

This Week in The Journal

Context and Experience Inform Nonhuman Primate Effort-Based Decisions

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(see pages 6796–6806)

Do you remember the last time you contemplated going out for dinner? You likely considered whether it was worth going, mulling over the effort of leaving your house, walking down the street, calling up a friend to meet, etc. We make these kinds of decisions every day. Economically speaking, it is beneficial to evaluate the subjective cost of the effort required to complete a task (effort disutility) before deciding whether the reward obtained following task completion is worth pursuing (reward utility). In the previous example, going out to dinner would be more rewarding if you need to go out because you have very little to eat at home (higher



Deciding which path to take in pursuit of rewards involves evaluating the amount of effort required to obtain each reward. Image: Wikimedia Commons/Vector Toons, licensed under CC BY-SA 4.0. File:Career Change Ladder To Success Cartoon | Openverse.

reward utility), and you would thus be more likely to exert effort to obtain food. But if the effort required to go out is too great (perhaps you need a car to get there

and traffic is bad), the effort might dissuade you (higher effort disutility). Again referencing economic theory, it is thought that these decisions are made by subtracting effort disutility from reward utility. However, this model has not been assessed in contexts where previous experience in reward–effort evaluations is a variable. Herein, Burrell et al. used a paradigm that varies reward quantity and physical effort to obtain reward over multiple sessions to determine whether the subtractive model of effort disutility accurately explained the behavior of two male nonhuman primates. They found that it indeed did; however, the subjective cost of effort was dependent upon the primates’ experience of effort in previous trials. Understanding effort-based decision-making as a process that relies on context and experience is critical for neuroscientists in their explorations of the neural underpinnings of effort-based decision-making.

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