Mathematical Model Specification

LEVEL 1: OBSERVATION MODEL

Y[ijk] ~ Multinomial(1, p.explore, p.exploit, p.none)

where:

log(p.explore/p.exploit) = alpha1 + X*beta1 + u1[monkey] + v1[block]

log(p.none/p.exploit) = alpha2 + X*beta2 + u2[monkey] + v2[block]

LEVEL 2: PREDICTORS (X)

X = [Social Context, Partner Present, Relative Rank, Subjective Value, Exploit Value, Explore Expectation]

LEVEL 3: BAYESIAN PRIORS

beta ~ Normal(0, 2.5)

sigma ~ Half−Cauchy(0, 1)

u[monkey], v[block] ~ Normal(0, sigma^2)

Reference category: EXPLOIT (p.exploit in denominator)

Model fitted using MCMC with 4,000 iterations