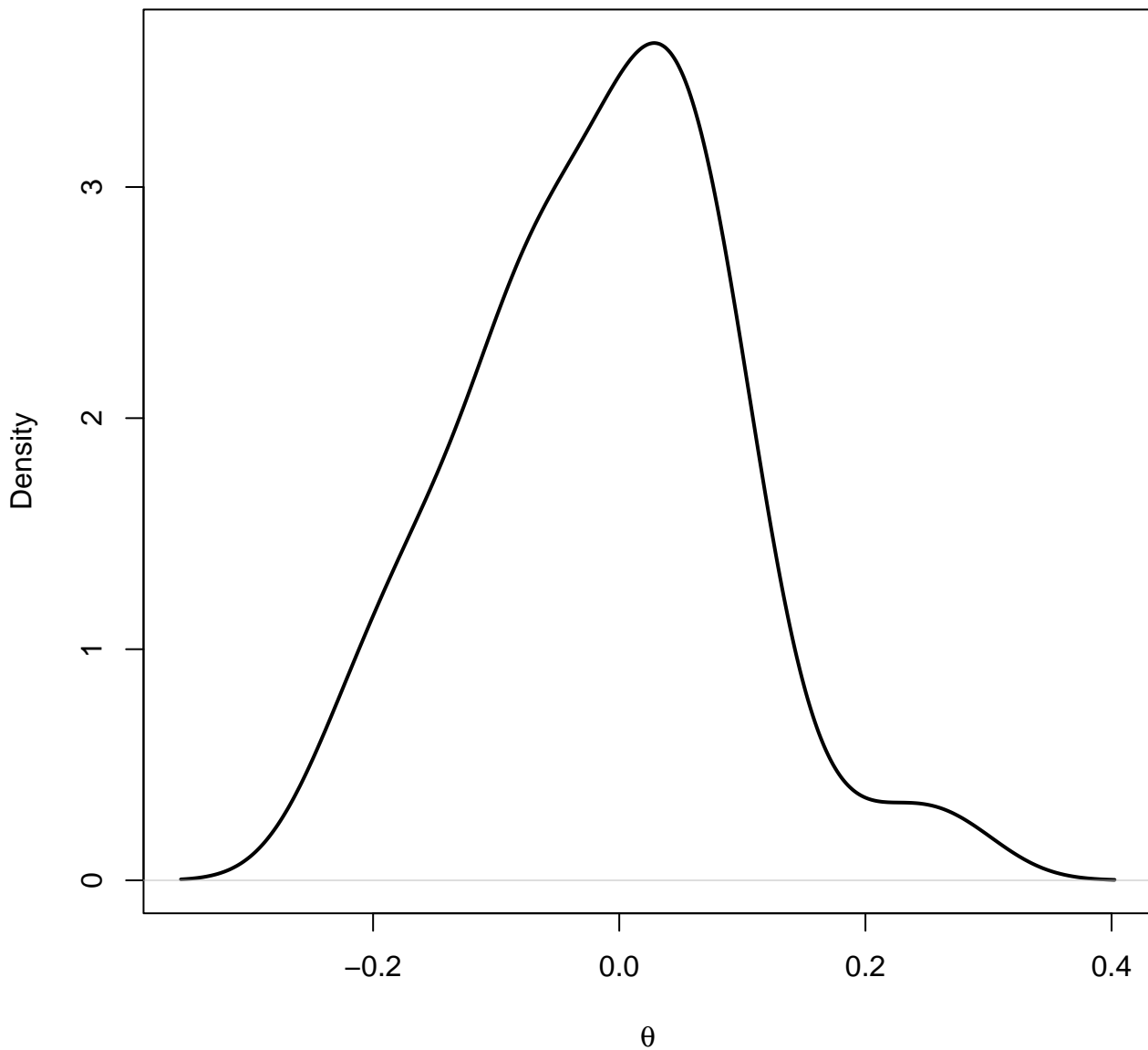
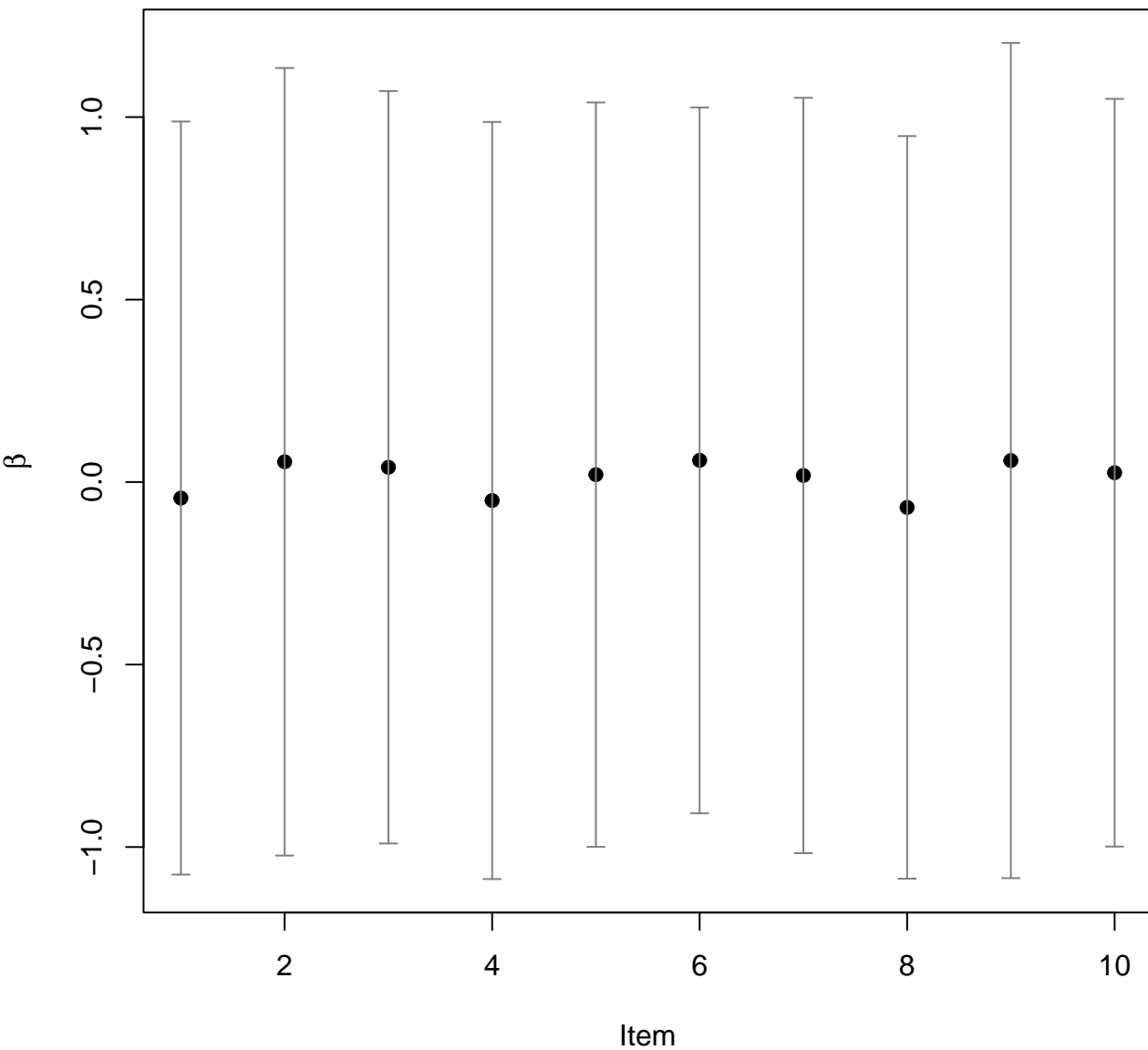


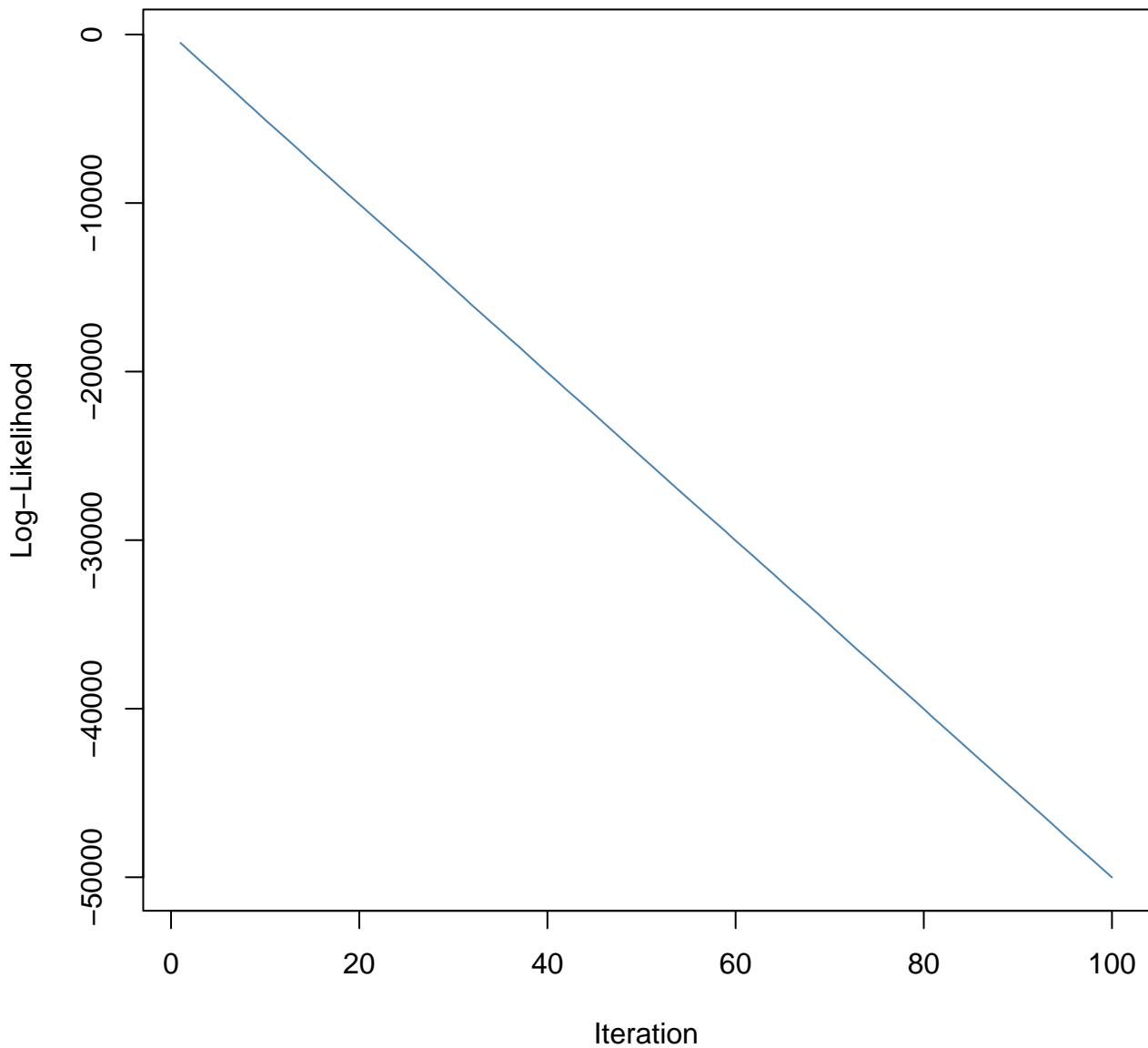
# RASCH (normal) -- Posterior Mean Density



