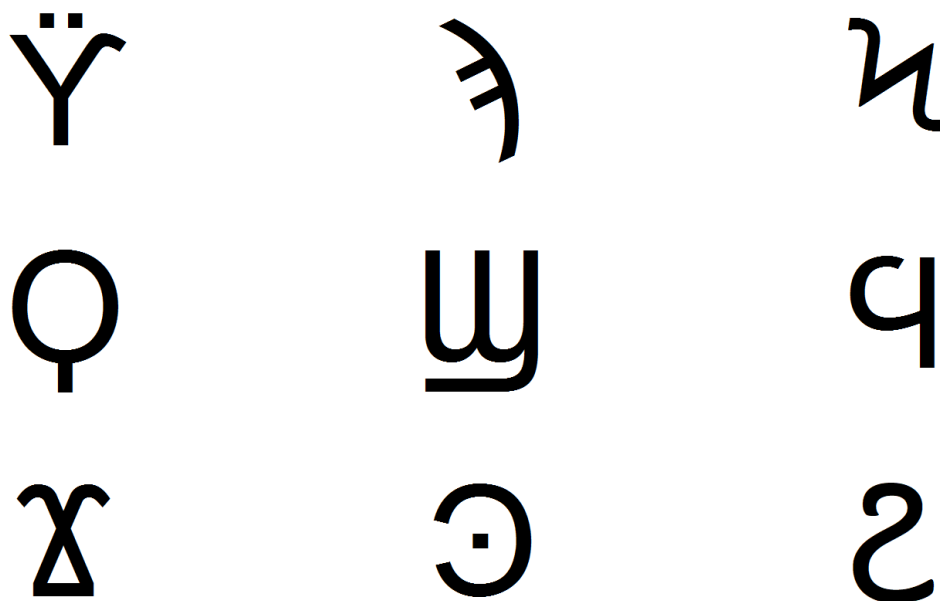


Supplemental Material

“Reinforcement-Learning In and Out of Context: The Effects of Attentional Focus”

