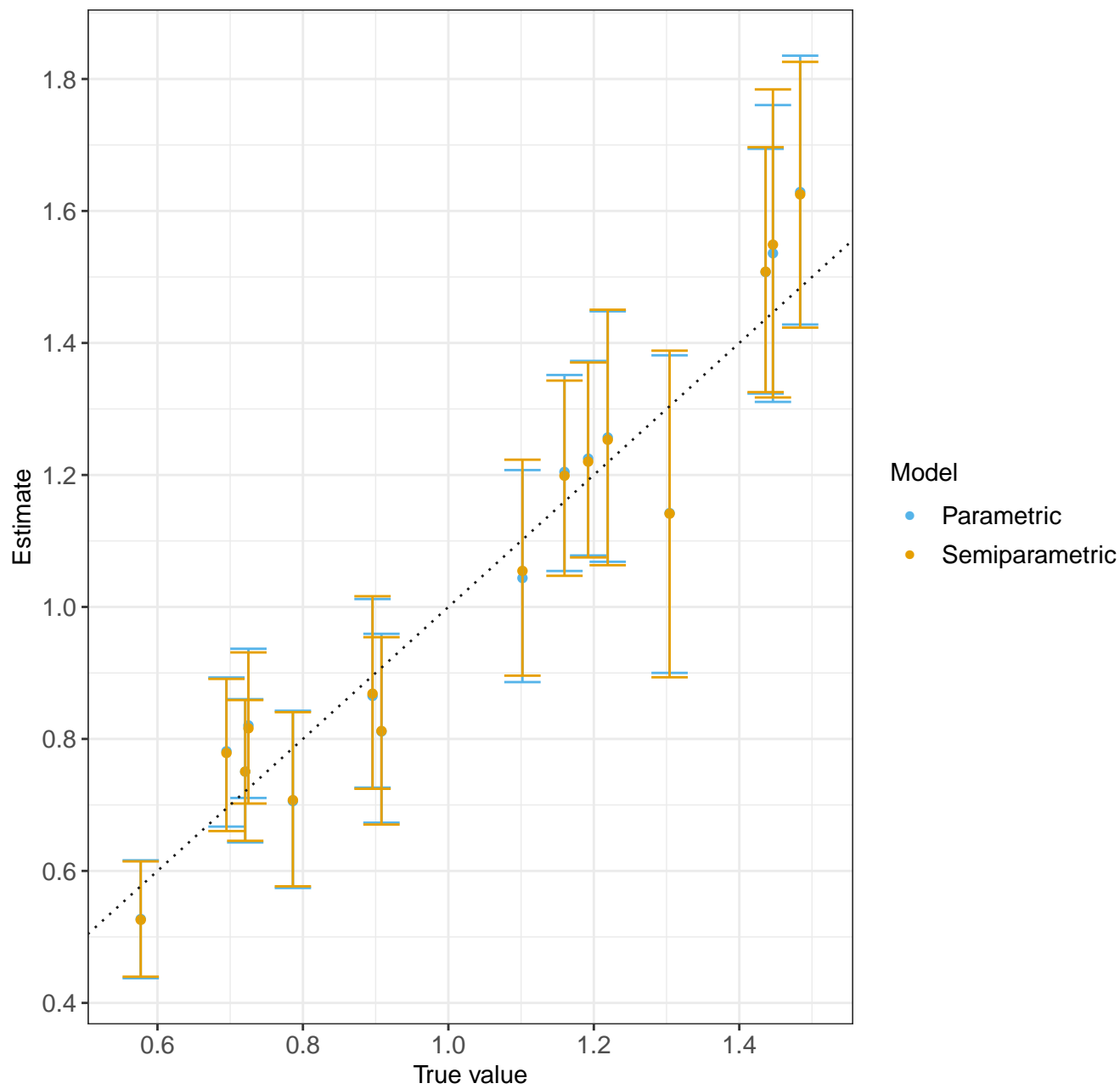
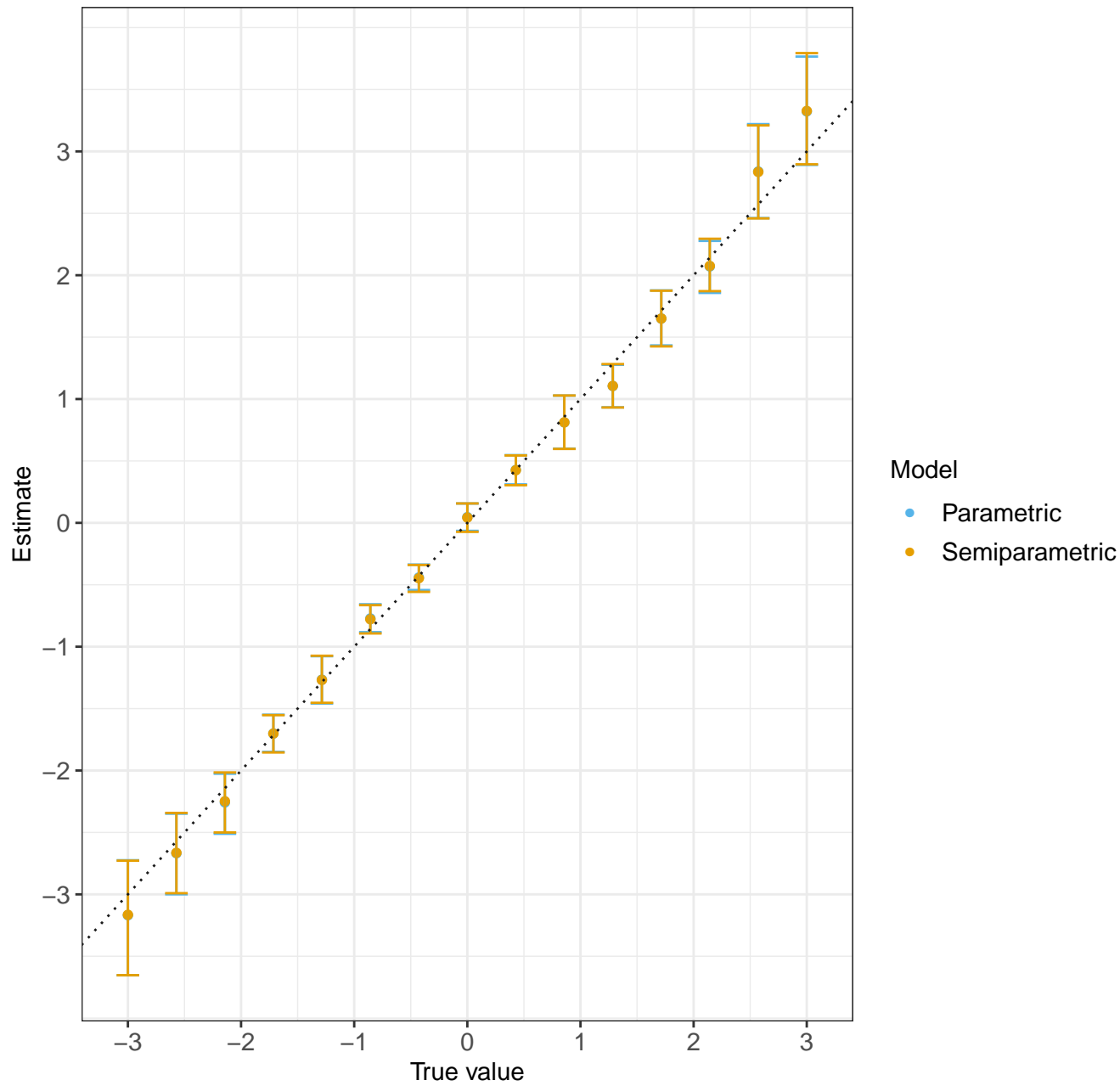