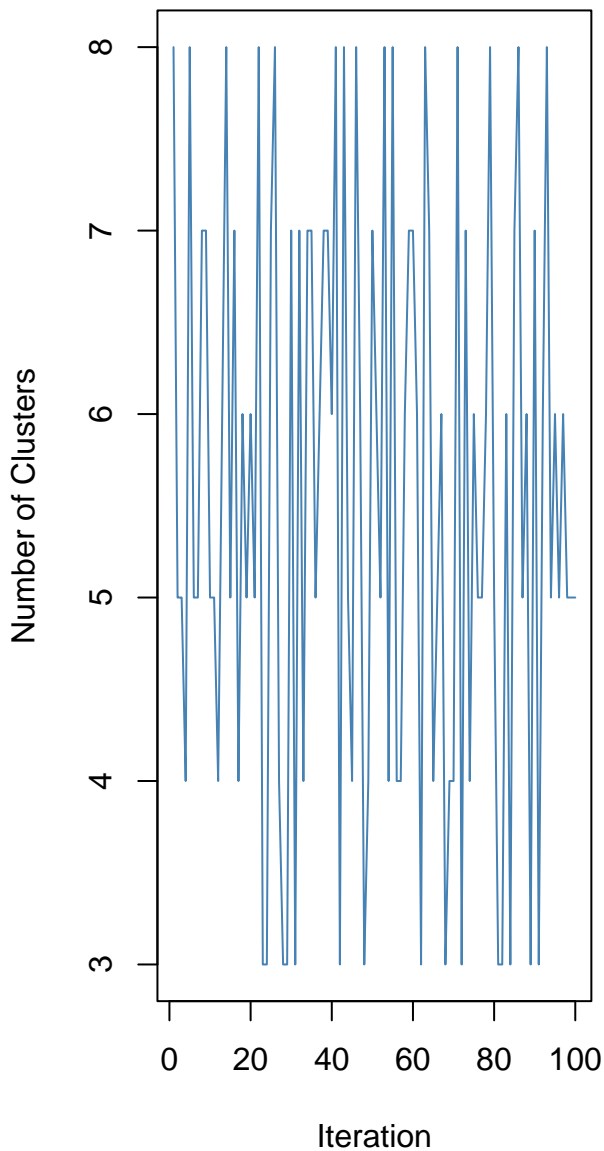
# Item Difficulty Estimates



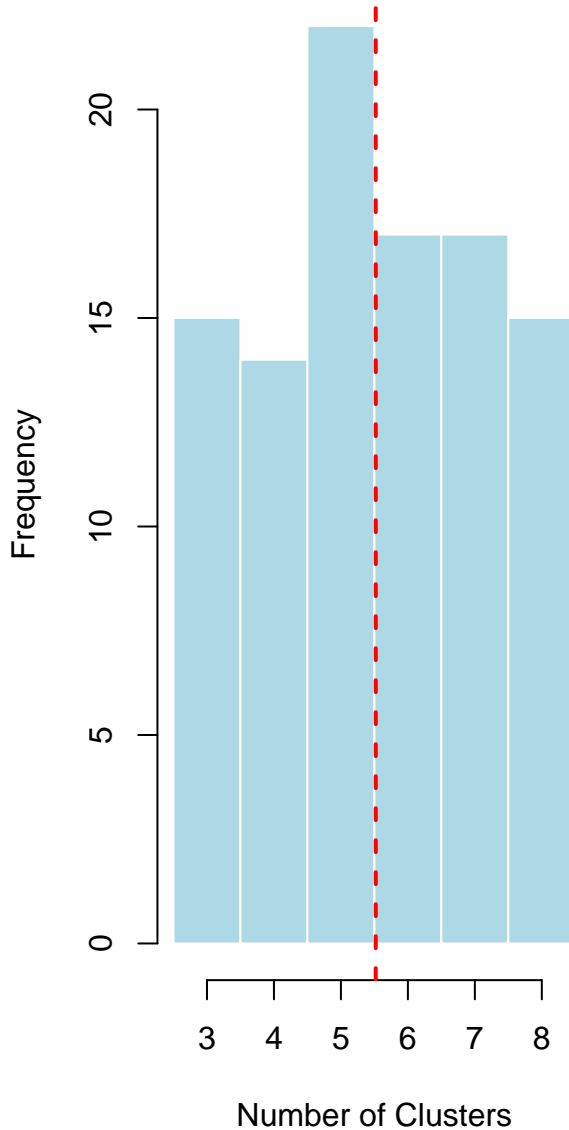
# Log-Likelihood Trace



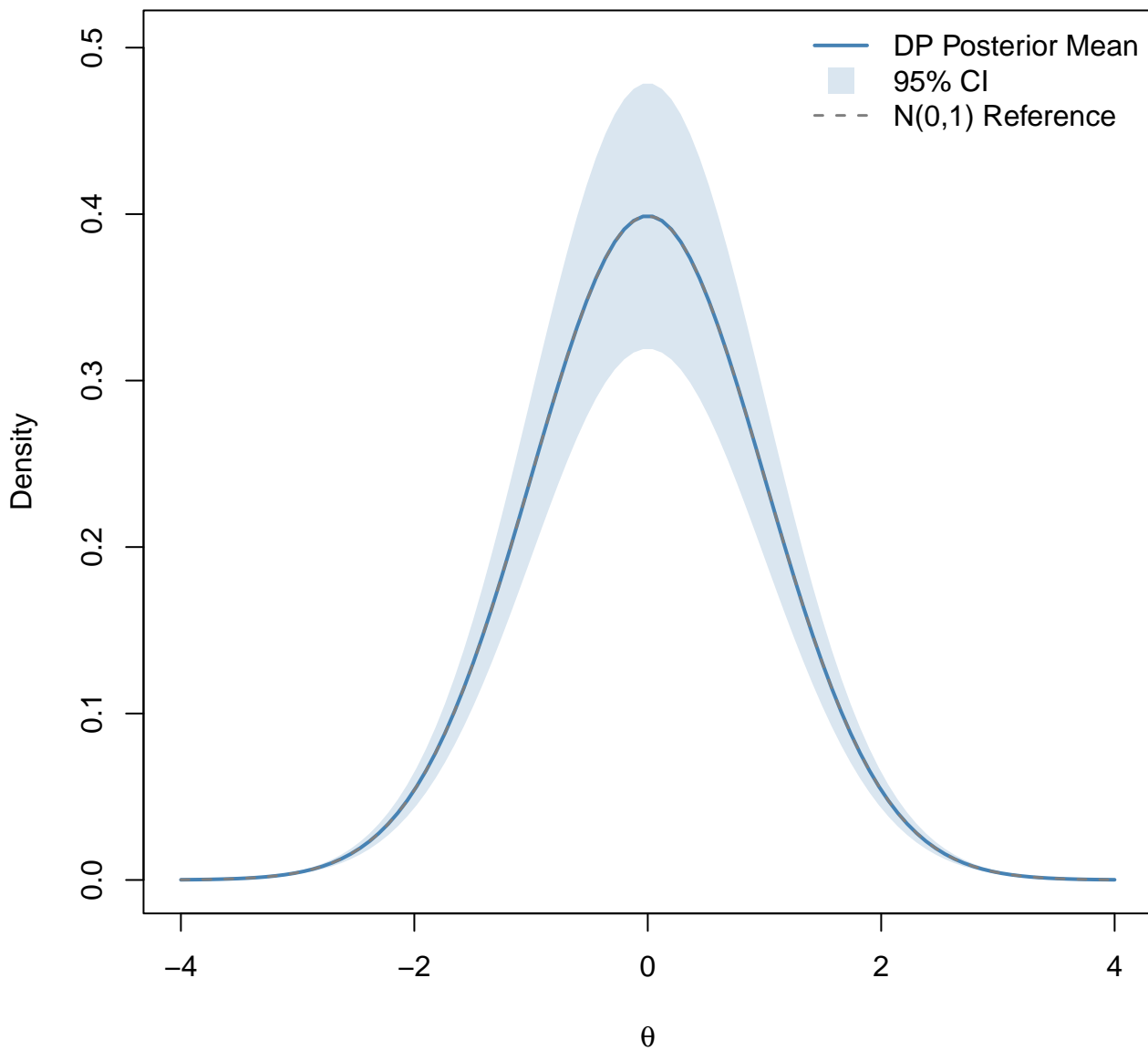
### Cluster Count Trace



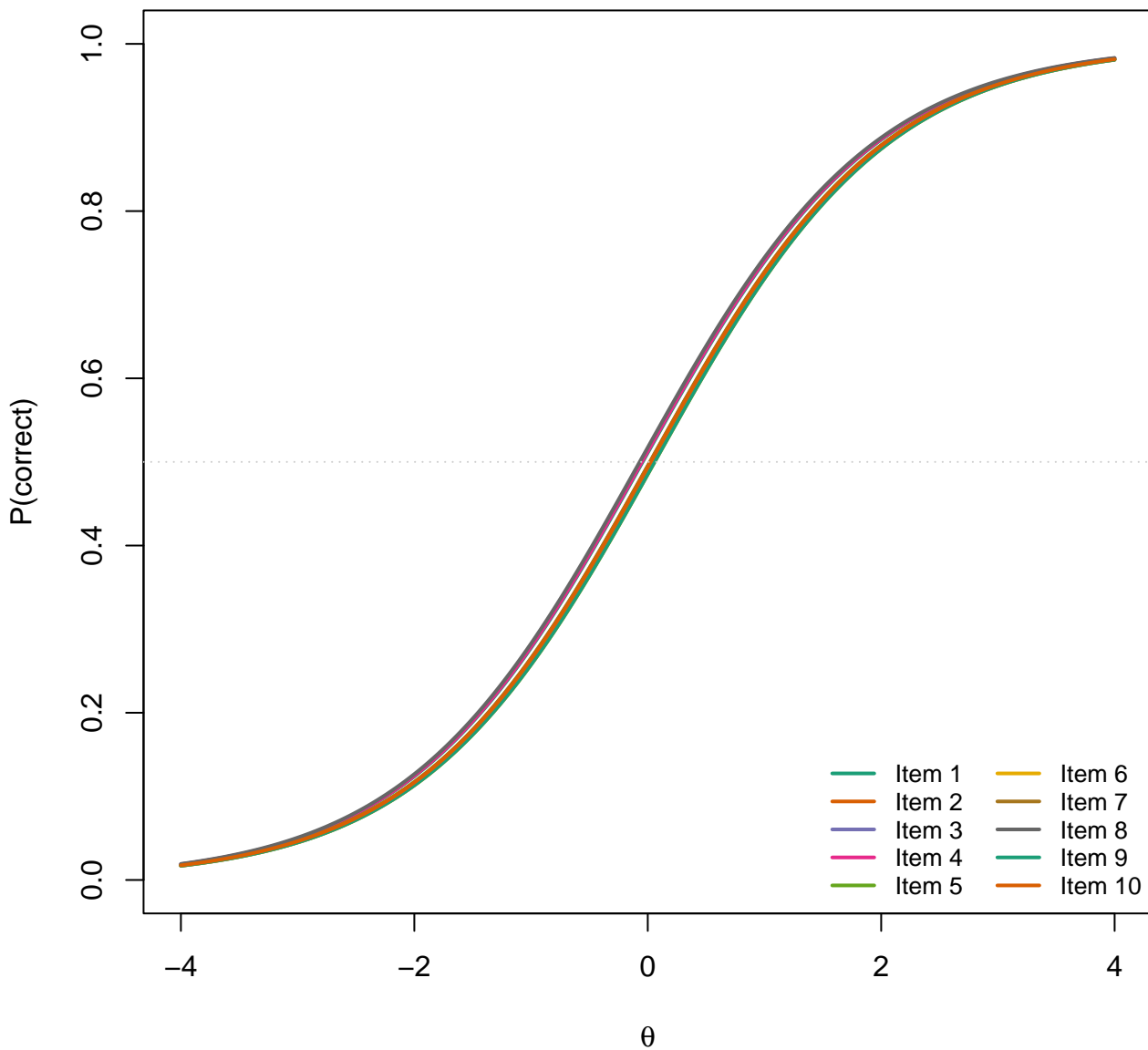
### Cluster Count Distribution



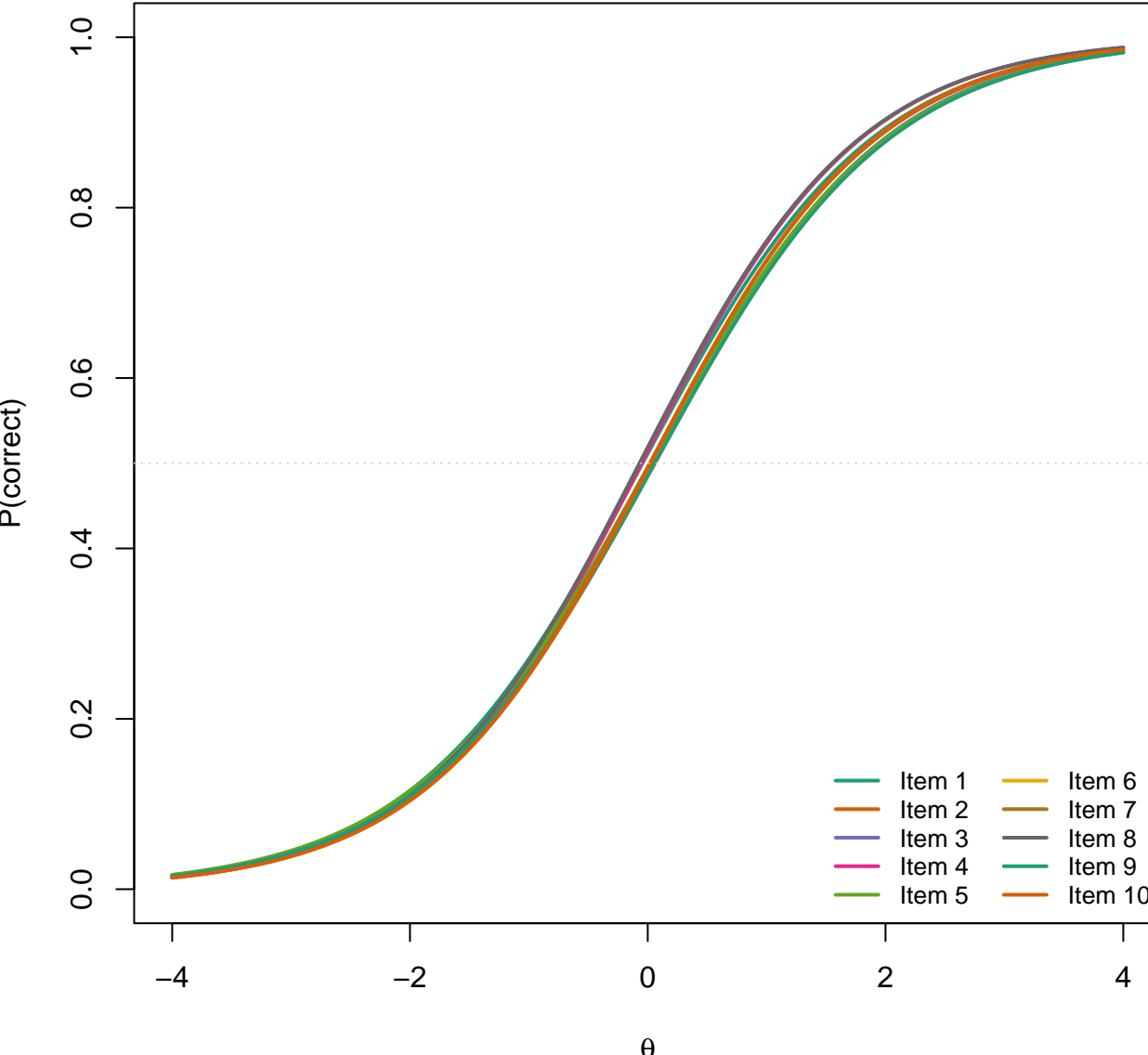
# DP Mixture Density (Posterior)