William M. Hayes and Douglas H. Wedell

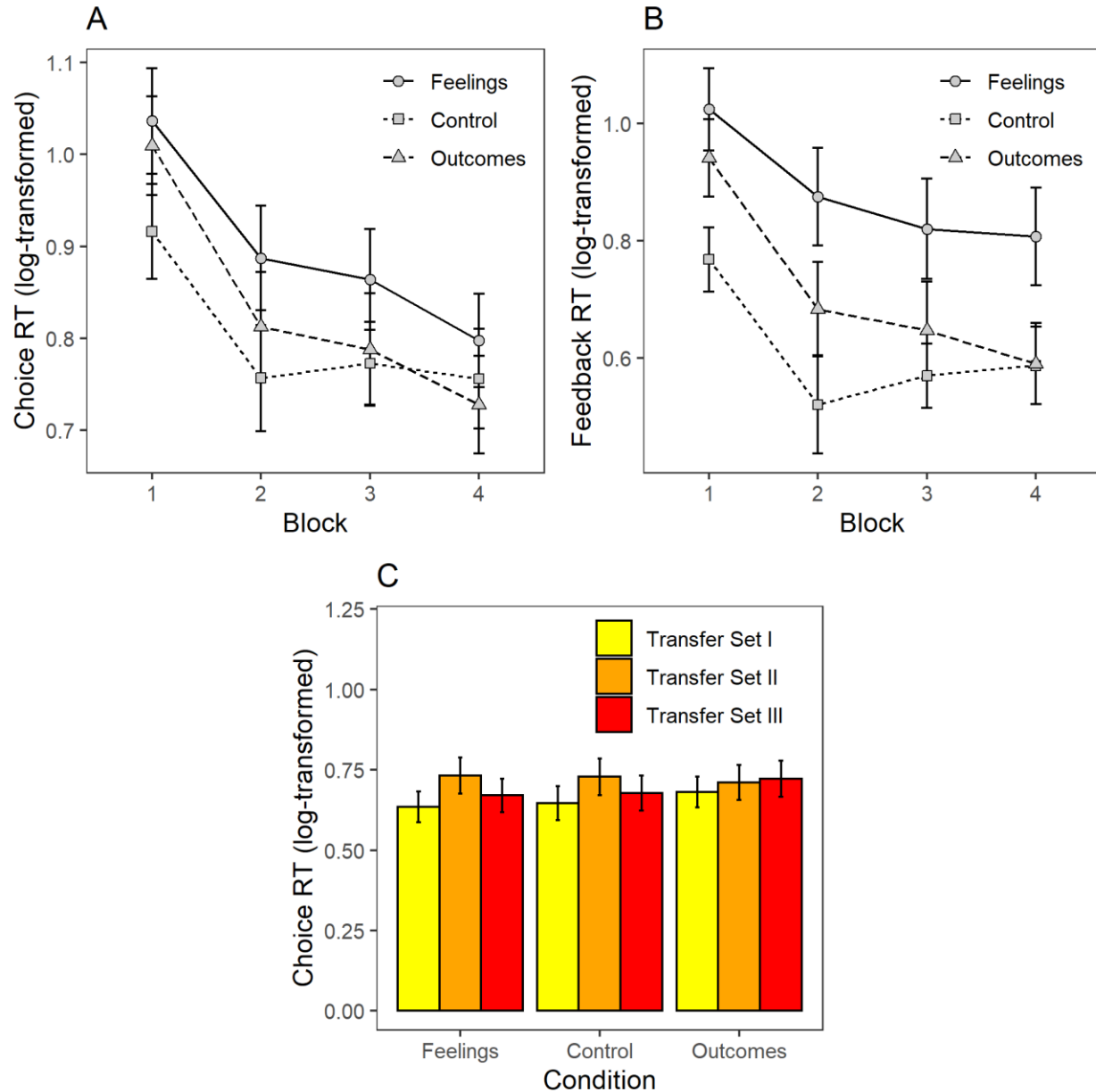
Supplemental Figure 1: Choice Option Symbols



