

## Supplementary

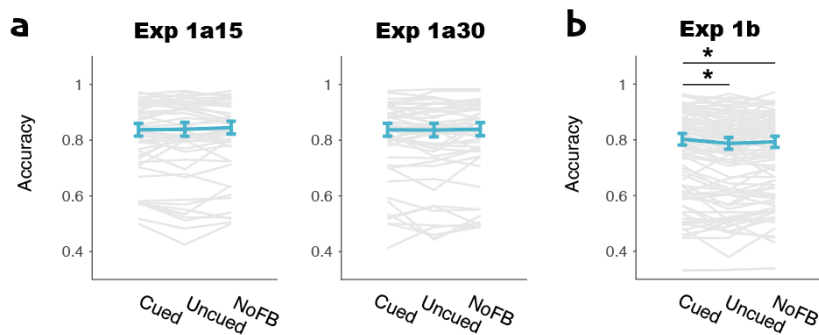


Fig S1. Second task performance of Experiment 1 for the attended, unattended, and no-feedback conditions. a) Accuracy on the bar discrimination task was similar across the three conditions in Experiment 1a, suggesting the feedback has minimal influence on the performance of the secondary task. b) In Experiment 1b, accuracy was higher in the attended condition compared to the other two conditions. This is likely because the red bar is presented on the white cursor in the attended condition, while the bar was presented on the black background in the other two conditions. The former is of higher visual contrast which might account for better discrimination performance in the attended condition. \*,  $p < .05$ .

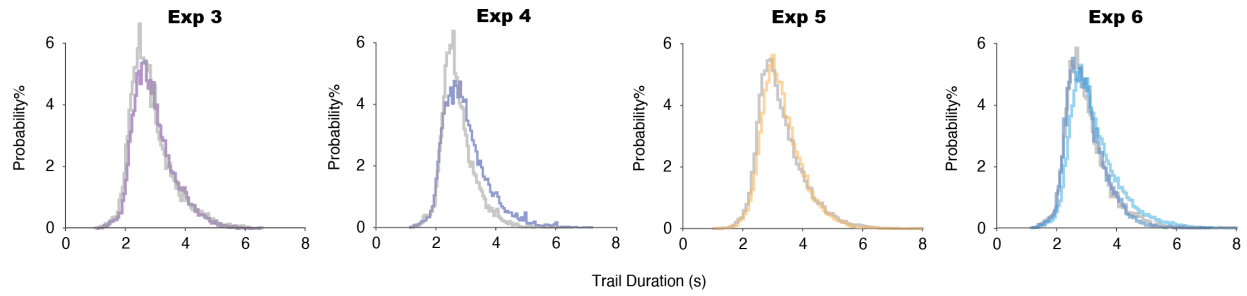


Fig S2. Distributions of trial duration were matched across the single and dual-task conditions in Experiments 3-6. Trial duration is defined as the interval between the onset of trial  $n$  and trial  $n+1$ .