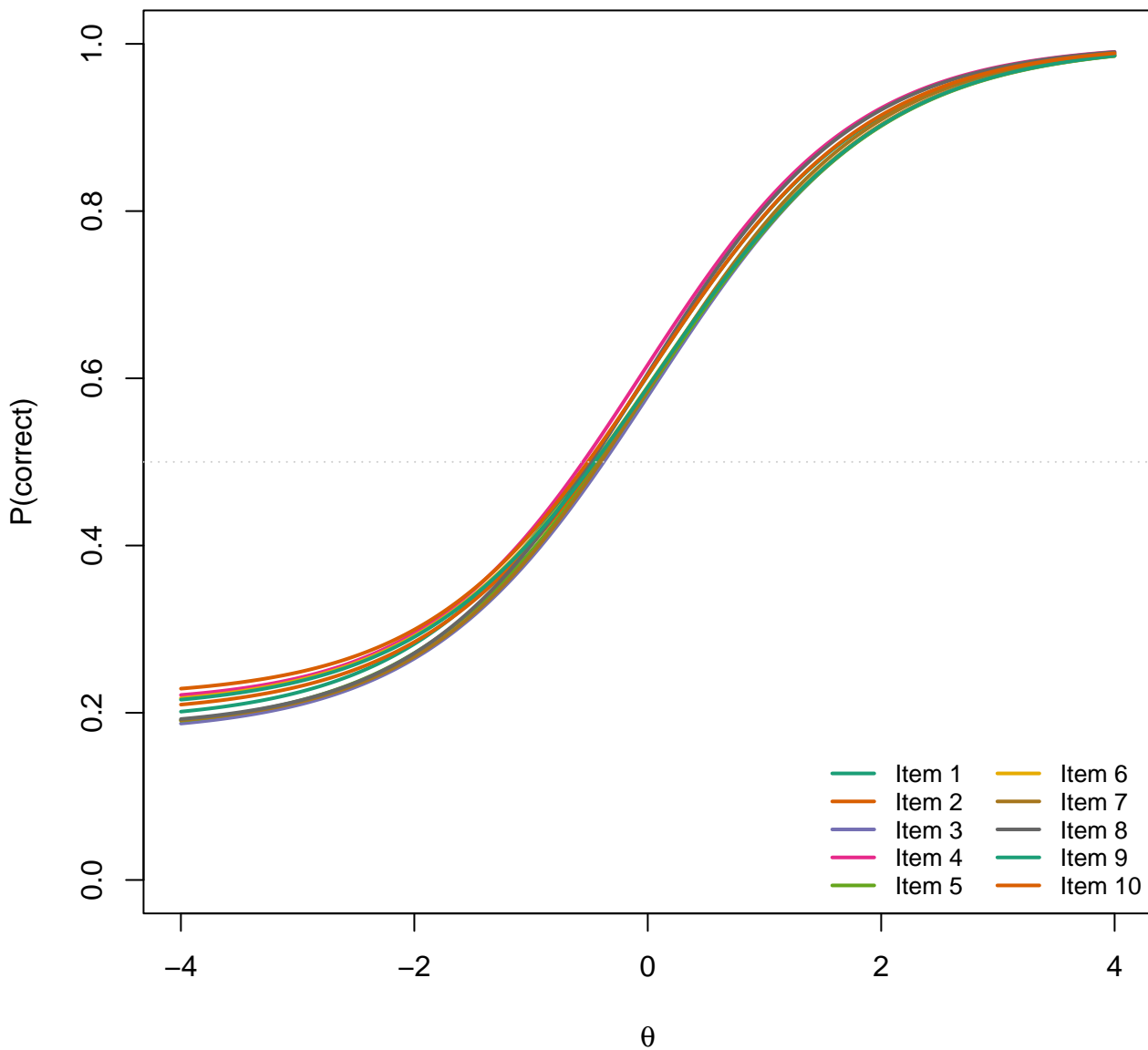
# Item Characteristic Curves (RASCH)



## Item Characteristic Curves (2PL)

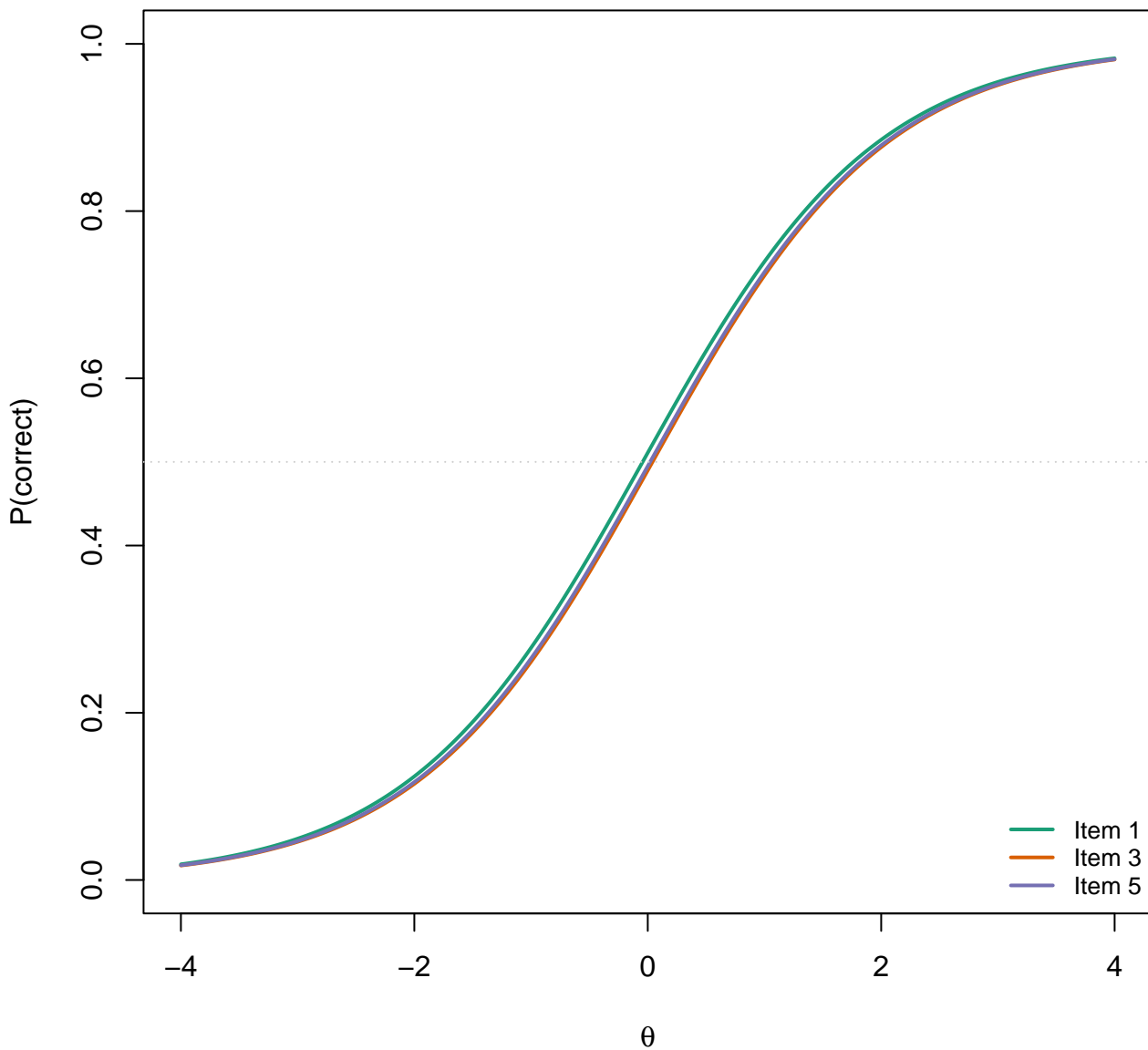


# Item Characteristic Curves (3PL)

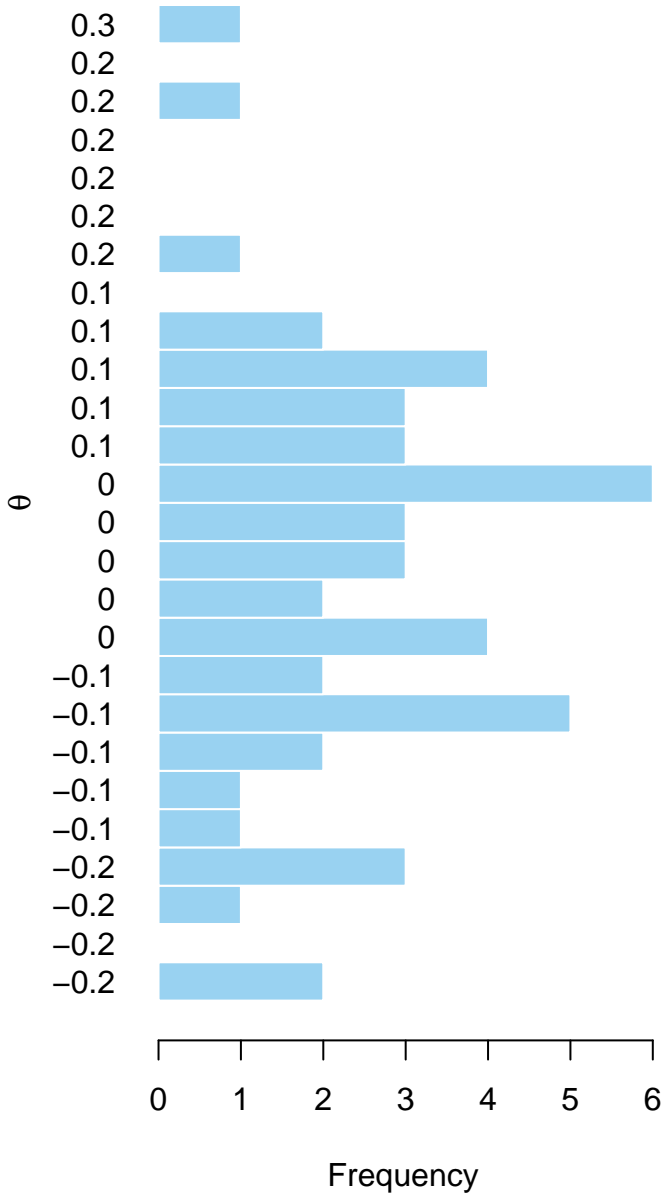




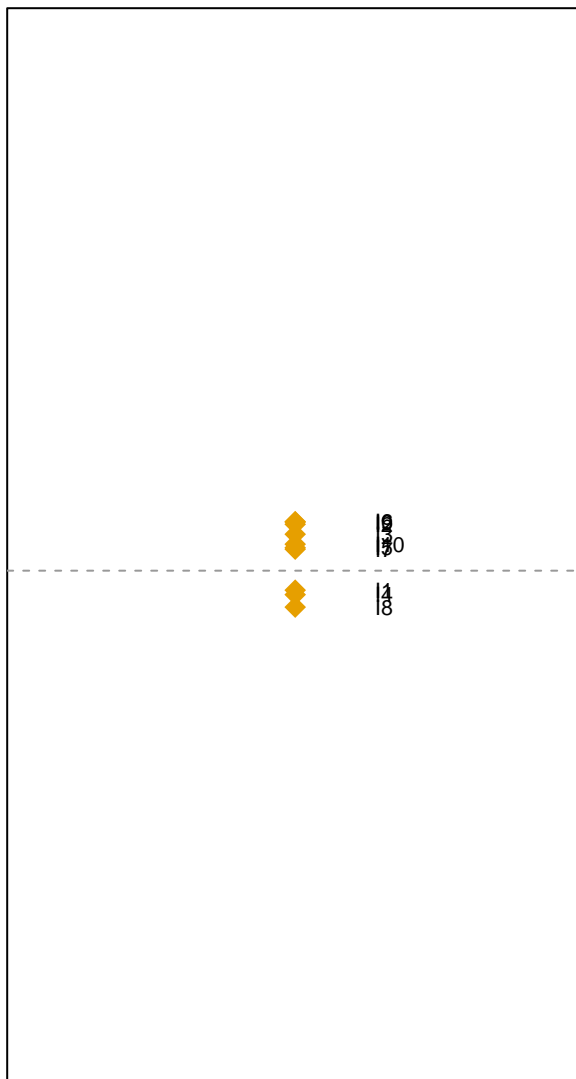
# Item Characteristic Curves (RASCH)

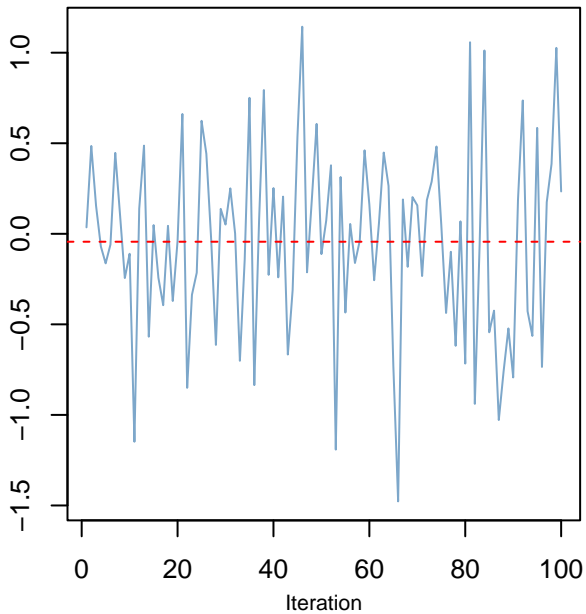
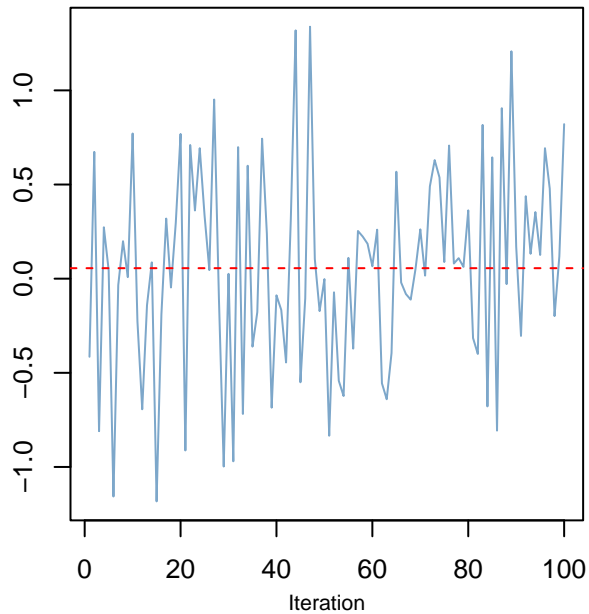
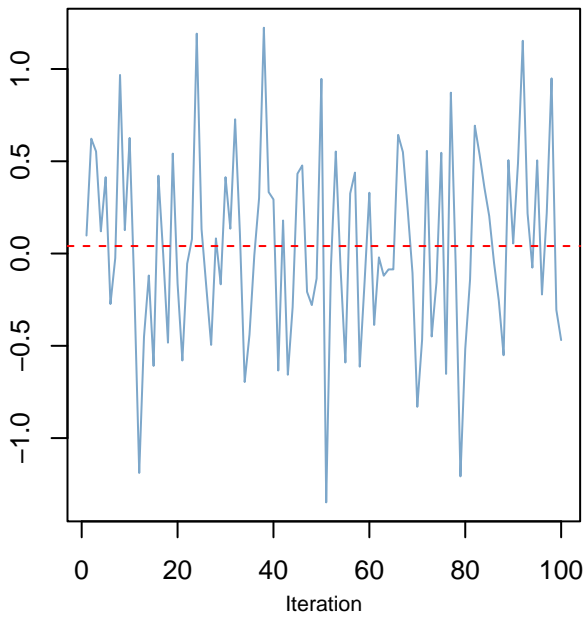
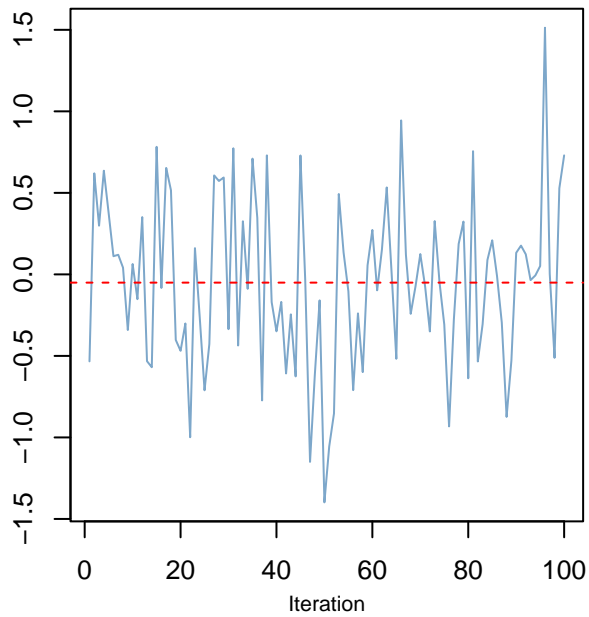