*Experiment 2 only

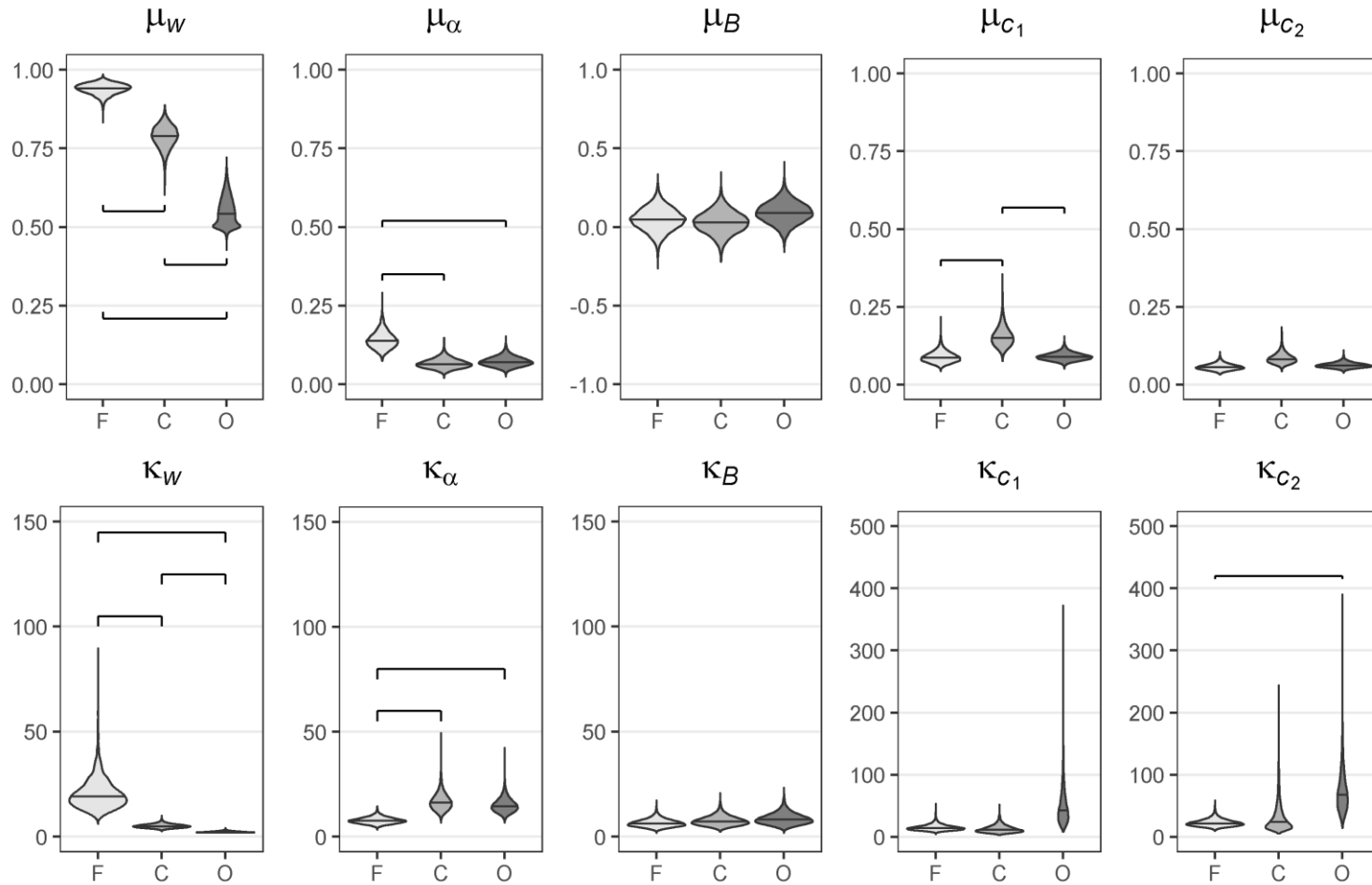
Note. Symbols were borrowed from the Greek and Coptic alphabets. Experiment 1 contained eight options and Experiment 2 contained nine.

