Supplementary Material

**Table S1. The number of training sessions for individual mice**

The number of sessions before the second successful threshold session and the number of the additional sessions before the pharmacological session started.

|  |  |  |
| --- | --- | --- |
|  | **The number of sessions to reach the second successful threshold session** | **The number of additional sessions** |
| AM1 | 4 | 8 |
| AM2 | 5 | 3 |
| AM3 | 9 | 0 |
| AM4 | 10 | 0 |
| AM5 | 4 | 3 |
| OM1 | 7 | 1 |
| OM2 | 8 | 1 |
| OM3 | 6 | 3 |
| OM4 | 7 | 2 |
| OM5 | 4 | 0 |
| OM6 | 6 | 0 |
| OM7 | 8 | 1 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | ***α*l** | ***α*f** | ***κ*r** | ***κ*p** | ***ψ*** |
| Simple | var. | 0 | var. | 0 | 0 |
| Punishment | var. | 0 | var. | var. | 0 |
| Saving | var. | 0 | var. | 0 | var. |
| Forgetting | var. | var. | var. | 0 | 0 |
| P-F | var. | var. | var. | var. | 0 |
| S-F | var. | var. | var. | 0 | var. |
| P-S-F | var. | var. | var. | var. | var. |

**Table S2. Summary of the free parameters used in each *Q*-learning model, related to Figure 2.**

Var.: variable.