



Planarian operant conditioning memory formation

Koisikawa Secondary Education School

Background

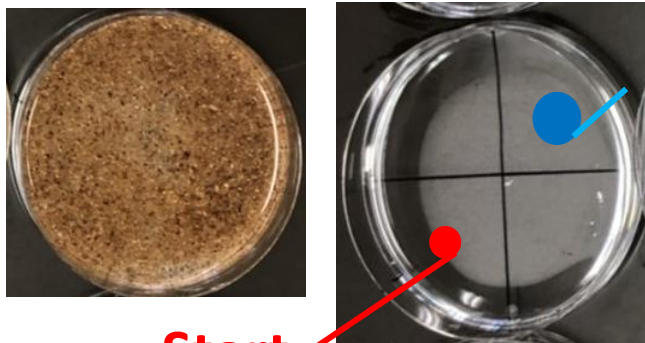
- Regeneration, Brain, Memory, Negative Phototaxis, Smell, Research on memory is active
- ⇒ **Classical conditioning** is used
- ⇒ **Operant conditioning** is better



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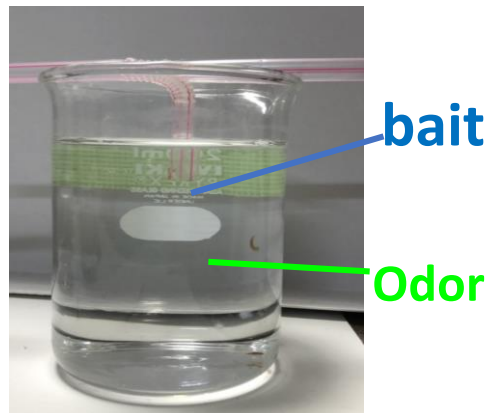
Method