Supplemental Figure 2: Response Time Effects in Experiment 2



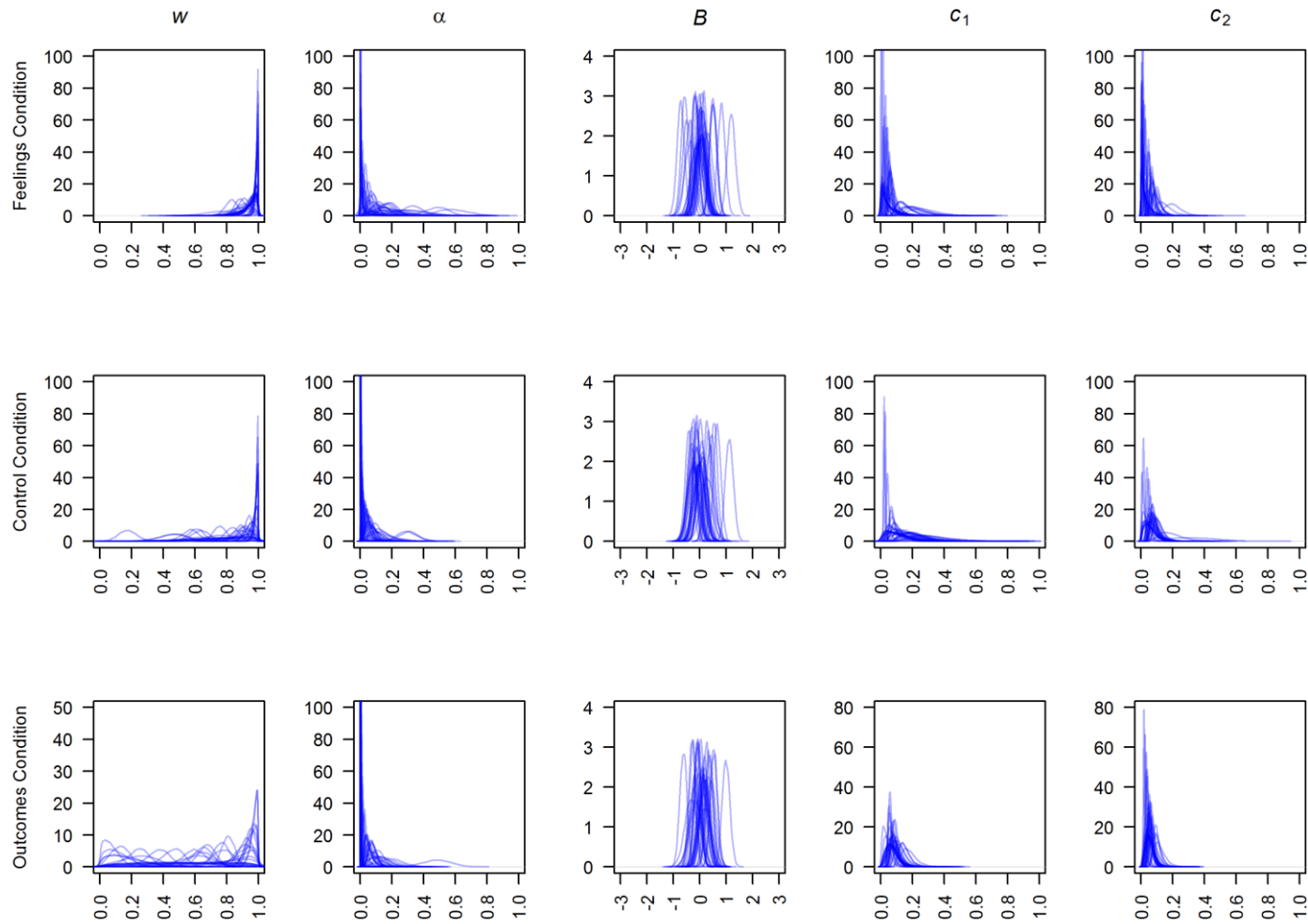
Note. (A) Deliberation times in the learning phase across blocks. (B) Feedback viewing times in the learning phase across blocks. (C) Deliberation times in the transfer test. Transfer Set I = choices in which relative values favored the higher-valued option, Transfer Set II = choices in which relative values favored neither option, Transfer Set III = choices in which relative values favored the lower-valued option. Standard error bars are shown.

Supplemental Figure 3: Posterior Distributions for the Group-Level Model Parameters in Experiment 1



