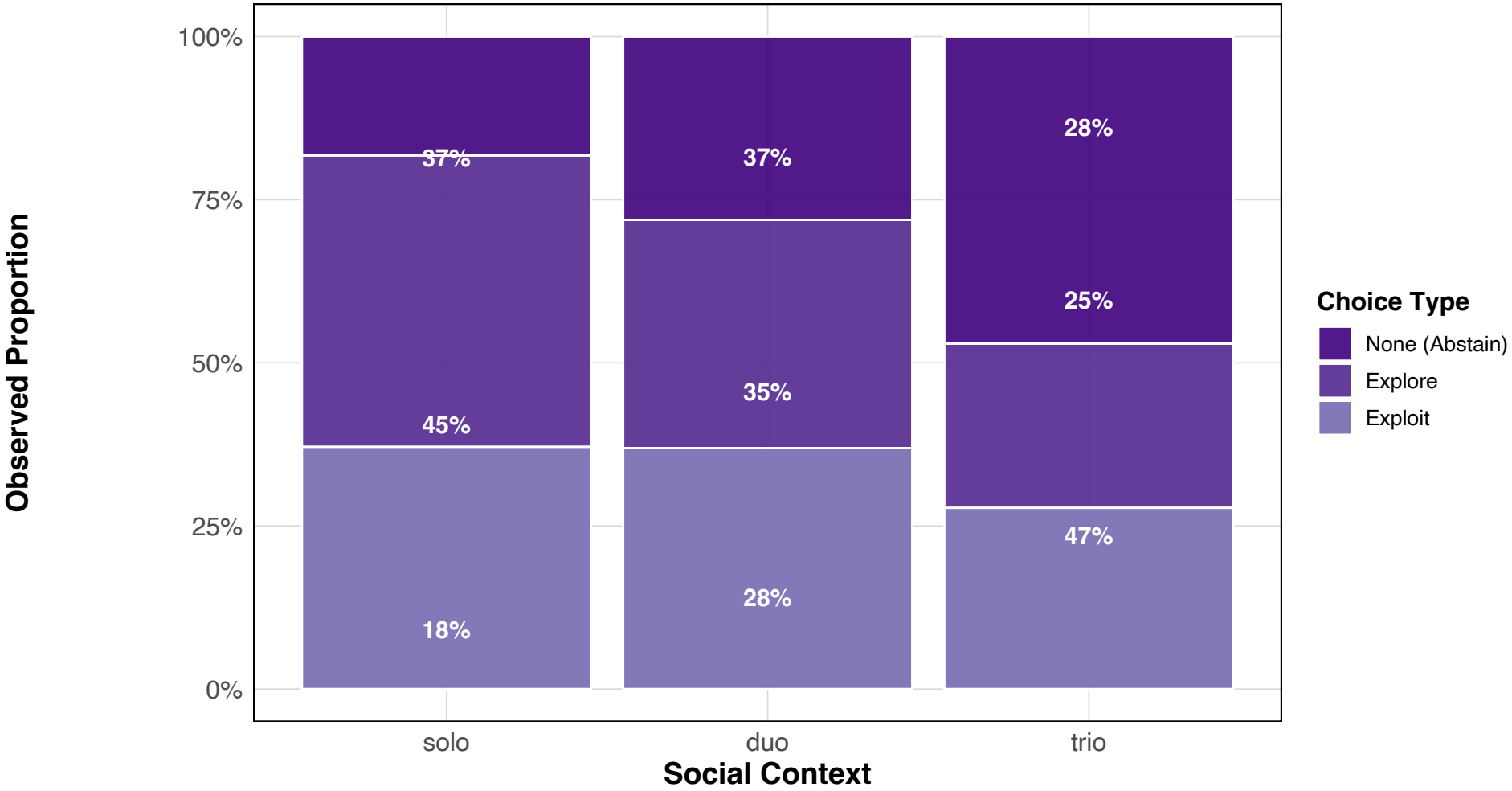


CORRECTED: Hierarchical Multinomial Analysis of Primate Choice Behavior

True three-outcome model showing abstention patterns (3000 samples, N = 1448 trials)