Persons

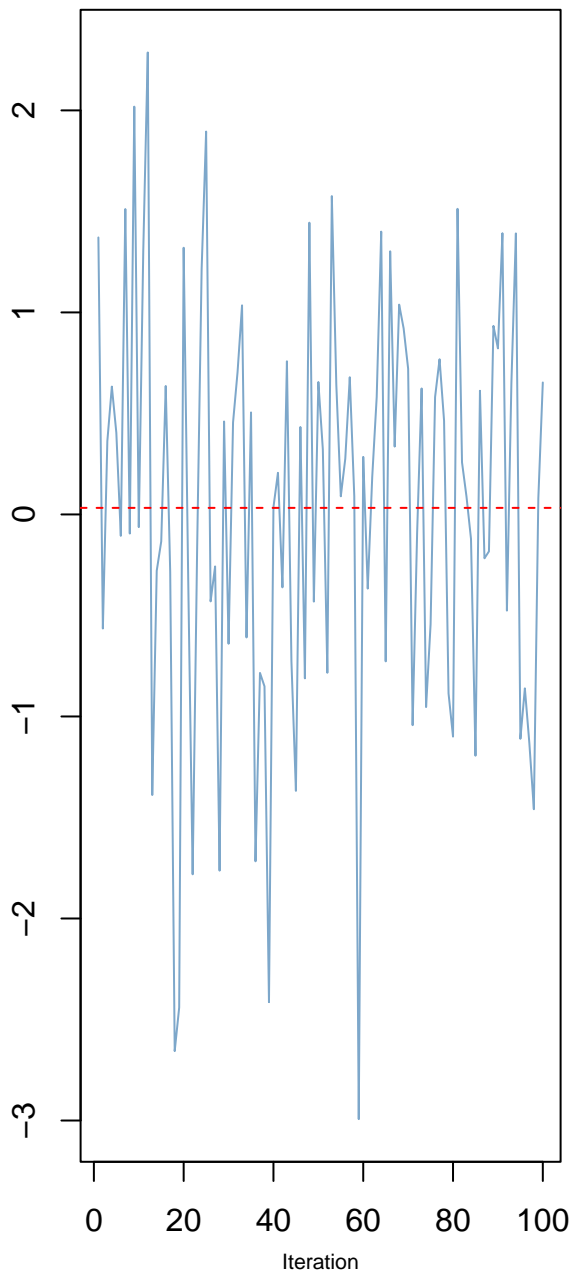


Items

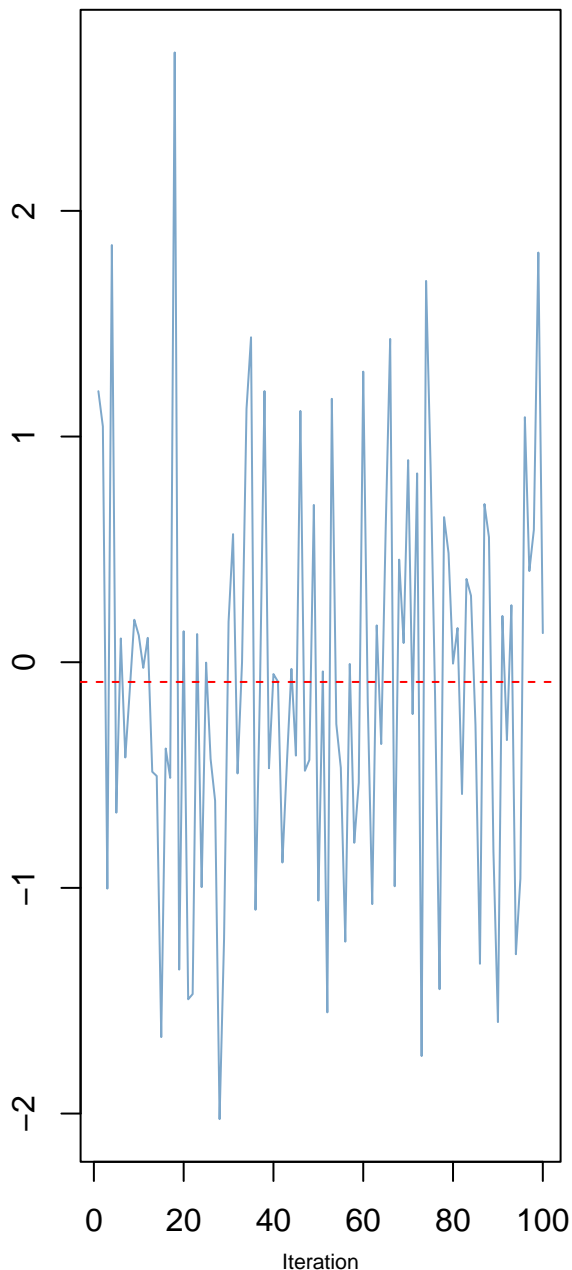


**beta[1]****beta[2]****beta[3]****beta[4]**

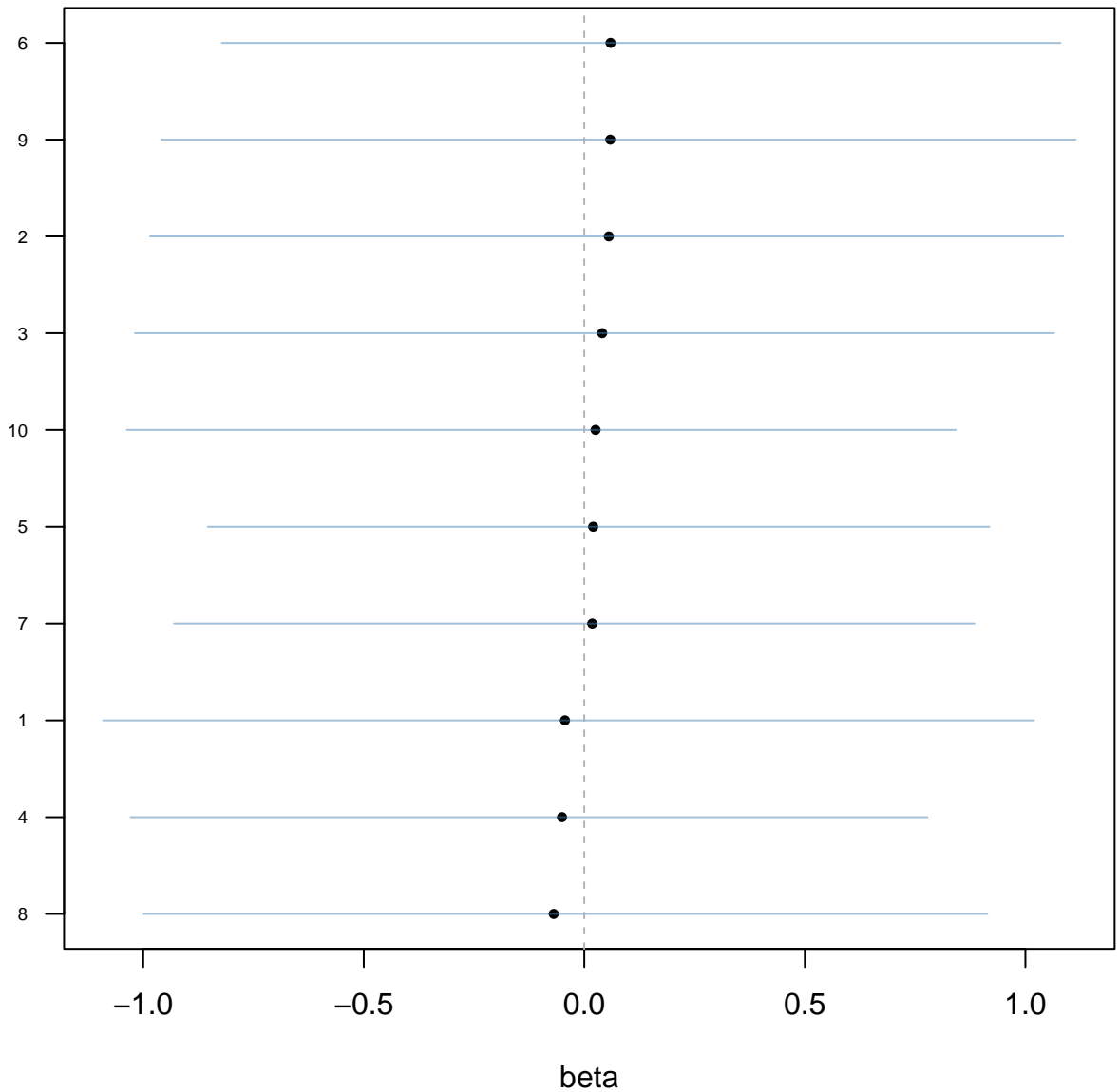
**theta[1]**



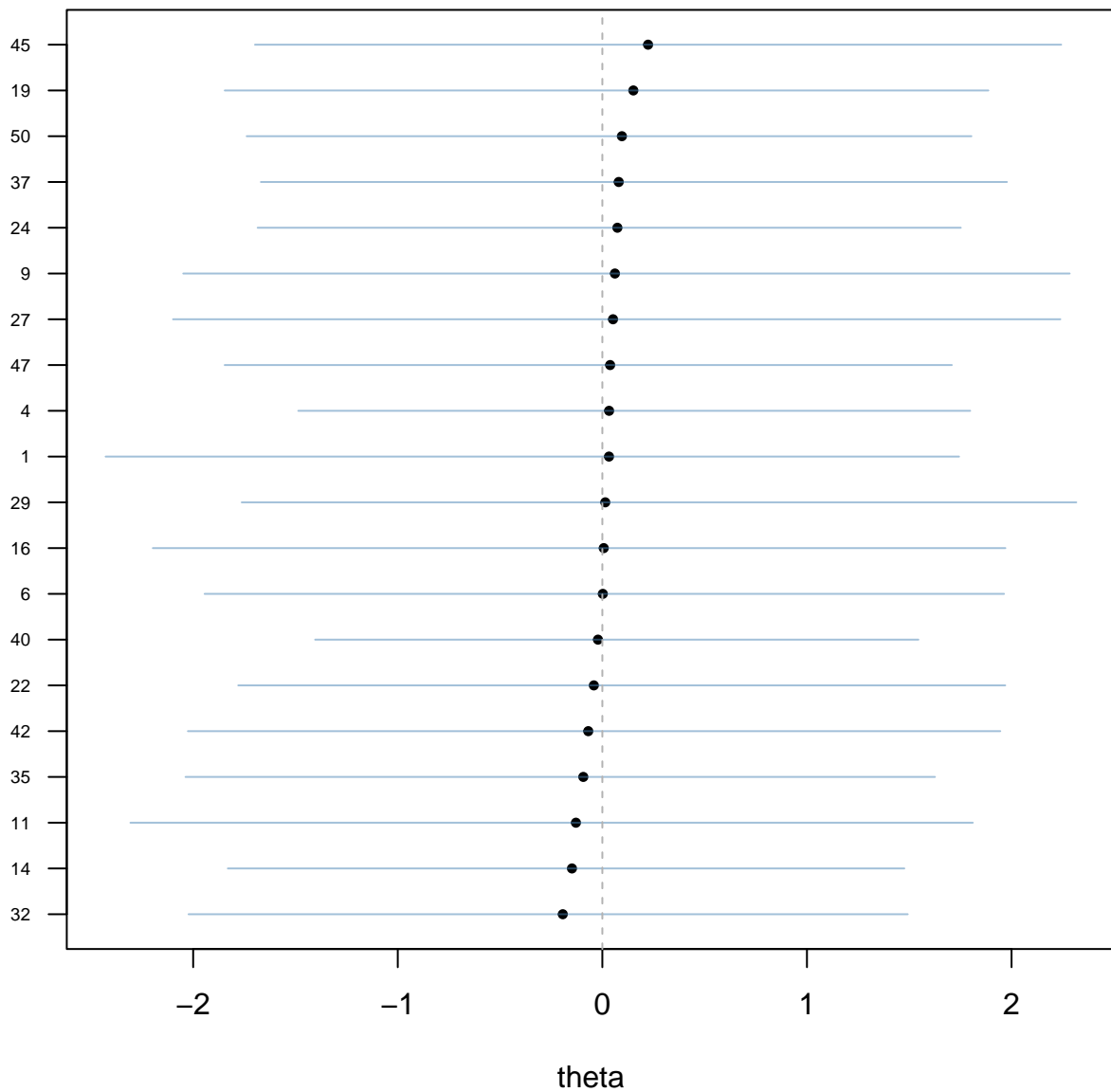
**theta[2]**



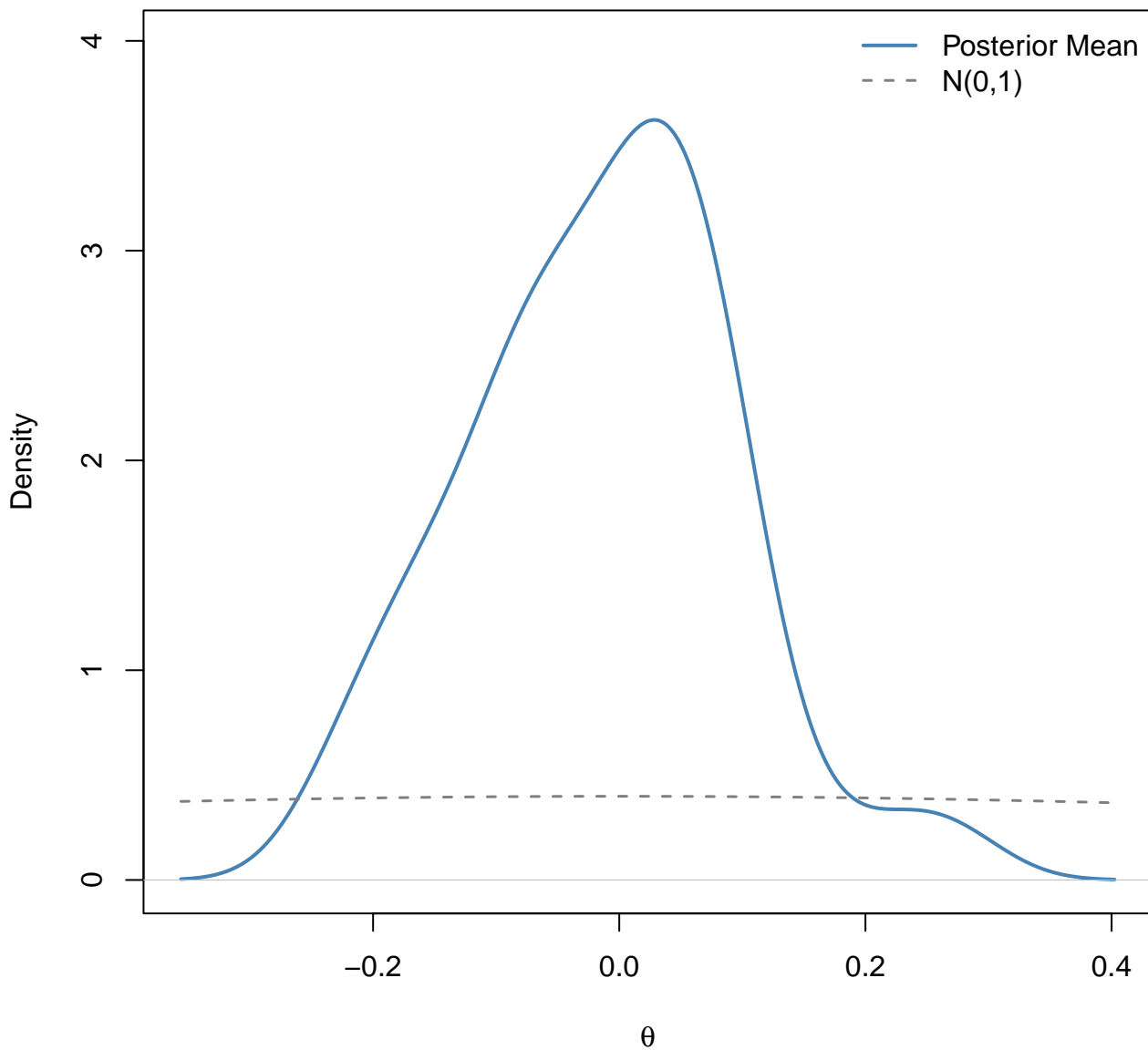
# Caterpillar: beta (95% CI)



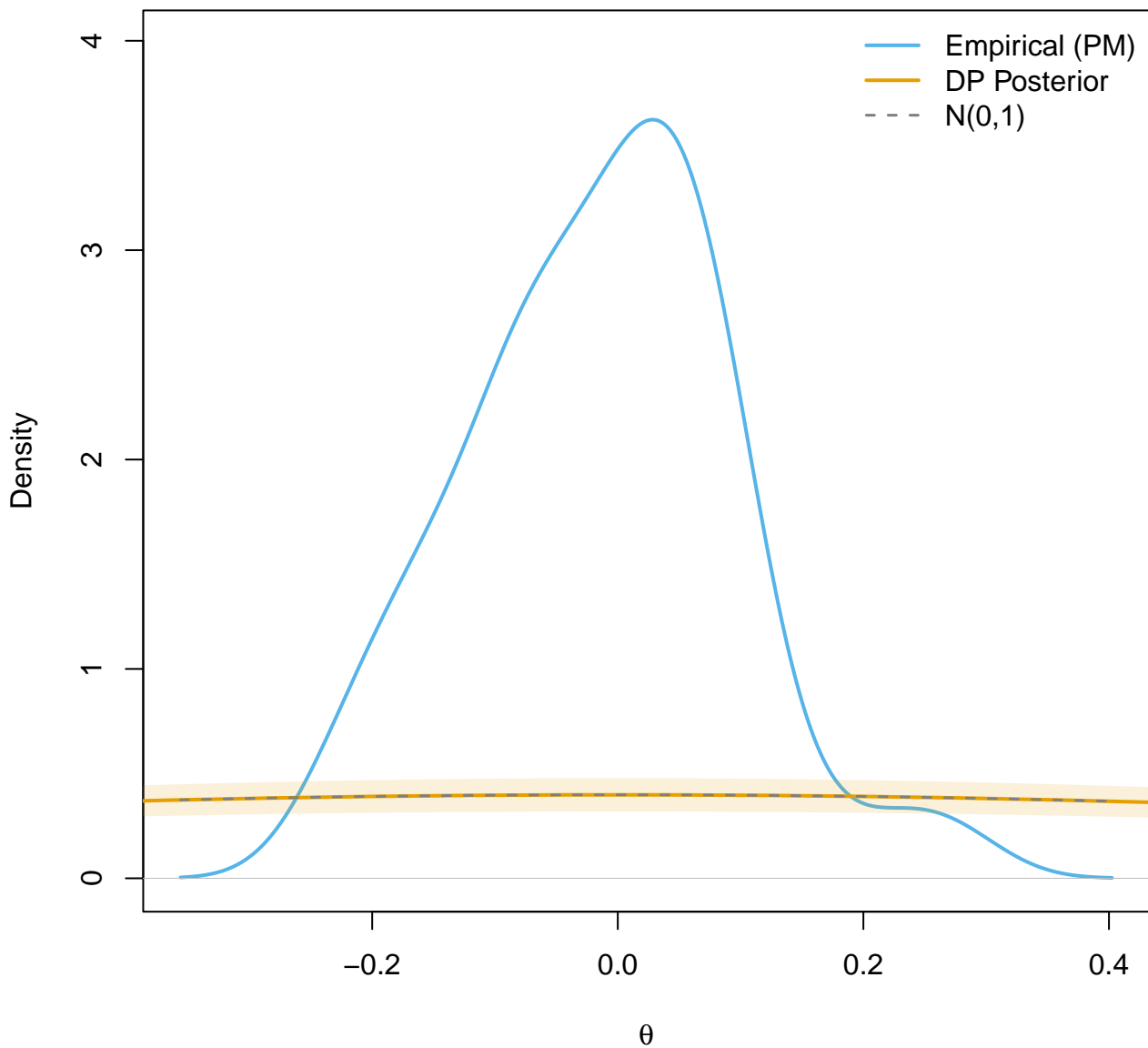
# Caterpillar: theta (95% CI)