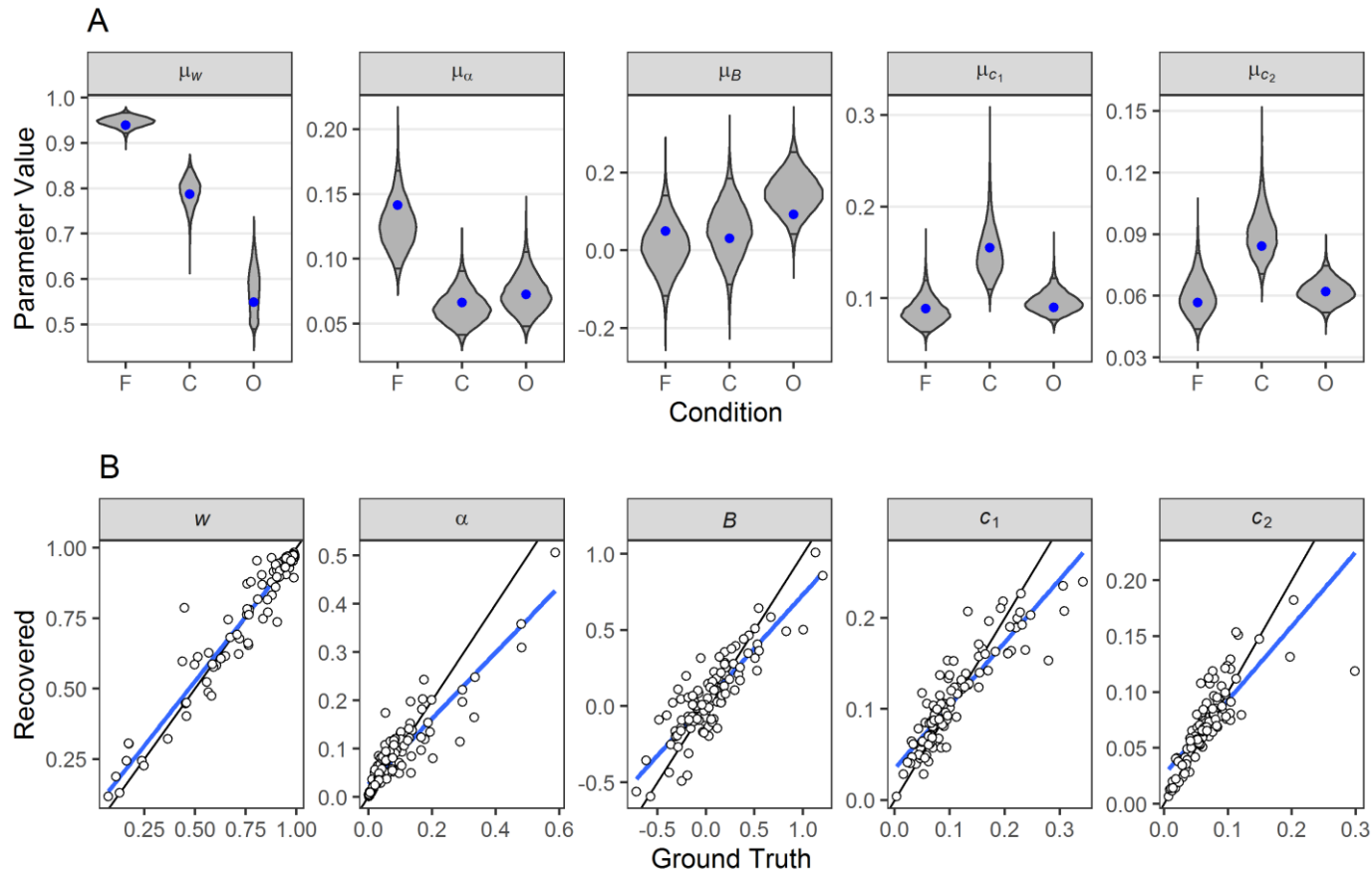
Note. The top row shows marginal posteriors for the group means (μ) and the bottom row shows marginal posteriors for the group concentration parameters (κ). Higher values of κ imply tighter clustering of the individual-level parameters (lower variability). F = Feelings condition, C = Control condition, O = Outcomes condition. w = relative encoding weight, α = learning rate, B = response bias, c_1 = choice consistency during learning phase, c_2 = choice consistency during transfer test. Brackets indicate credible differences between conditions (i.e., the 95% Bayesian credible interval of the difference excludes zero).

Supplemental Figure 4: Posterior Distributions for the Individual-Level Model Parameters in Experiment 1