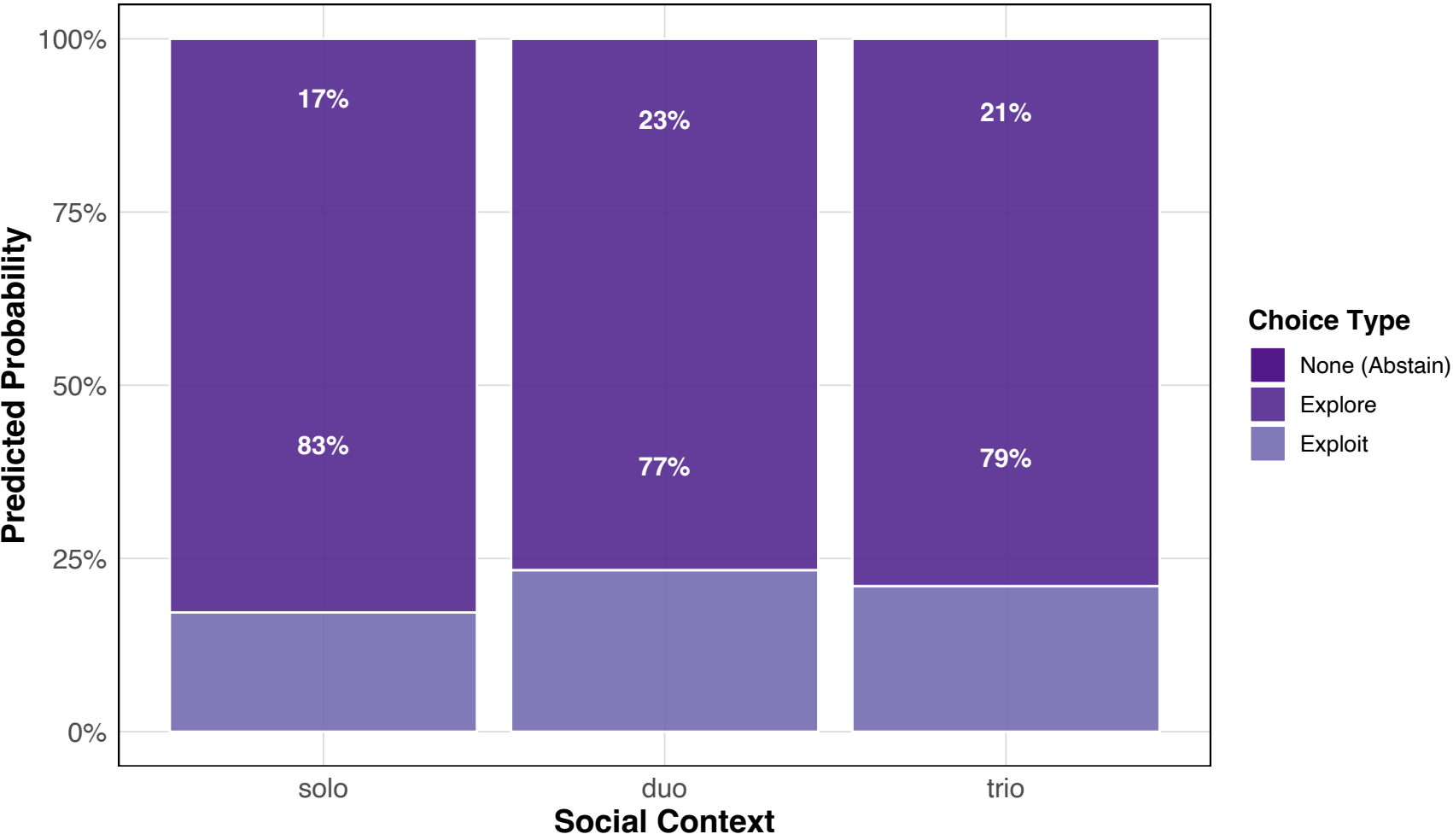
A. Observed Choice Proportions (Ground Truth)