Posterior Mean Density vs Reference

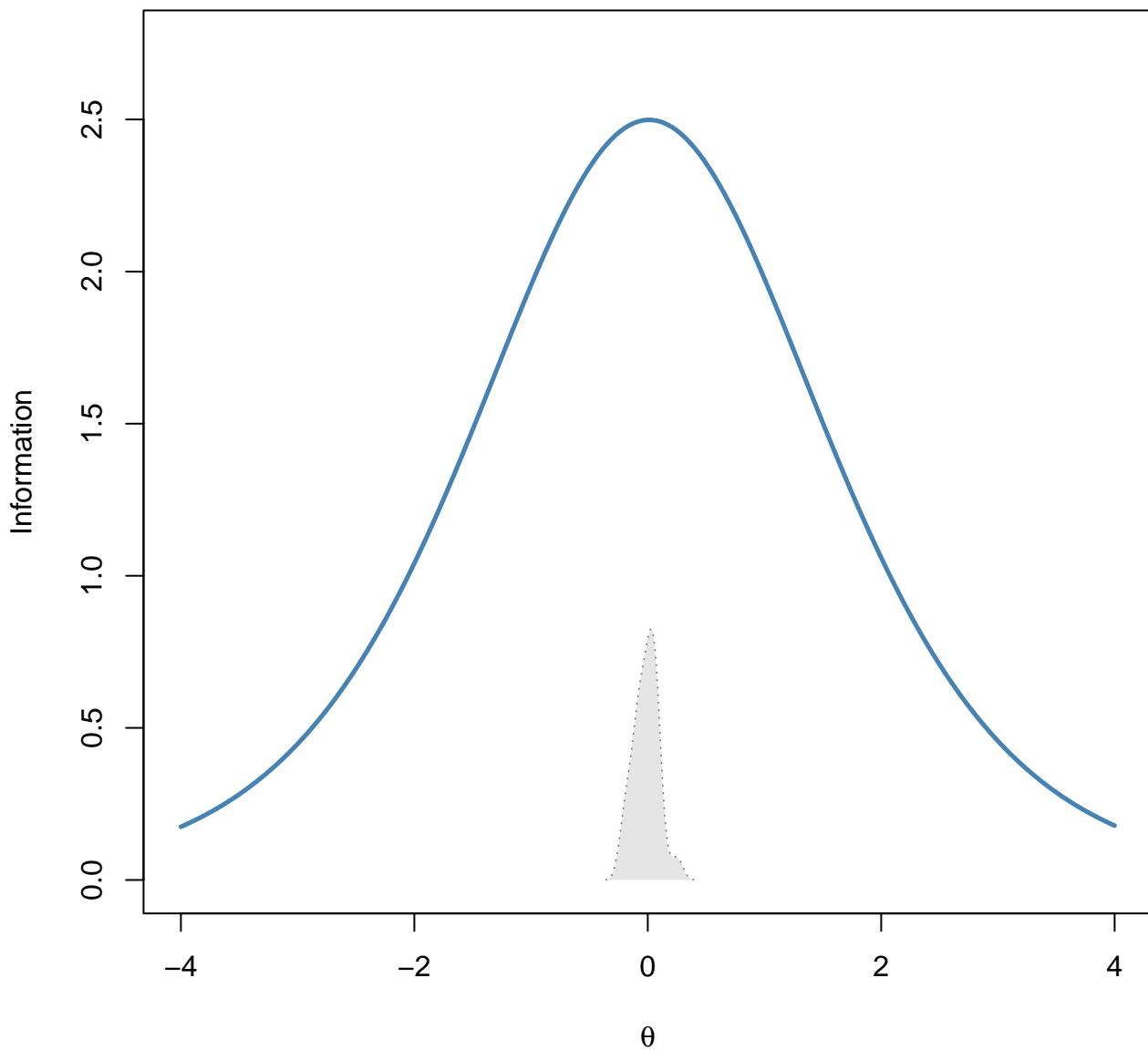


# Posterior Density Comparison

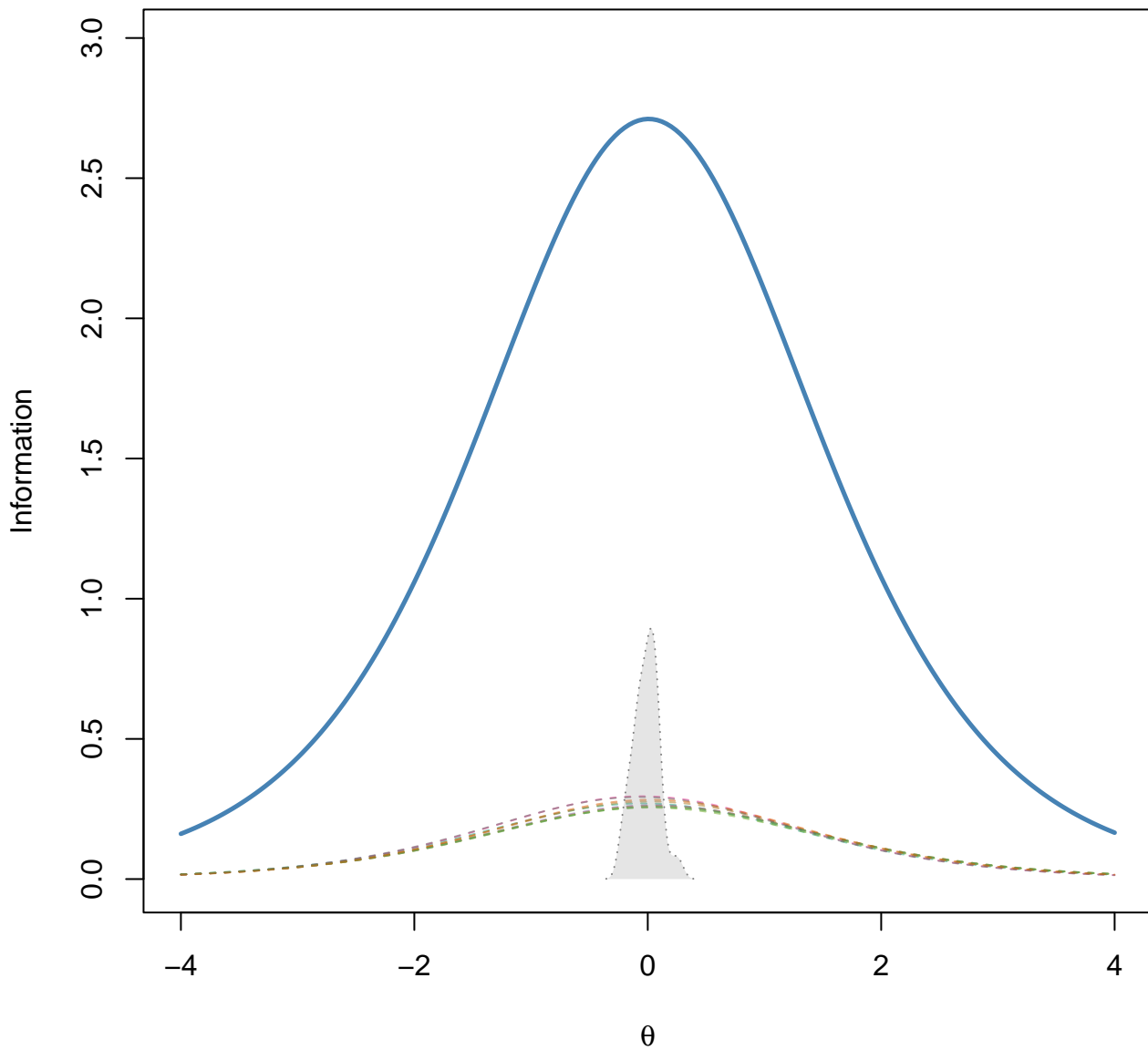




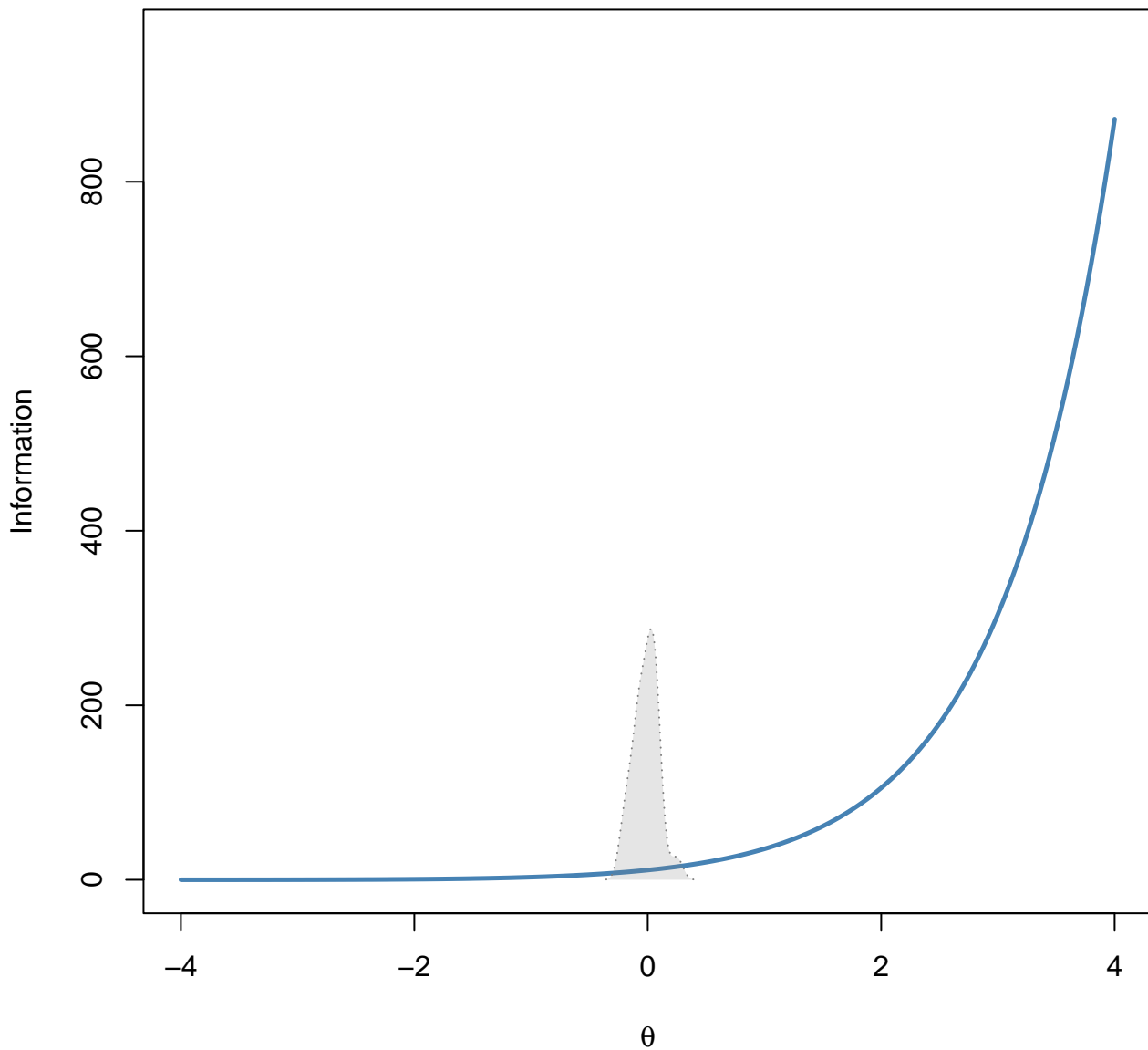
# Test Information Function (RASCH)



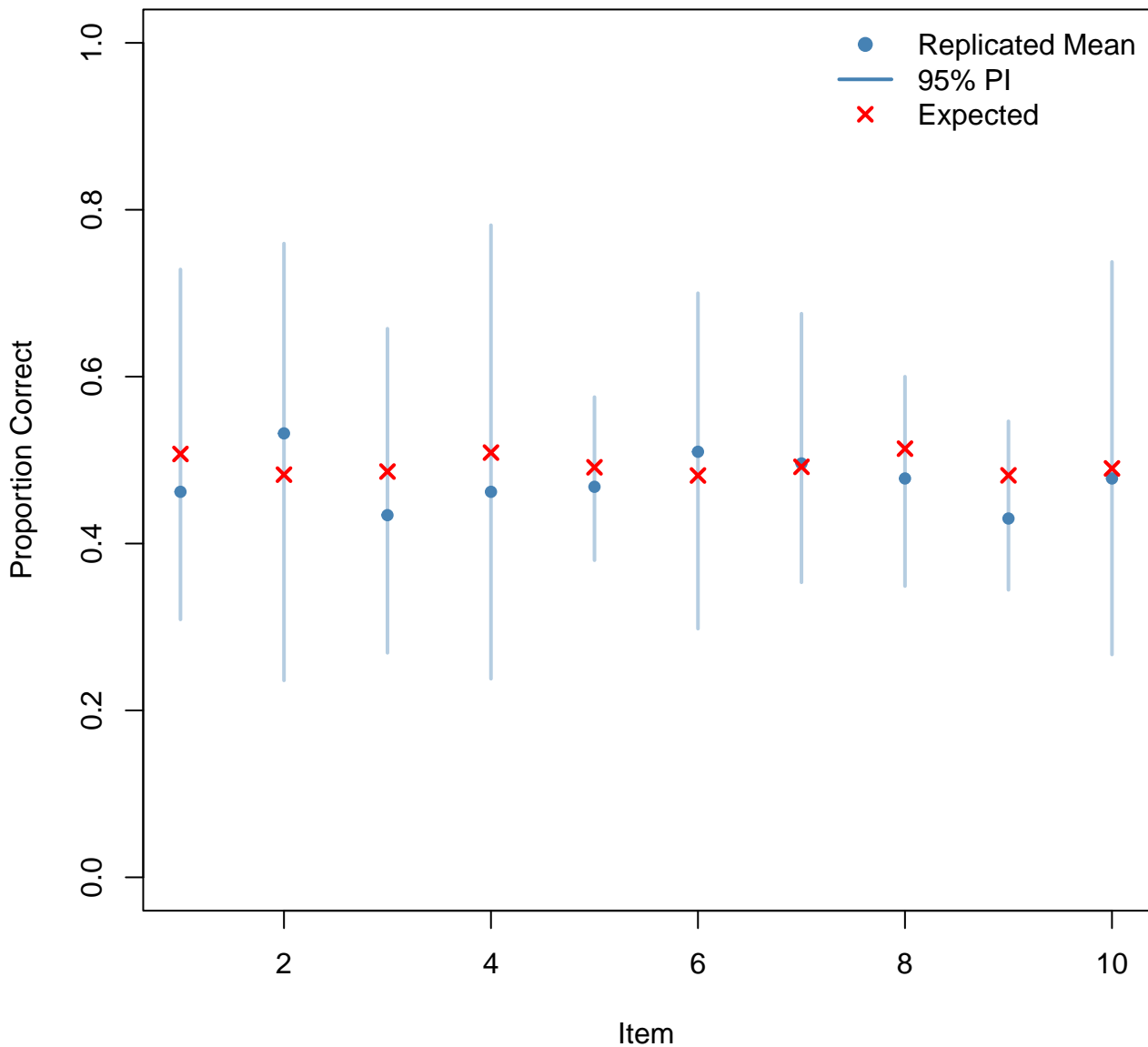