Discrimination parameters

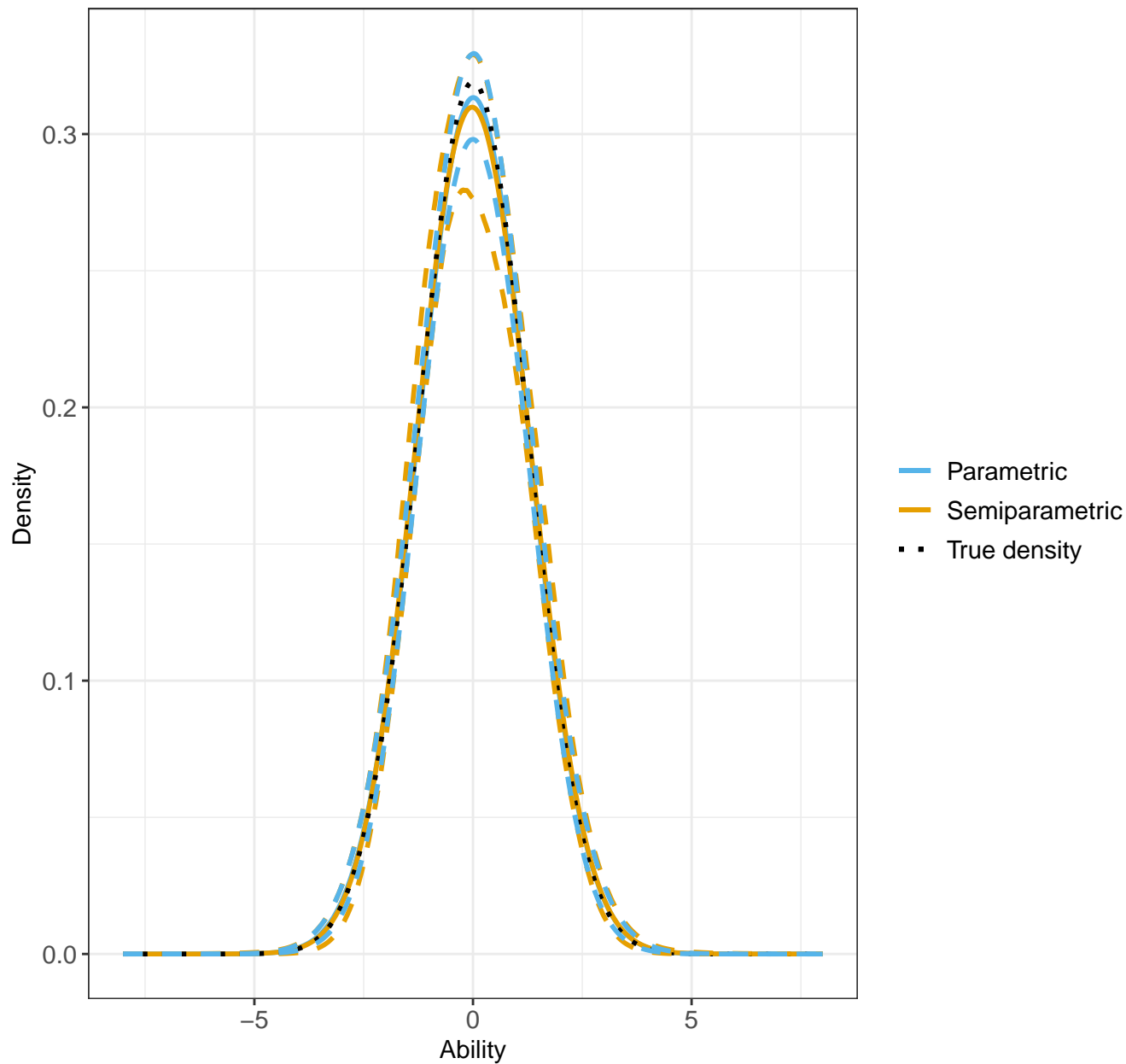


Difficulty parameters