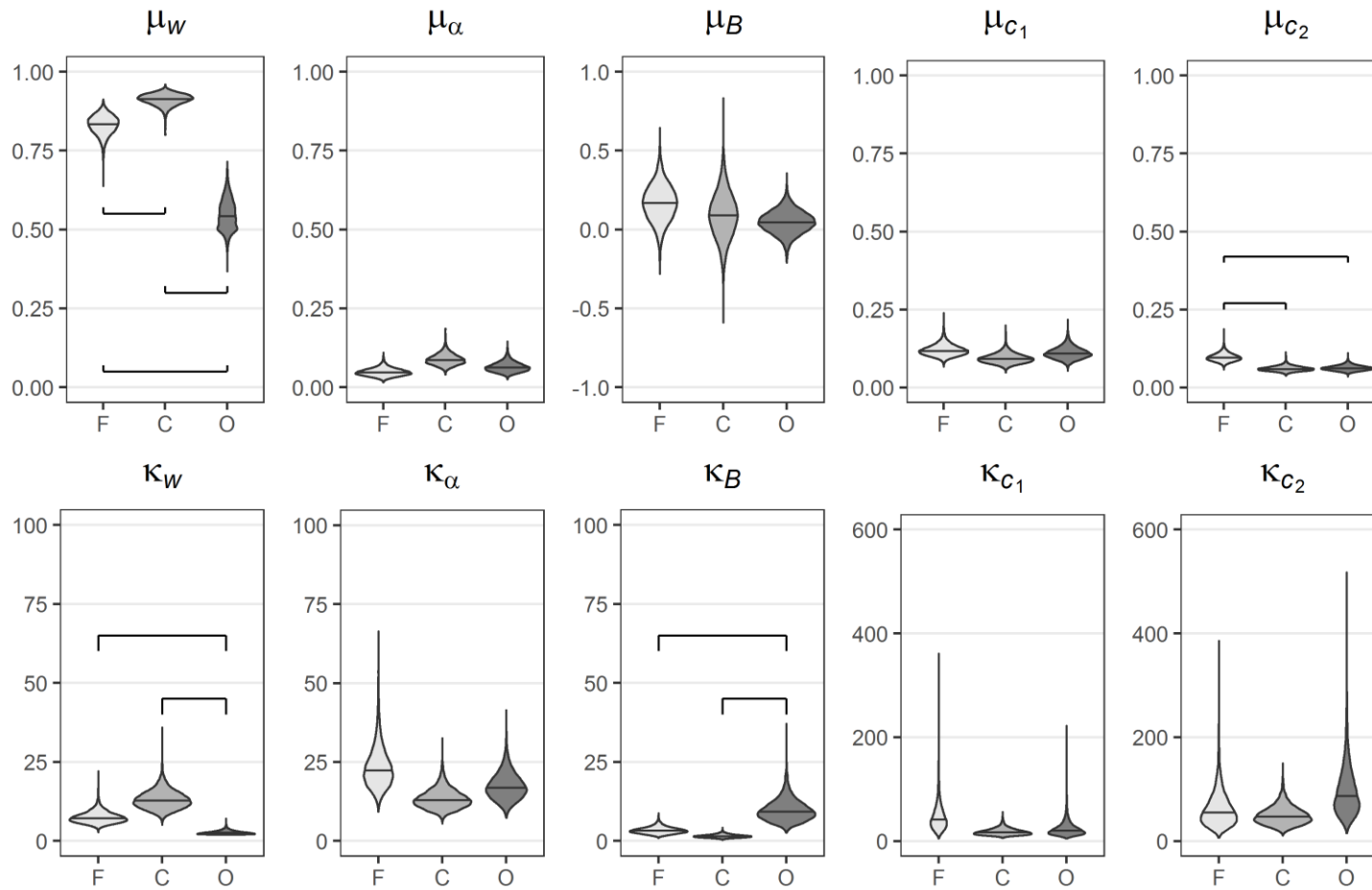
Note. Marginal posterior distributions for each parameter are shown. The three conditions are in separate rows and the columns represent different parameters. w = attention weight, α = learning rate, B = response bias, c_1 = learning phase choice consistency, c_2 = transfer test choice consistency.