## Test Information Function (2PL)



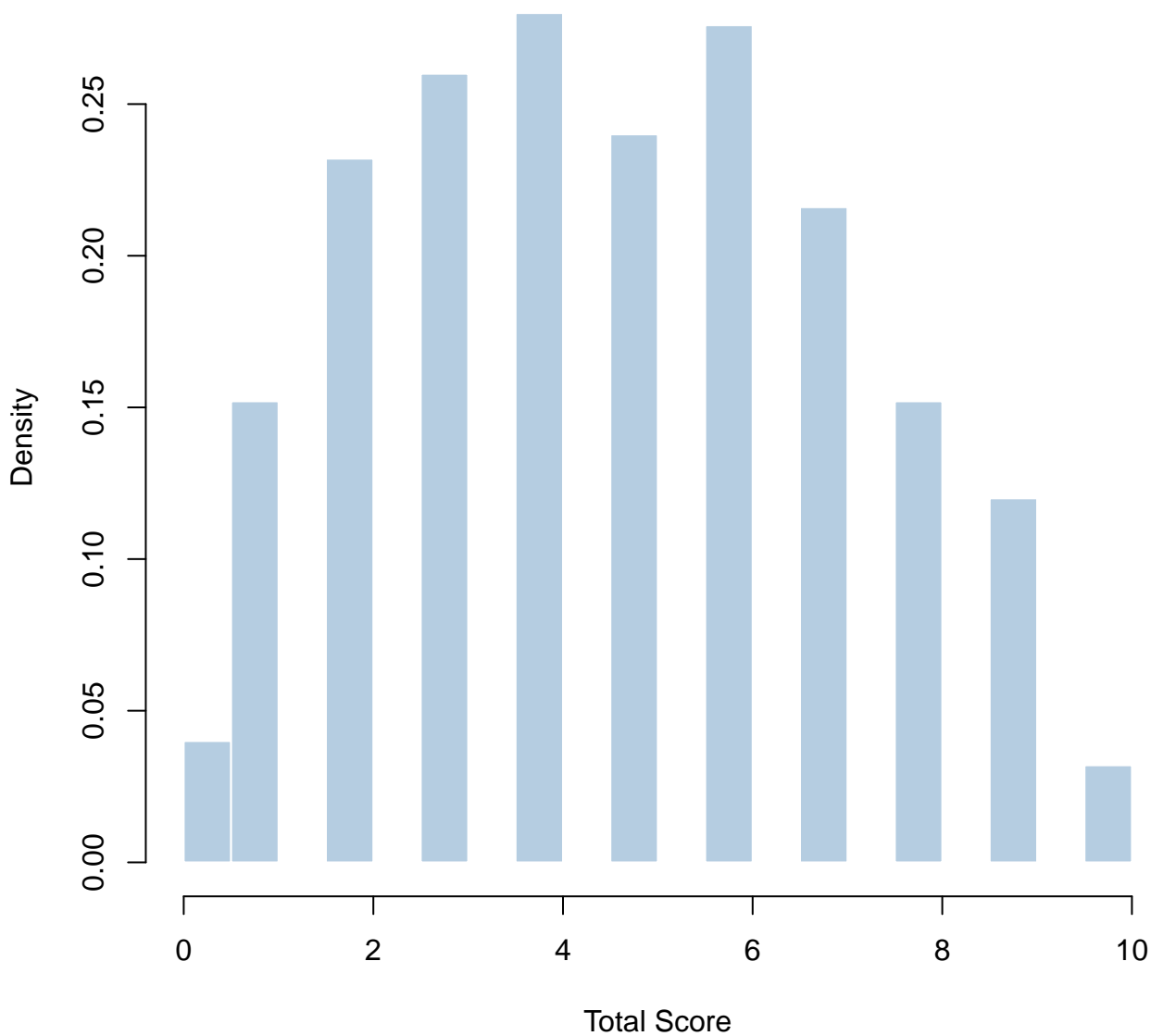
# Test Information Function (3PL)



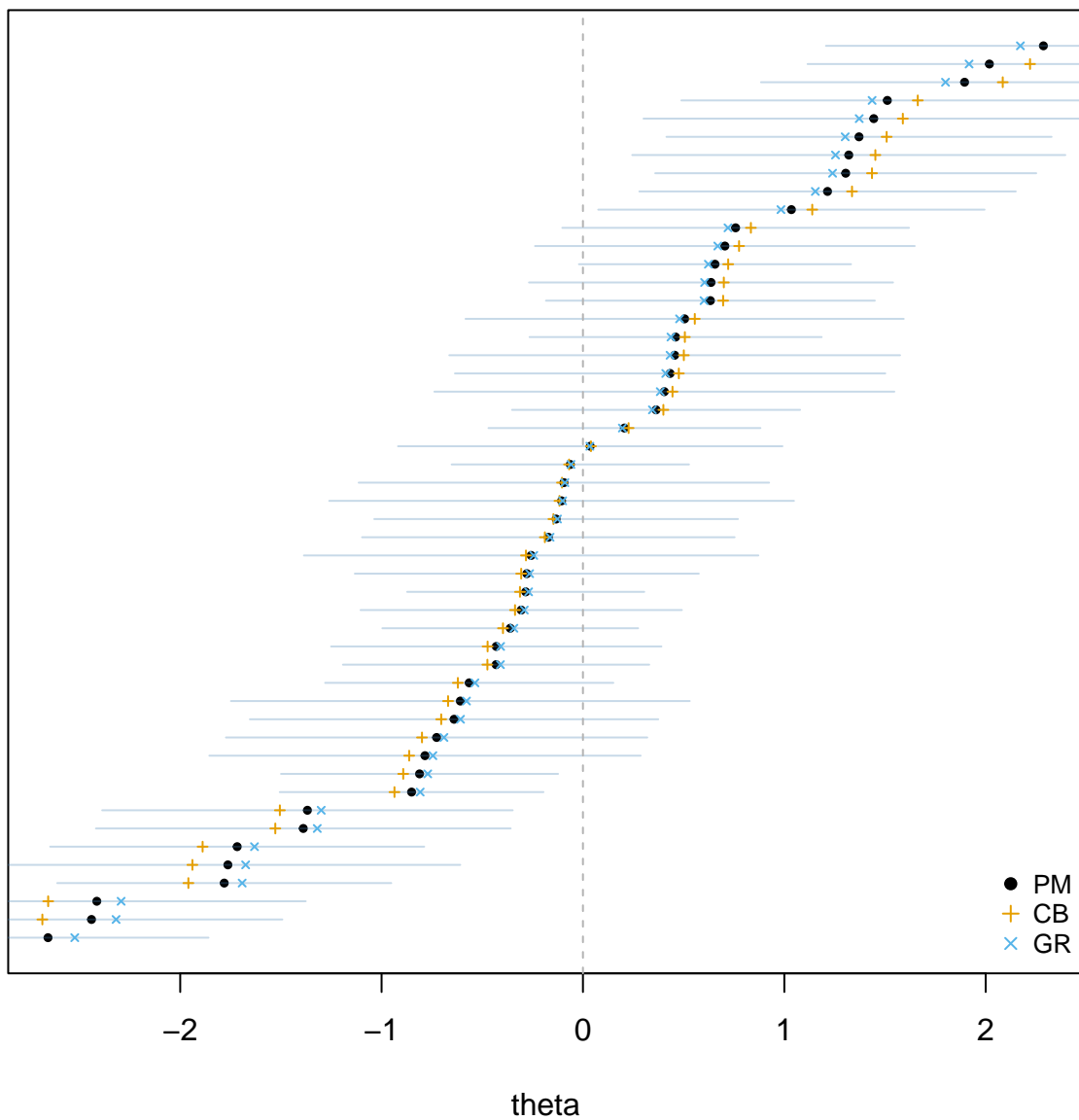
## Posterior Predictive Check: Item Proportions