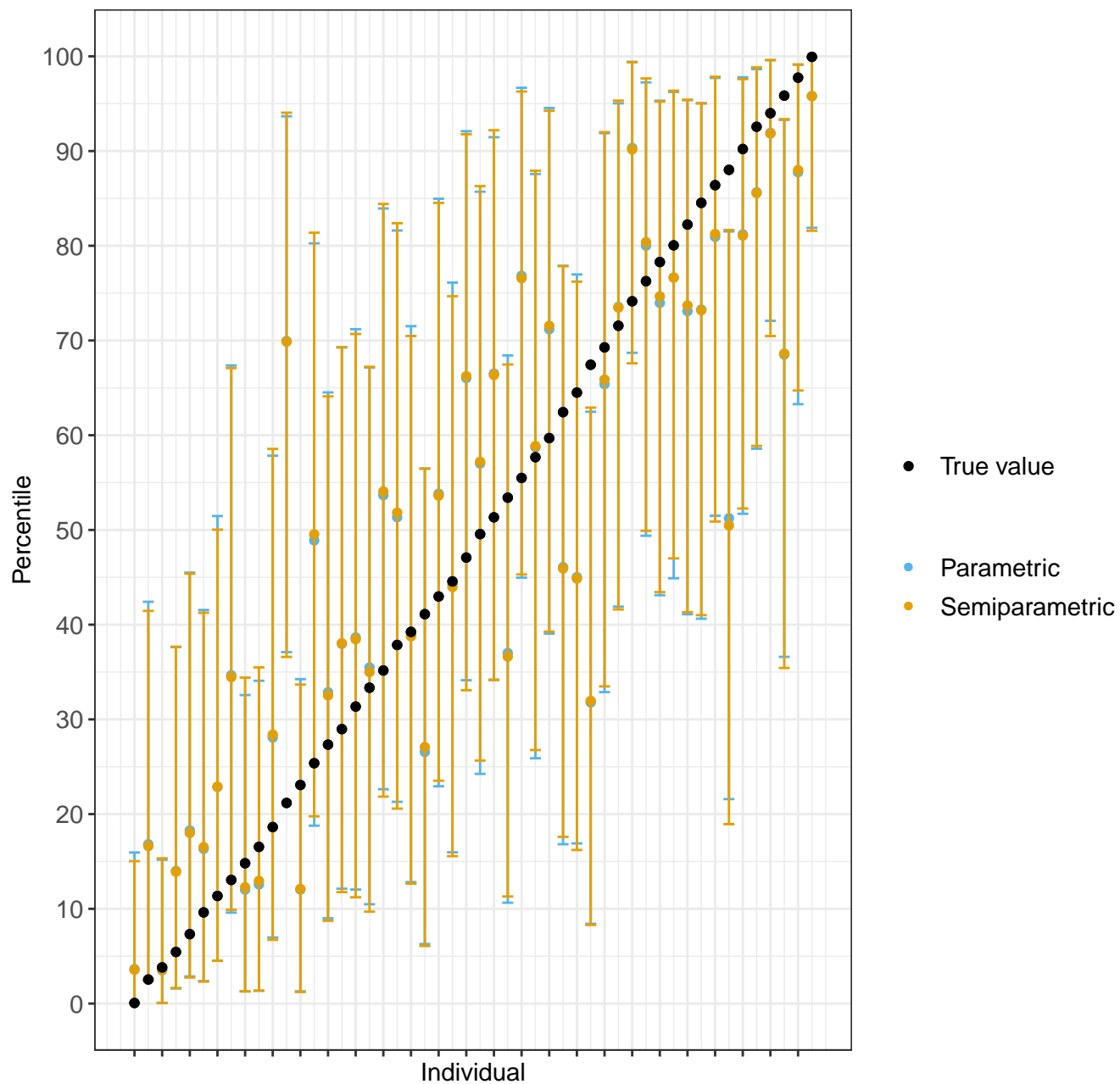


Unimodal simulation

