Title: Impact of Affective State on Social Decision-Making in a Penalty Shot Game Author(s): Avisha Supervisor(s): Ramakrishnan, Arjun Venkatesh, KS Keyword(s): Social Decision-Making, Emotion Affect, Eeg, Pfc Prefrontal cortex, Sequential decisions Competitive game, Acute stress Subject(s): **Decision Neuroscience** Affective Science Game Theory

Abstract:

Previous studies of affective state and social decision making have primarily used discrete decision-making paradigms which have clearly-defined and limited choices. However, the decisions in real life are are in a complex environment with context dependent dynamic choices. In this study we tested and proposed a process model of how affective states impact continuous decisions in a penalty shot game. We discovered, using moderation analysis, that acute stress induced by the competitive nature of the game deteriorates strategising and this effect is moderated by lower levels of happiness. Alpha/beta and theta/beta bandpower ratios of prefrontal regions (Fp1, Fp2) were used as proxies for acute stress and engagement during the task. This research will contribute to a better understanding of how affective states influence continuously evolving decisions in the game and will lay the groundwork for more sophisticated decision-making models.