UC Merced

Proceedings of the Annual Meeting of the Cognitive Science Society

Title

Generating Predictions Non-consciously: Evidence from Invisible Motion with andwithout Obstacles

Permalink

Journal

Authors

Goldstein, Ariel
Rivlin, Ido
Hassin, Ran

Publication Date

2016

Peer reviewed

Generating Predictions Non-consciously: Evidence from Invisible Motion with and without Obstacles

Ariel Goldstein
Hebrew university, Jerusalem, Israel

Ido Rivlin
Hebrew university, Jerusalem, Israel

Ran Hassin
Hebrew university, Jerusalem, Israel

Abstract: Previous research has established that conscious stimuli can lead to non-conscious predictions. Yet, it also suggests that conscious awareness of stimuli is a necessary condition for using them in predictions. We use subliminal movement – with and without obstacles – to examine predictions from subliminal stimuli. In four experiments, a moving object was masked with continuous flash suppression. After the object had stopped moving, a conscious probe appeared in a location that was either consistent with the movement or not. In the first three experiments the movement was linear, and non-conscious predictions were based on both direction and speed of movement. In Experiment 4, the moving object collided with an obstacle. Response times revealed predictions on the deflection route. We thus conclude that humans can use dynamic subliminal information to generate active predictions about the future