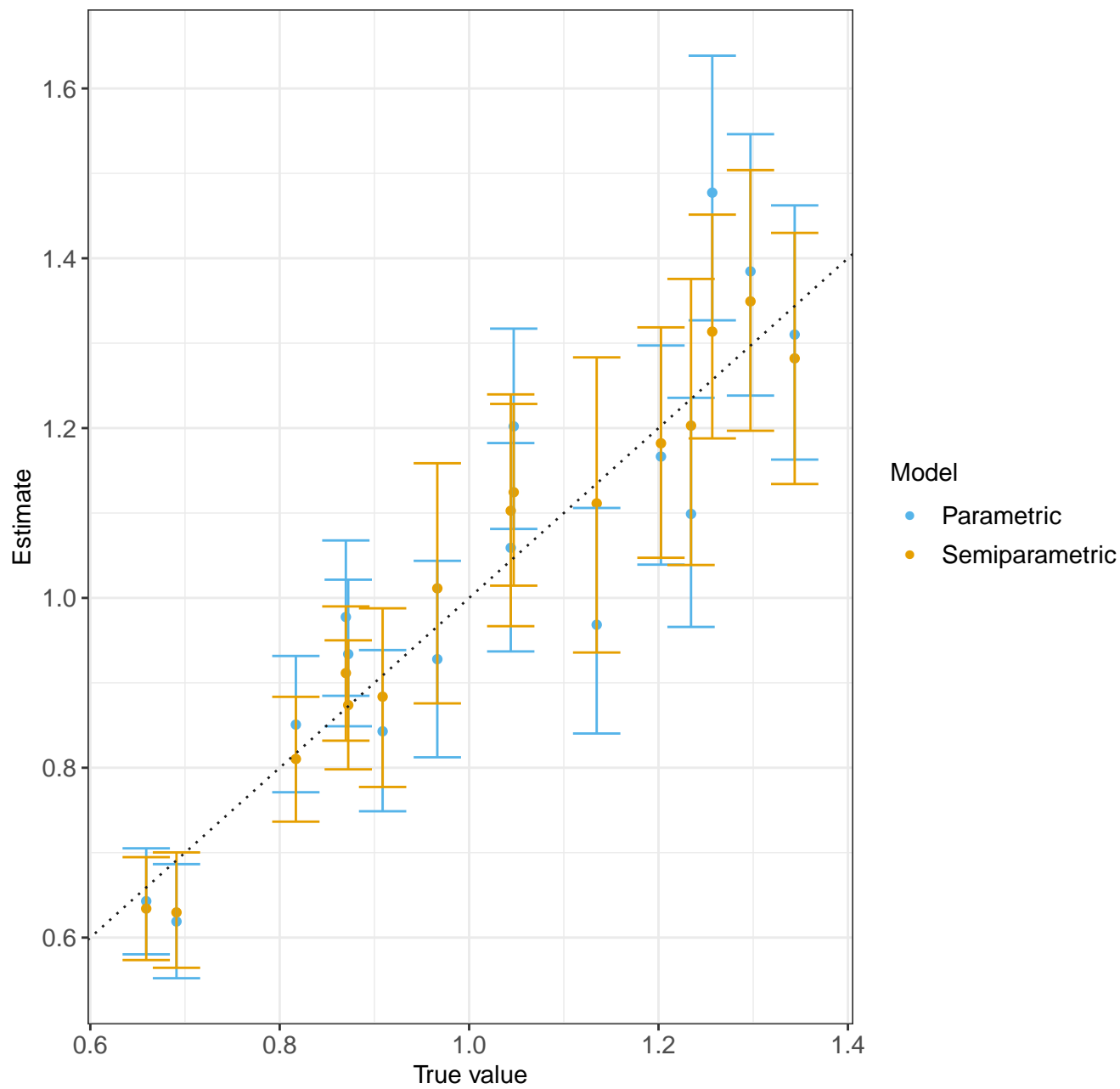
Estimate of distribution of abilities



