# Supporting Information

**Non-invasive vagus nerve stimulation boosts mood recovery after effort exertion**

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## R code used to estimate the hierarchical Bayesian model

brm(formula = Rating | trunc(lb = 0, ub = 100) ~ Stim \* fRun + (1 + Stim \* fRun |ID),

 data = pos\_d\_TUE1, family = gaussian(),

 cores = 4,

 prior = c(set\_prior("normal(50,15)", class = "Intercept"),

 set\_prior("normal(0,10)", class = "b"),

 set\_prior("cauchy(0,5)", class = "sd"),

 set\_prior("lkj(2)", class = "cor")),

 warmup = 1000, iter = 4000, chains = 4, control = list(adapt\_delta = 0.8),

 sample\_prior = TRUE,

 save\_all\_pars = TRUE)

where Stim encodes the stimulation condition (sham vs. taVNS), fRun encodes the run as a factorial variable (Run 1, Run 2, Run 3), ID encodes the participant, and data includes only the positive ratings collected in the study. We ran the same model on the negative ratings with a lower prior on the intercept, but the models did not converge reliably across chains.