Supplemental Figure 5: Parameter Recovery Results for the Partial Adaptation Model



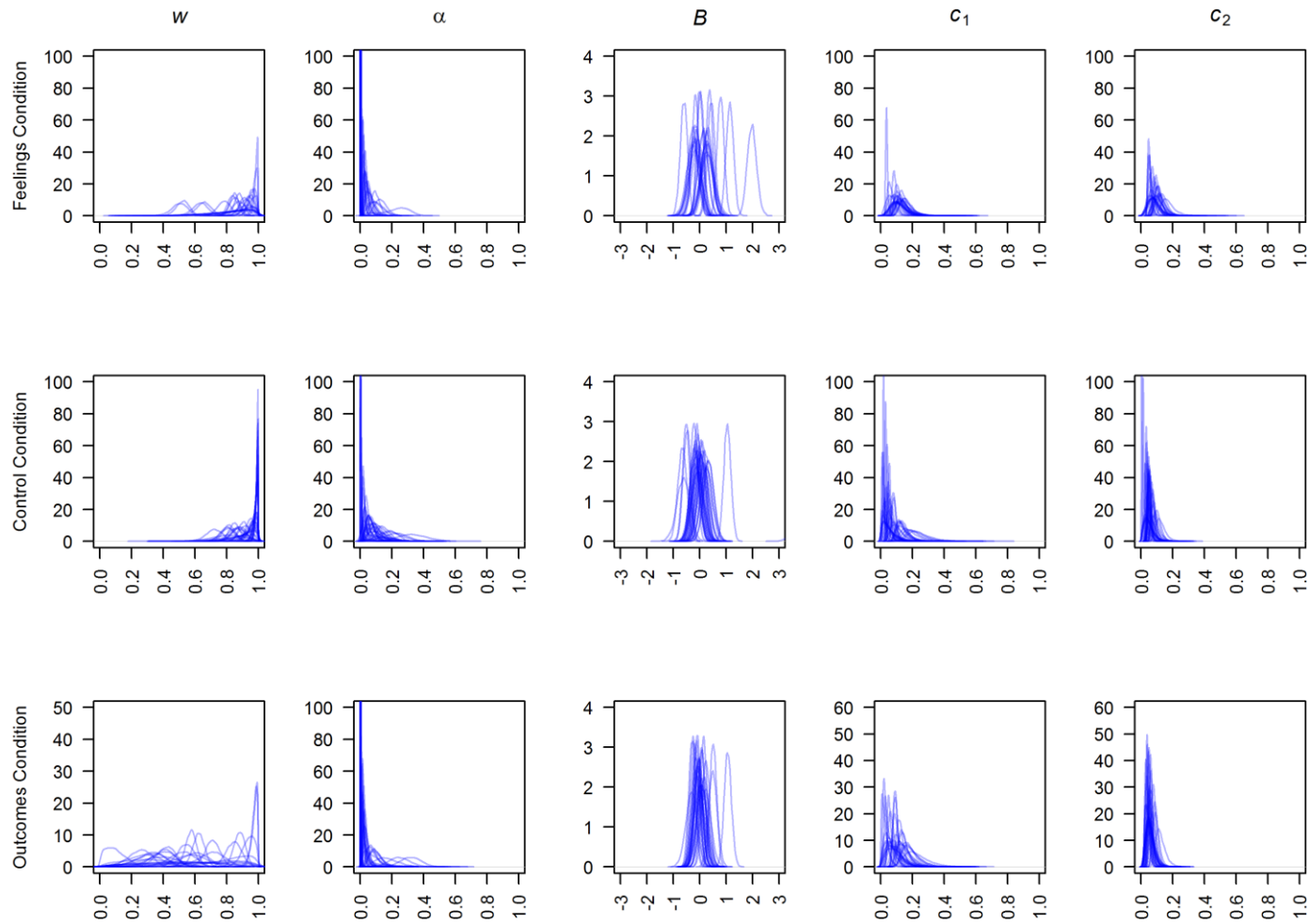
Note. Parameter recovery for the partial adaptation model was assessed using the choice task in Experiment 1. Individual-level parameters estimated from the actual data were used to simulate new choice sequences in each experimental condition. The same model was then fit to the simulated data, separately for each experimental condition, to determine if the ground truth parameters could be accurately recovered. (A) The group-level mean parameters were successfully recovered in each condition (F = Feelings, C = Control, O = Outcomes). Each panel shows the marginal posterior distributions for the recovered parameters with the blue dots representing ground truth. (B) The Pearson correlations between ground truth and recovered individual-level parameters were quite high ($r = 0.97, 0.90, 0.86, 0.90$, and 0.80 for w, α, B, c_1 , and c_2 , respectively). Regression lines added in blue.

