**Training attractor dynamics in human visual working memory**

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Humans have the ability to maintain substantial amount of information in working memory, yet their memory performance is imperfect. Previous behavioral studies have demonstrated that responses during a working memory task for colors can be strongly biased towards several stable attractors, even when memory samples were drawn from a uniform distribution. These attractors help to reduce the effect of internal noise, and are adaptive to environmental statistics (Panichello et al., 2019). Here we conducted a training study in combination with fMRI to explore the neural mechanism of attractors dynamics and their adaptive nature. Participants performed one-item delayed-recall-of-color across four separate scanning sessions. In the first session (baseline), the sample colors were drawn from a uniform distribution. In the second and third sessions (training), half of the colors were drawn from a biased distribution (four biased centers chosen randomly for each participant). In the fourth session (post-training), the stimulus distribution was again uniform. Consistent with previous work, all participants demonstrated biases toward “endogenous” attractors in the baseline session, and, during training, these attractor dynamics flexibly adapted to the change in environmental statistics. Interestingly, participants’ responses during post-training demonstrated a mixture of effects from both the baseline and trained attractors, suggesting a long-lasting influence of adapted context on behavior. Neurally, we observed attractor biases in patterns of responses in visual cortex. These results suggest the neural biases to attractors may be a stable attribute of the visual system, and that they can exert an influence on visual working memory.