

**Experiments 1 and 2.** The graphs show the proportion of bees choosing first the CS+ (red curve) or the CS- (black curve) during the twelve conditioning trials. (a) Acquisition performance of bees categorized as learners in the post-test of Experiment 1 in the VR setup (i.e. bees that chose the CS+ in the post-test of Experiment 1); (b) acquisition performance of bees categorized as learners in the post-test of Experiment 2 in the Y-maze (i.e. bees that chose the CS+ in the post-test of Experiment 2). (c) Same as in (a) but for bees categorized as non-learners (i.e. bees that chose the CS- in the post-test of Experiment 1). (d) Same as in (b) but for bees categorized as non-learners (i.e. bees that chose the CS- in the post-test of Experiment 2). Grey and pink areas around the curves represent the 95% confidence interval of CS+ and CS- choices, respectively.