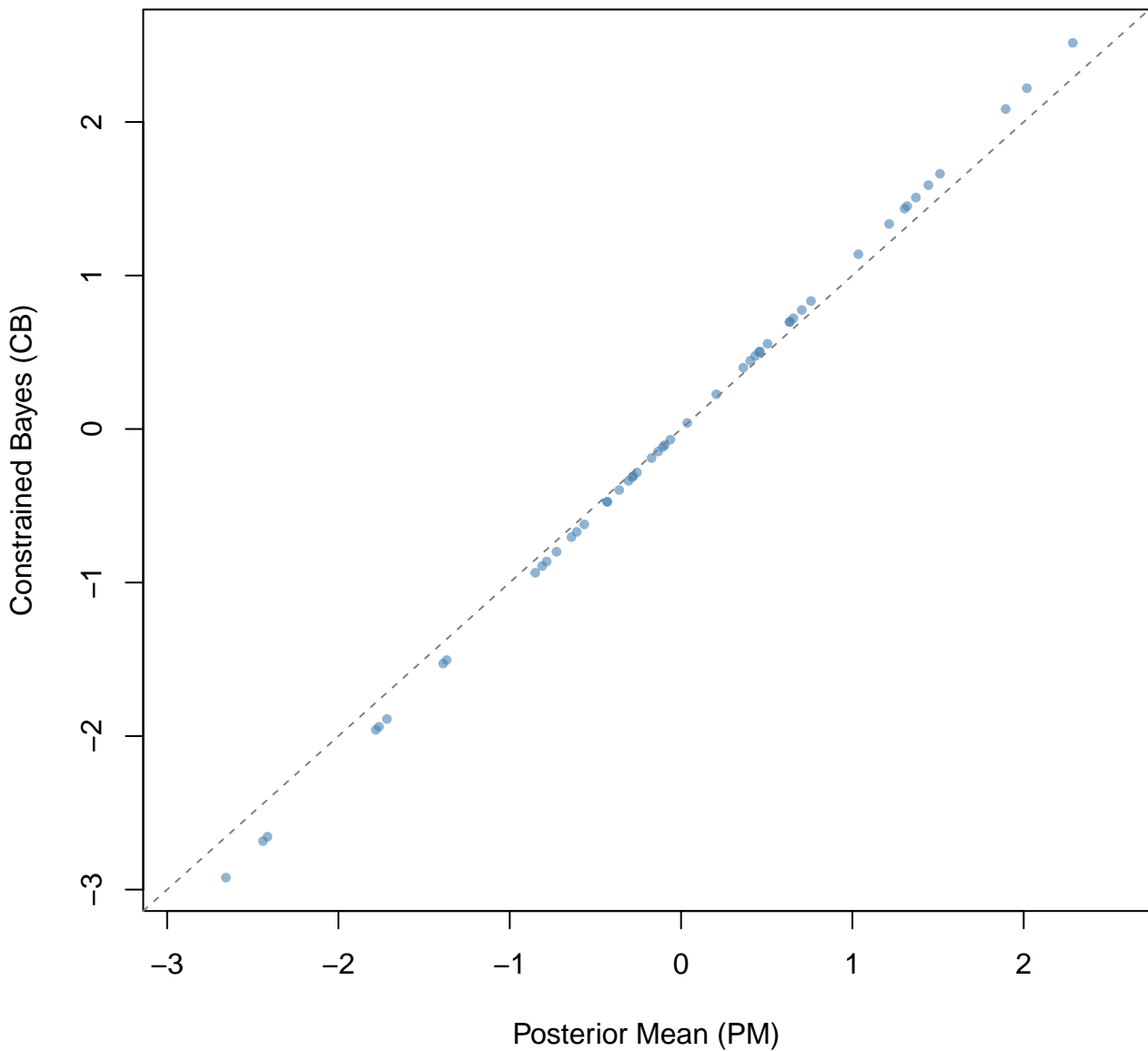
## PP Check: Total Score Distribution



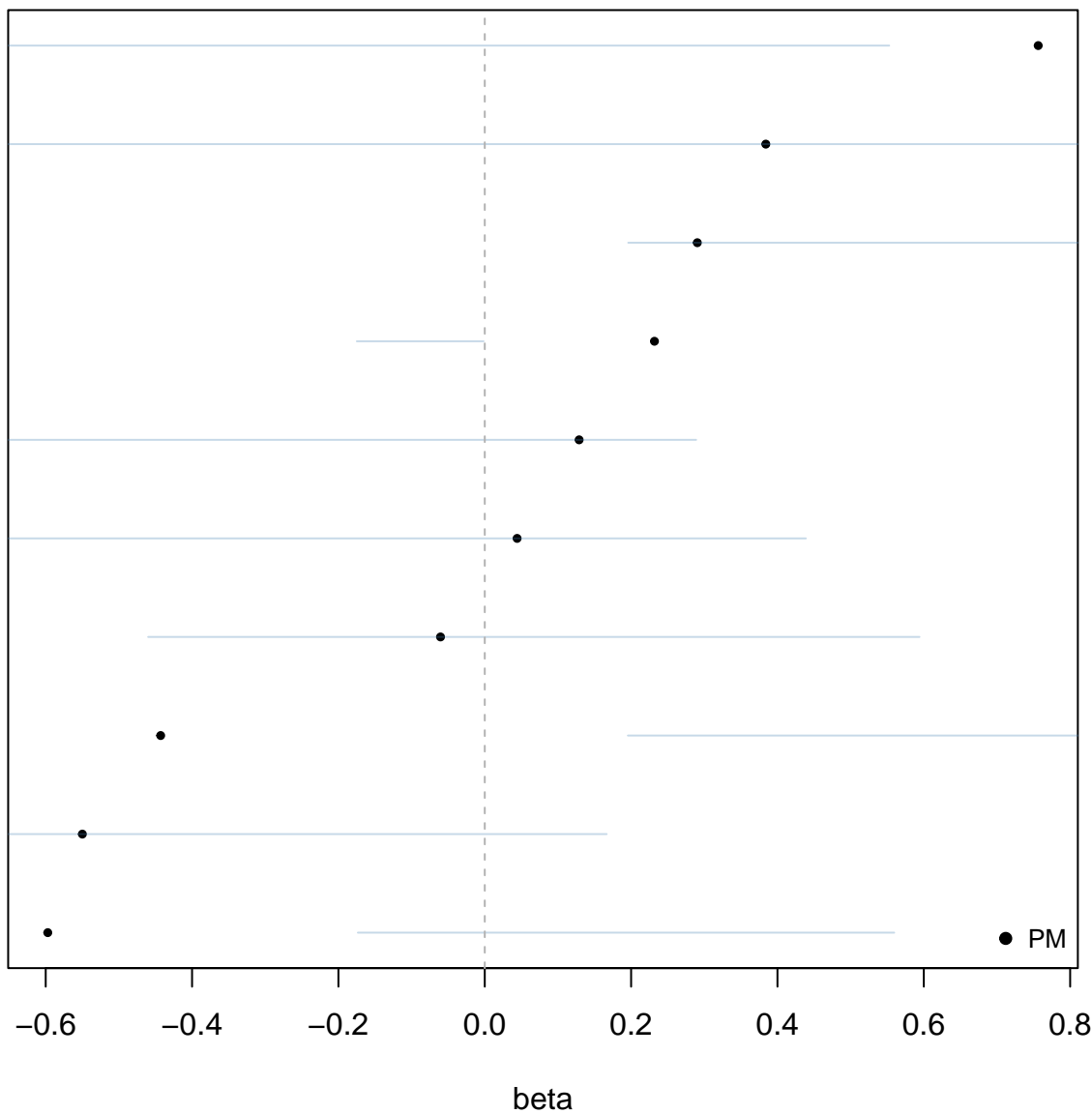
# theta Estimates



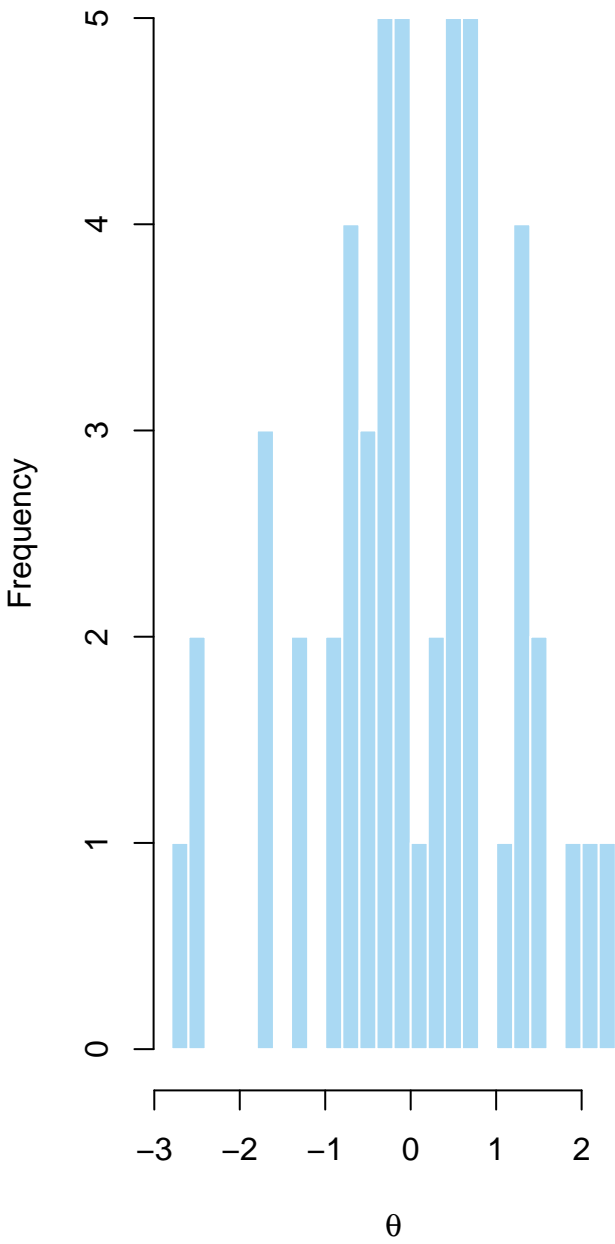
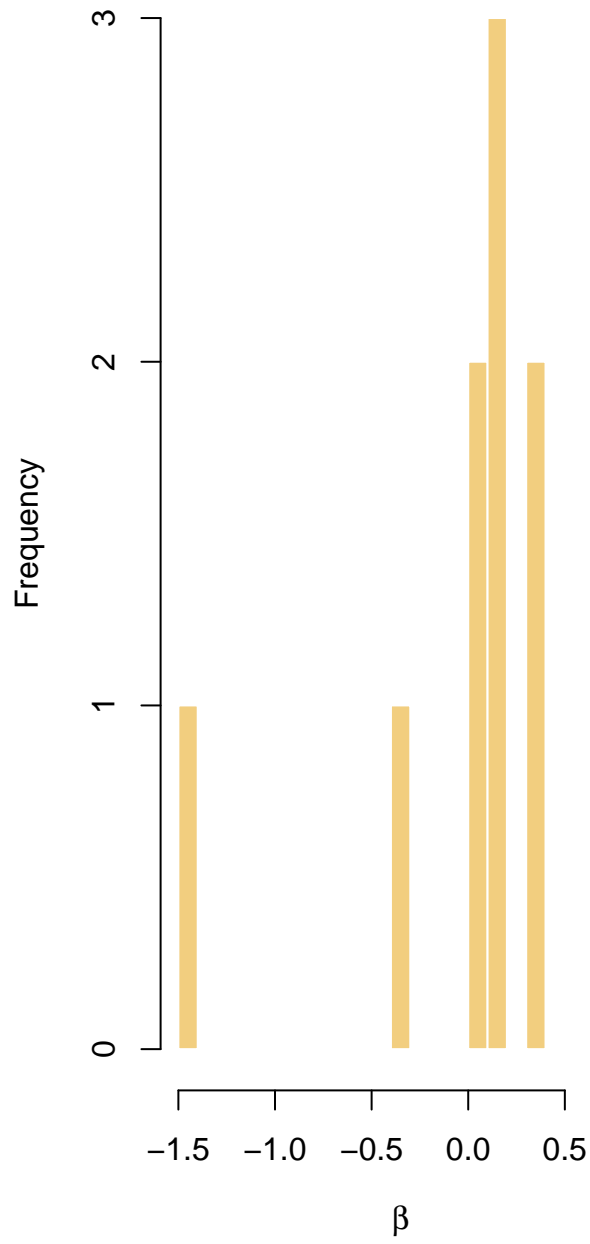
# theta Shrinkage: PM vs CB

