decisional process of subjects making sequential decisions. We observed gaze bias between choices adhering to the cascade (non-overconfident subjects) and choices deviating from it (overconfident subjects). We interpret our data with a model involving two cognitive stages: the evaluation phase, where a probability is attributed to alternatives, and a decision phase, in which the most valuable alternative is identified. We assess that overconfident subjects were unable to assign distinct weights to alternatives in the evaluation phase, and their decisional behavior was consequently based on analytical processes.