Supplemental Figure 6: Posterior Distributions for the Group-Level Model Parameters in Experiment 2



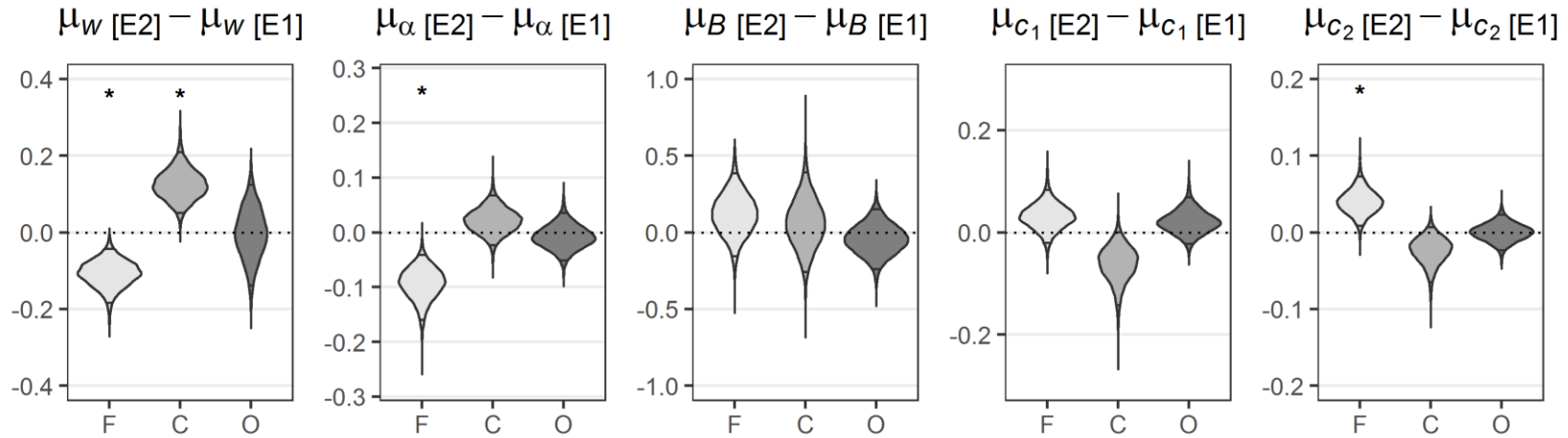
Note. The top row shows marginal posteriors for the group means (μ) and the bottom row shows marginal posteriors for the group concentration parameters (κ). Higher values of κ imply tighter clustering of the individual-level parameters (lower variability). F = Feelings condition, C = Control condition, O = Outcomes condition. w = relative encoding weight, α = learning rate, B = response bias, c_1 = choice consistency during learning phase, c_2 = choice consistency during transfer test. Brackets indicate credible differences between conditions (i.e., the 95% Bayesian credible interval of the difference excludes zero).

Supplemental Figure 7: Posterior Distributions for the Individual-Level Model Parameters in Experiment 2



Note. Marginal posterior distributions for each parameter are shown. The three conditions are in separate rows and the columns represent different parameters. w = attention weight, α = learning rate, B = response bias, c_1 = learning phase choice consistency, c_2 = transfer test choice consistency.

Supplemental Figure 8: Posterior Distributions for the Differences in Group-Level Mean Parameters between Experiments



Note. E1 = Experiment 1 (two-option choice sets), E2 = Experiment 2 (three-option choice sets). F = Feelings condition, C = Control condition, O = Outcomes condition. w = relative encoding weight, α = learning rate, B = response bias, c_1 = choice consistency during learning phase, c_2 = choice consistency during transfer test. Asterisks indicate credible differences between experiments (i.e., the 95% Bayesian credible interval of the difference excludes zero).