Note dramatic increase in abstention (none) in trio contexts



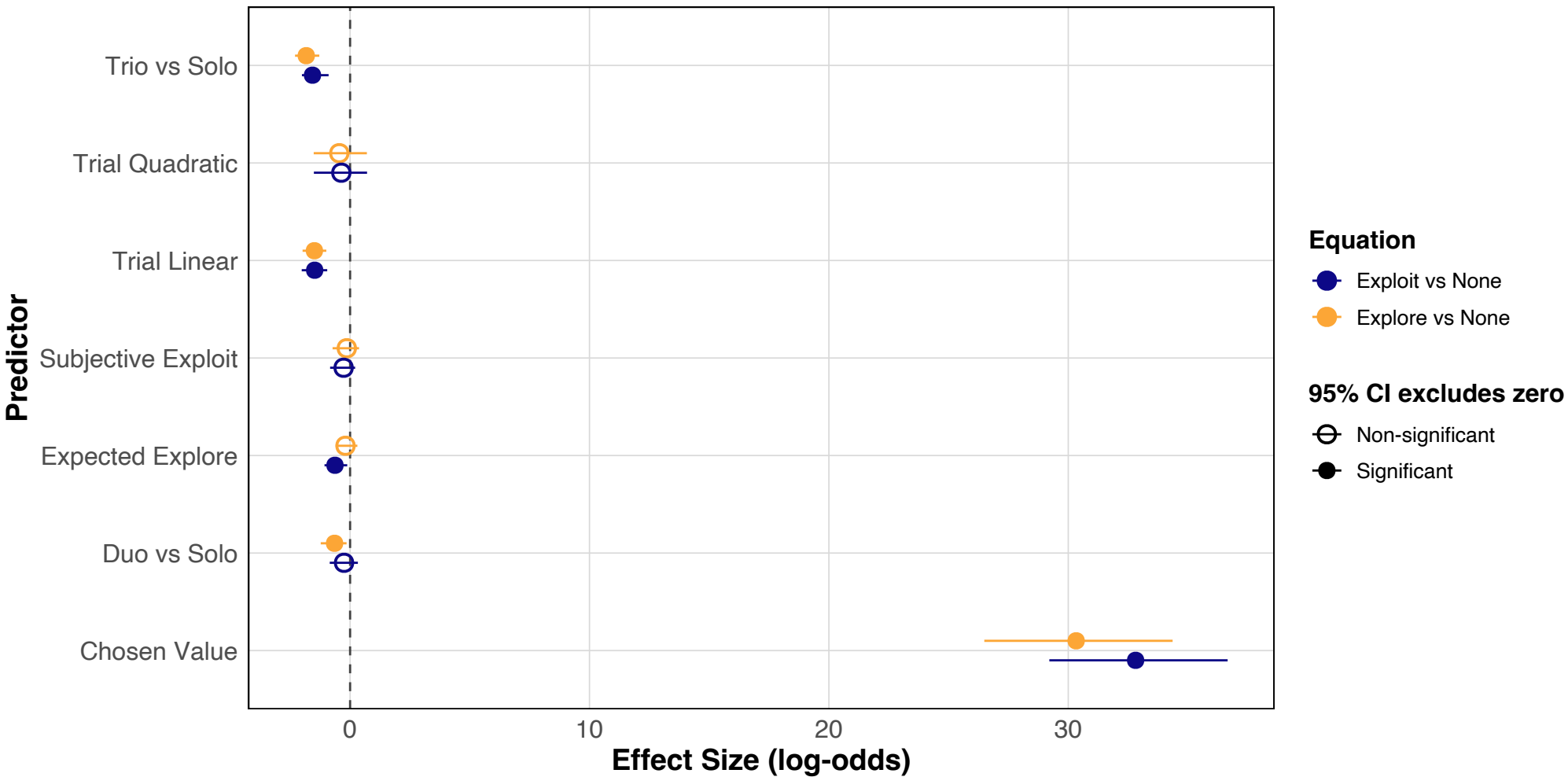
B. Bayesian Model Predictions with Uncertainty

Hierarchical multinomial model captures abstention patterns



C. Multinomial Fixed Effects

Predictors of explore vs none and exploit vs none



D. Scientific Insights

Multinomial model reveals decision avoidance patterns

Key Finding: Abstention increases dramatically in trio contexts

Solo: 18% abstain | Duo: 28% abstain | Trio: 21% abstain

Interpretation: Complex social contexts lead to more exploration

Biological relevance: Risk management in uncertain environments