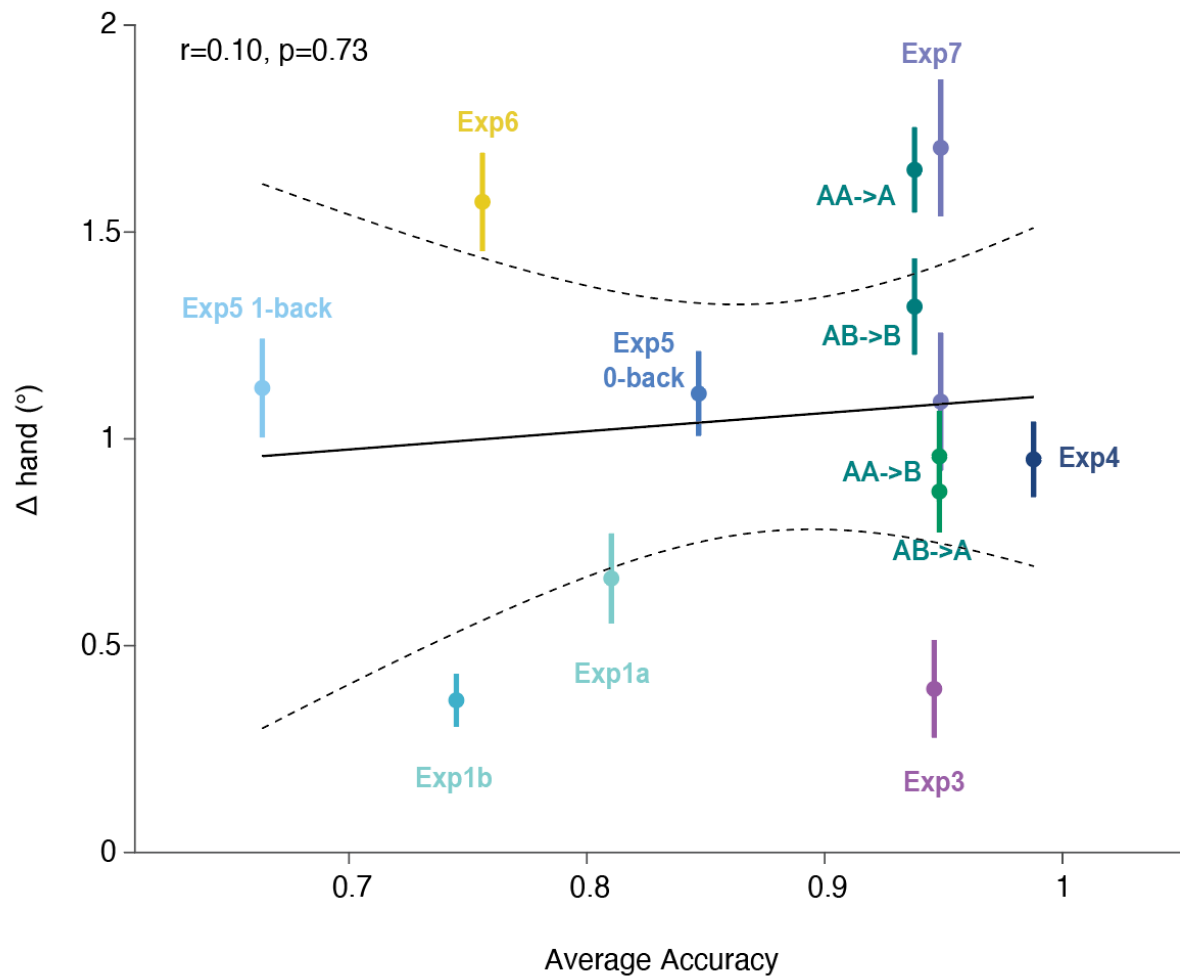


Fig S3. Post-hoc analysis of secondary task difficulty and magnitude of implicit adaptation. As our proxy of difficulty, we used secondary task accuracy.  $\Delta$ hand is plotted as a function of the accuracy. The black line indicates the best-fitted linear model, and the dash lines indicates the 95% confident interval of model. The data suggest minimal correlation between these two variables, providing further evidence that adaptation is not modulated by secondary task difficulty.

Table S1. Sample number of each Experiment.

Condition	All Participants	Valid Participant
Experiment 1a 15	50	35
Experiment 1a 30	50	38
Experiment 1b	95	58
Experiment 1c	99	60
Experiment 2a	79	64
Experiment 2b	96	48
Experiment 3 single	34	32
Experiment 3 dual	34	32
Experiment 4 single	40	36
Experiment 4 dual	30	27
Experiment 5 single	33	32
Experiment 5 0-back	40	34
Experiment 5 1-back	56	20
Experiment 6 single	30	29
Experiment 6 dual	50	32
Experiment 7	23	23
Experiment 8	90	80
All	929	689