

## Understanding the Behavioral Mechanisms of Pavlovian Biases: Intriguing Insights from Replication and Reversal Paradigms

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**Abstract :** Pavlovian biases are crucial to the decision-making processes, however, if left unchecked can extend to maladaptive behavior such as Substance Use Disorders (SUDs), anxiety, and much more. This study explores the interaction between Pavlovian biases and goal-directed instrumental learning by examining how each adapts to task reversal. It hypothesized that Pavlovian biases would be slow to adjust after reversal due to their reliance on inflexible learning, whereas the more flexible goal-directed instrumental learning system would adapt more quickly. The experiment utilized a modified Go No-Go task with two phases: replication of existing findings and a task reversal paradigm. Results showed instrumental learning's flexibility, with participants adapting after reversal. However, Pavlovian biases led to decreased accuracy post-reversal, with slow adaptation, especially when conflicting with instrumental objectives. These findings emphasize the inflexible nature of Pavlovian biases and their role in decision-making and cognitive rigidity.

**Keywords :** pavlovian bias, goal-directed learning, cognitive flexibility, learning bias

**Conference Title :** ICCSBE 2025 : International Conference on Cognitive, Social and Behavioural Sciences

**Conference Location :** Tokyo, Japan

**Conference Dates :** July 22-23, 2025