Competing Memories in Drosophila Based on Classical Conditioning

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The purpose of this study was to observe how conflicting classical reward conditionings affect the memory which is a basic concept of learning and memory, though poorly understood. The hypothesis stated that if fruit flies are trained with different time intervals of starvation, then the learning index will increase with increasing time of starvation. From these results, the hypothesis is cautiously accepted and a probable inherent bias within the experiment is found. The overall significant values ($p<0.05$) between the LI between the 2nd and 1st trainings shows that the flies are actually learning. The LI between tests are significantly higher with longer starvation times (08-6 and 10-6) supporting the hypothesis ($p<0.04$). The possible odor bias is seen when looking at the averages of the LIs of the controls which is approximately -0.01 when looking at the LI for OCT indicating an odor bias towards ethyl acetate.