**Effects of Social Interactions of Learning and Memory in Honey Bees**

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Honey bees are a highly eusocial organism, where one colony is made up from about 20,000 individuals. Social interactions are crucial for proper development in many organisms. Social isolation from birth impairs memory recall in rats and reduces the number of mushroom body (brain area central for learning and memory in insects) fibers in *Drosophila*. We hypothesized that reducing the number of social interactions available to a honey bee from emergence will impair learning and memory. To test this hypothesis, we placed honey bees from emergence in three different social groups: 1 bee, 8 bees, and 32 bees. When the honey bees were 6 days old, they were individually tested for sucrose sensitivity, discrimination learning, and short and long term memory. The honey bees raised in isolation were most sensitive to sucrose, where those raised in groups of 8 were intermediate, and those from groups of 32 were the least sensitive. There was a significant linear effect of sucrose sensitivity on learning and memory, where the most sensitive honey bees learned the discrimination task the best and had the best memory. Taking both effects into account, those raised in isolation, should have the highest learning and memory scores, since they are the most sensitive. There was, however, no effect of group size on learning and memory. One explanation is that honey bees raised in smaller groups had impaired learning and memory, but it was compensated by higher sucrose sensitivity.