1. Familiarize with the environment and make it easier to

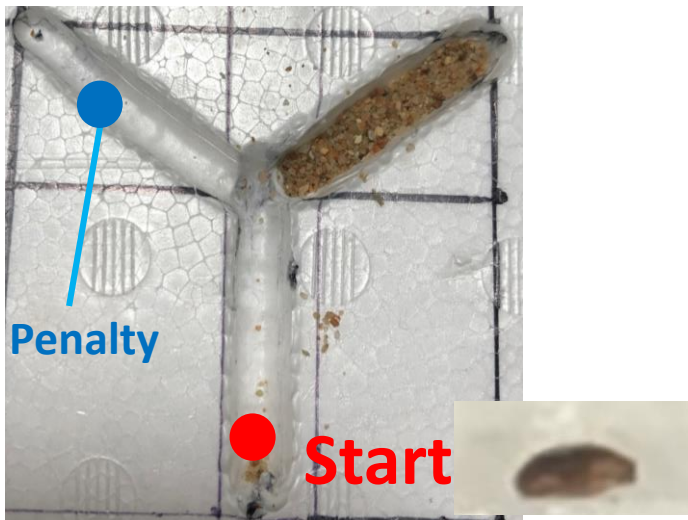


Start

2. They get around to the bait faster (Individually and NOT)

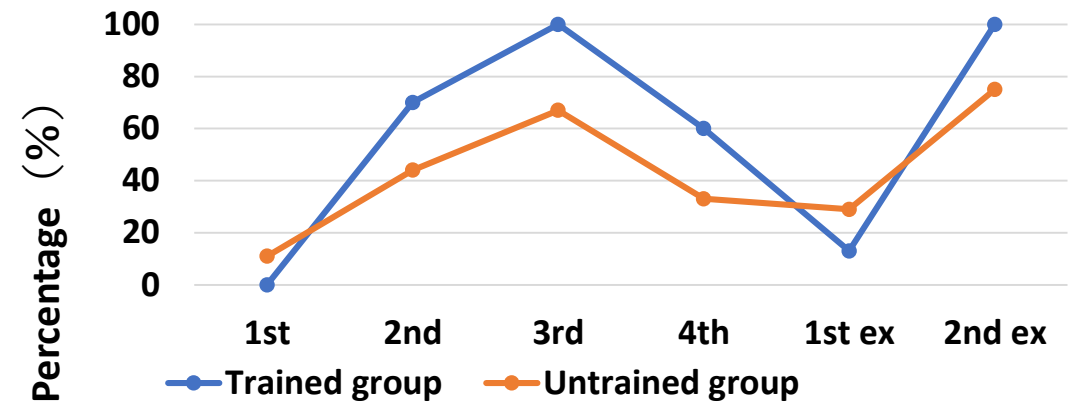


3. If they make a mistake in the maze, pass an electric current

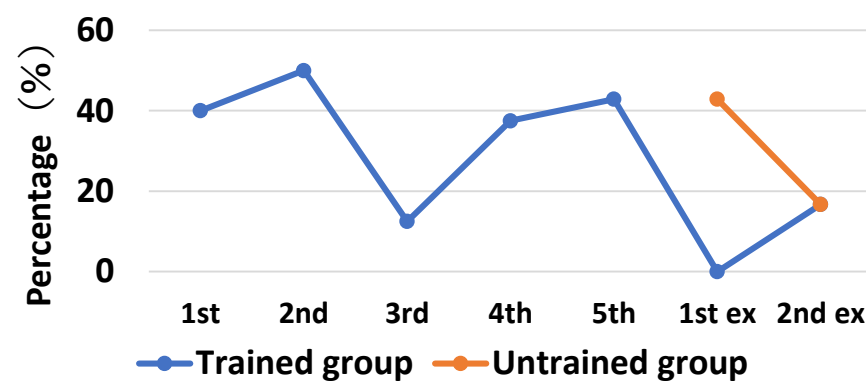


Result

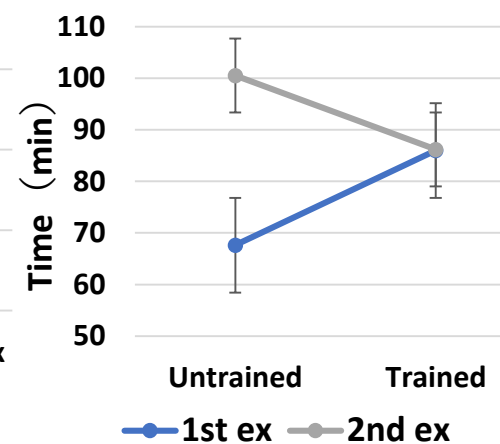
Percentage of eating within 8 minutes(ex1)



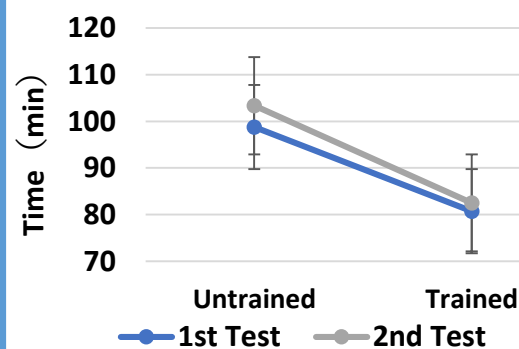
Percentage of reaching within 16min (ex2 group)



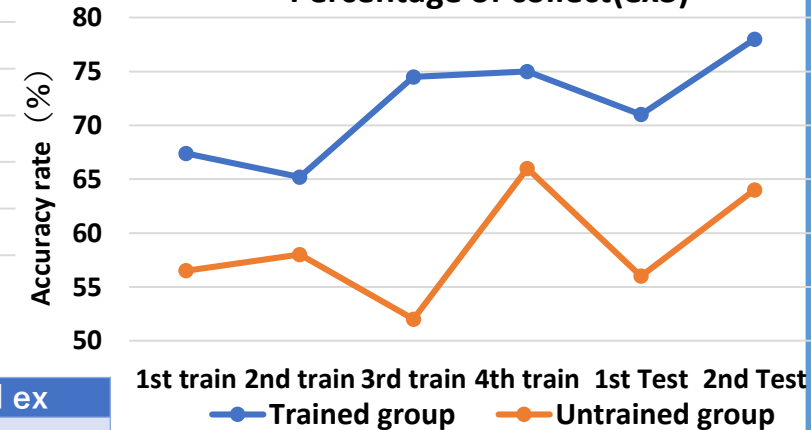
Time to reach(ex2 group)



Time to reach(ex2 individual)



Percentage of collect(ex3)



ex2 individually	1st ex	2nd ex
P value (one side)	0.227756	0.158884

ex3	1st	2nd	3rd	4th	1st ex	2nd ex
P value (one side)	0.0366	0.0681	0.0197	0.1807	0.0403	0.2098