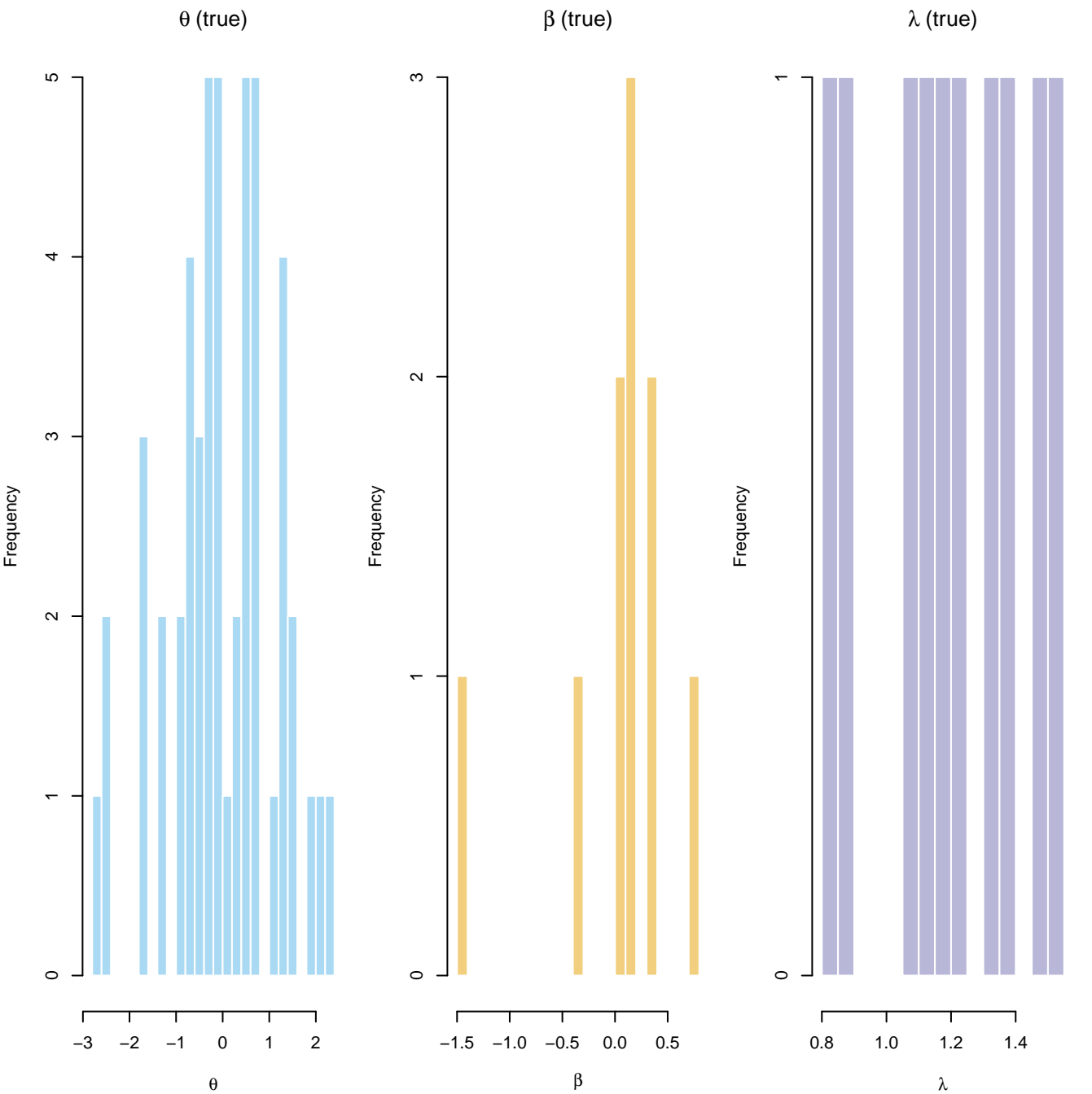


# beta Estimates

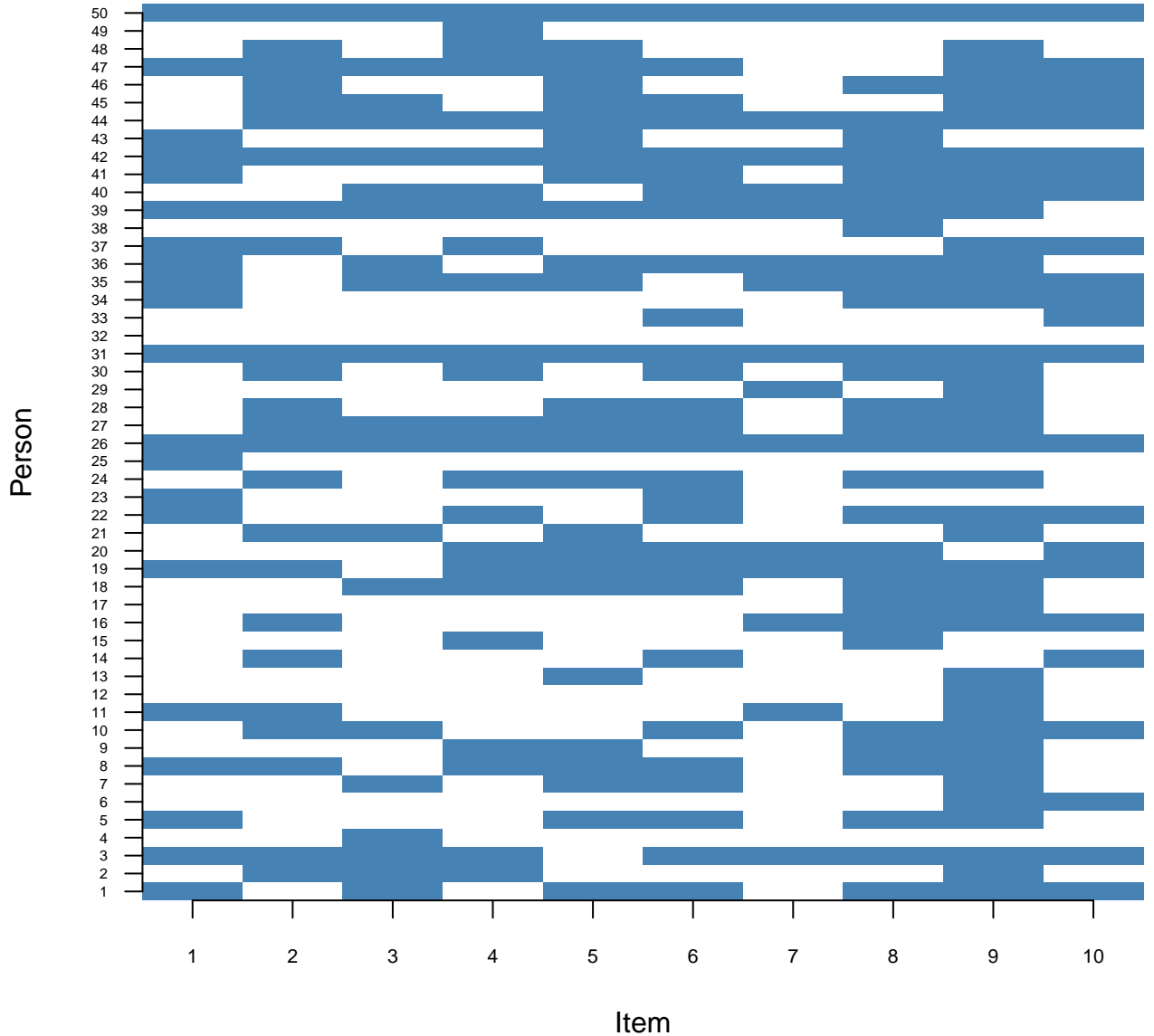




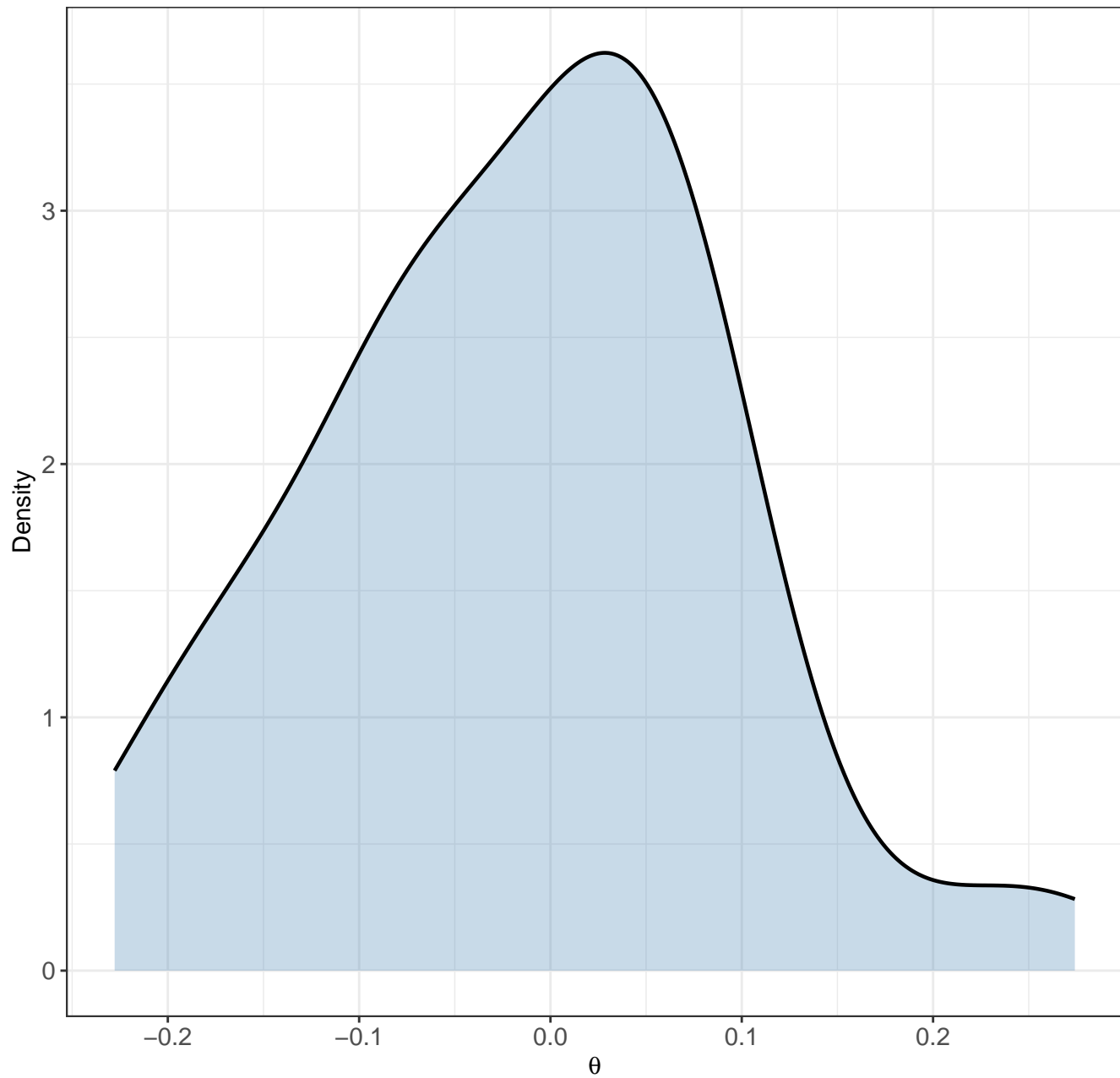
$\theta$  (true) $\beta$  (true)



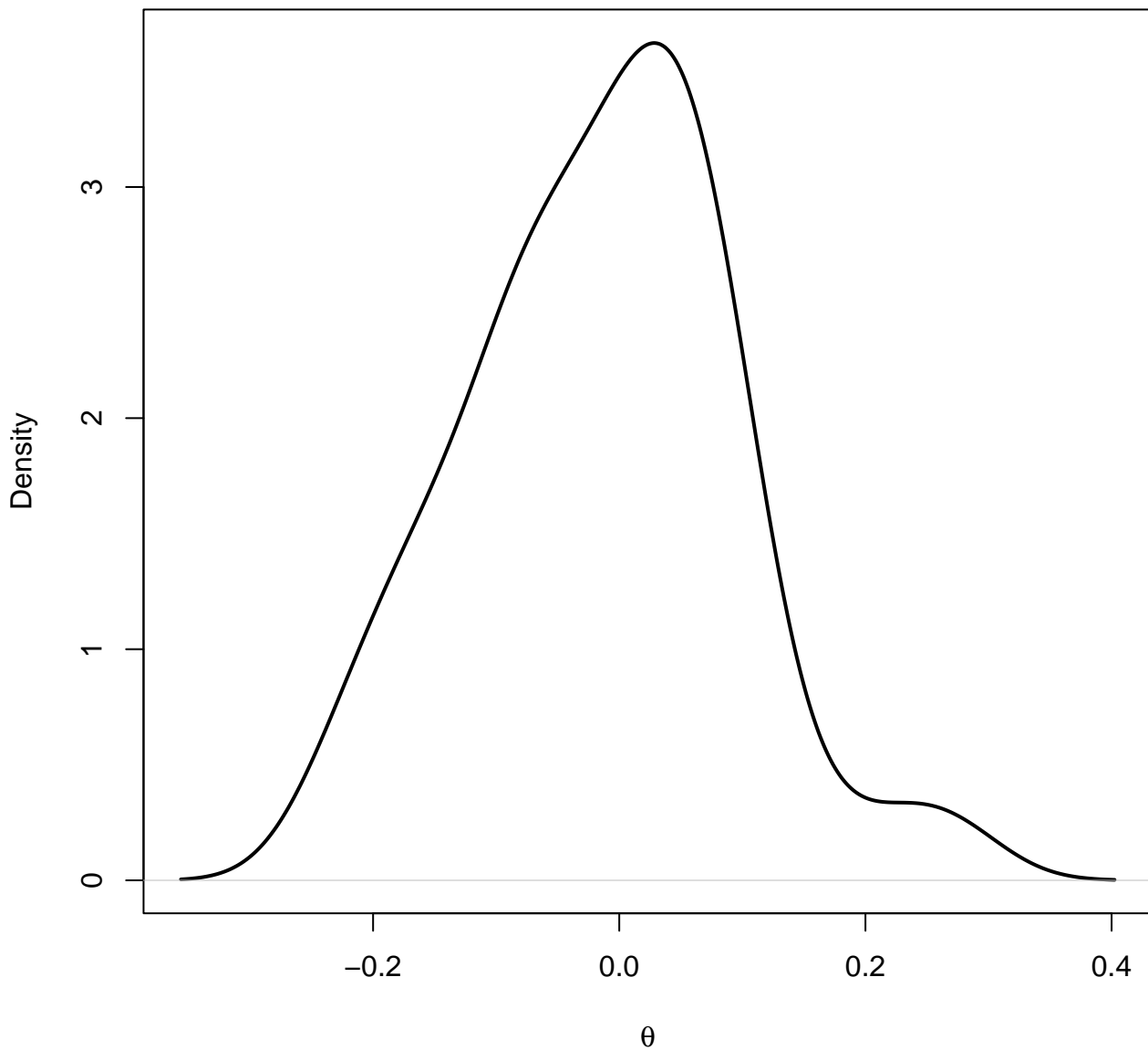
## Response Matrix



RASCH (normal) --- Posterior Mean Density



# RASCH (normal) -- Posterior Mean Density



RASCH (normal) --- Posterior Mean Density

