

## Abstract

This research examines the influence of emotion and cognition on decision-making by conducting three studies. The first study explored the influence of certainty and affectivity on decisions, 400 students participated from IIT Kharagpur. A questionnaire assessed choices under uncertainty in positive and negative prospects, certainty in choices, and positive and negative affectivity traits. Results revealed that participants were averse to risk in positive prospects and sought risk in negative prospects. They express more confidence in choices preferred by the majority. While the certainty on the choice indicating information possession is a consistent predictor of decisions, neither affectivity nor the interaction of affectivity with certainty does so. The second study has two parts. The first part assessed the influence of mood states on decision-making and information processing, 200 students participated from IIT Kharagpur. A positive and a negative mood of participants were induced showing comedy and tragedy movie clips respectively. Then they responded to a questionnaire containing financial gains and losses, and health risk problems, and stated reasons for their choices. Results affirmed the earlier choice behavior. Analysis of the reasons for choices reveals more fluency, originality, and flexibility of information in a negative mood compared to a positive mood suggesting systematic information processing in a negative mood and heuristic processing in a positive mood. The second part reanalyzed the fluency, originality, and flexibility of information using fuzzy reasoning tool and neuro-fuzzy approach. The neuro-fuzzy system gave more accurate results compared to the traditional fuzzy reasoning tool to separate the local/heuristic and global/systematic information processing. The last study tested the joint effects of moods and group processes on decision making and information processing, 462 students participated from IIT Kharagpur. They reported their choice under uncertainty, reasons for the choice, and the response time. Then a positive and a negative mood were induced followed by group discussion, interpersonal comparison of choices in four conditions. A control condition was manipulated with a cancellation task. After the experimental manipulations, participants responded to the same questionnaire as in pre-test. Comparison of post- and pre-test responses revealed choice polarization and improvement in decision quality only following positive mood group discussion and negative mood group discussion conditions. The information attributes of fluency, originality, and flexibility, and the response time are higher in negative mood group discussion and negative mood interpersonal comparison conditions than their counterpart conditions. When passive cognitive processes operate through interpersonal comparison of choices in the group, a negative mood of group members slows down thinking and facilitates deep information processing but hardly alters the decisions of group members. Rather, when active cognitive processes are triggered through group discussion, the influences of mood states degenerate gradually and hardly yield differential impact on decision-making.

**Keywords:** Decision-making, information processing, moods, positive affectivity, negative affectivity, group discussion, interpersonal comparison.