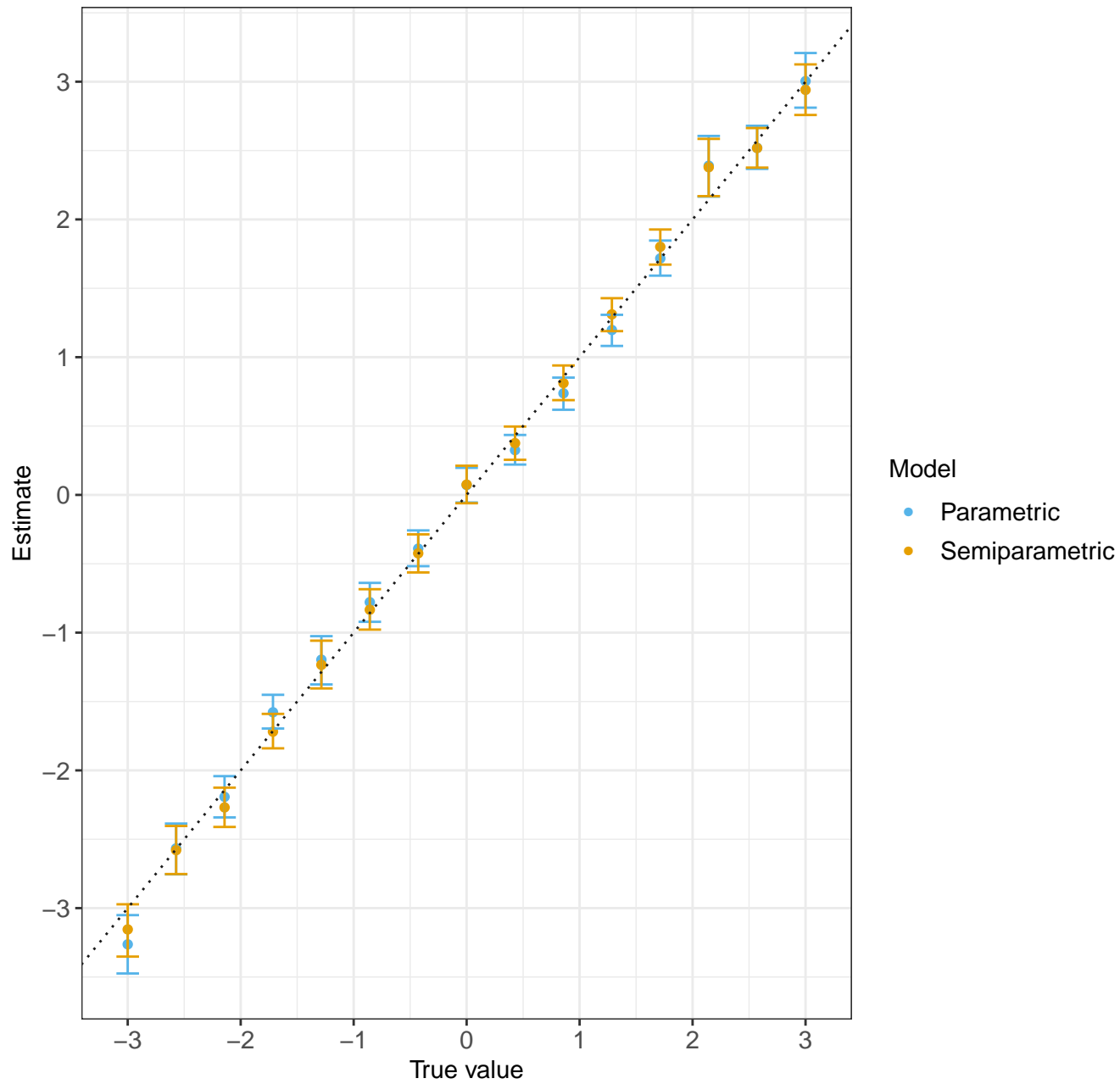
Unimodal simulation



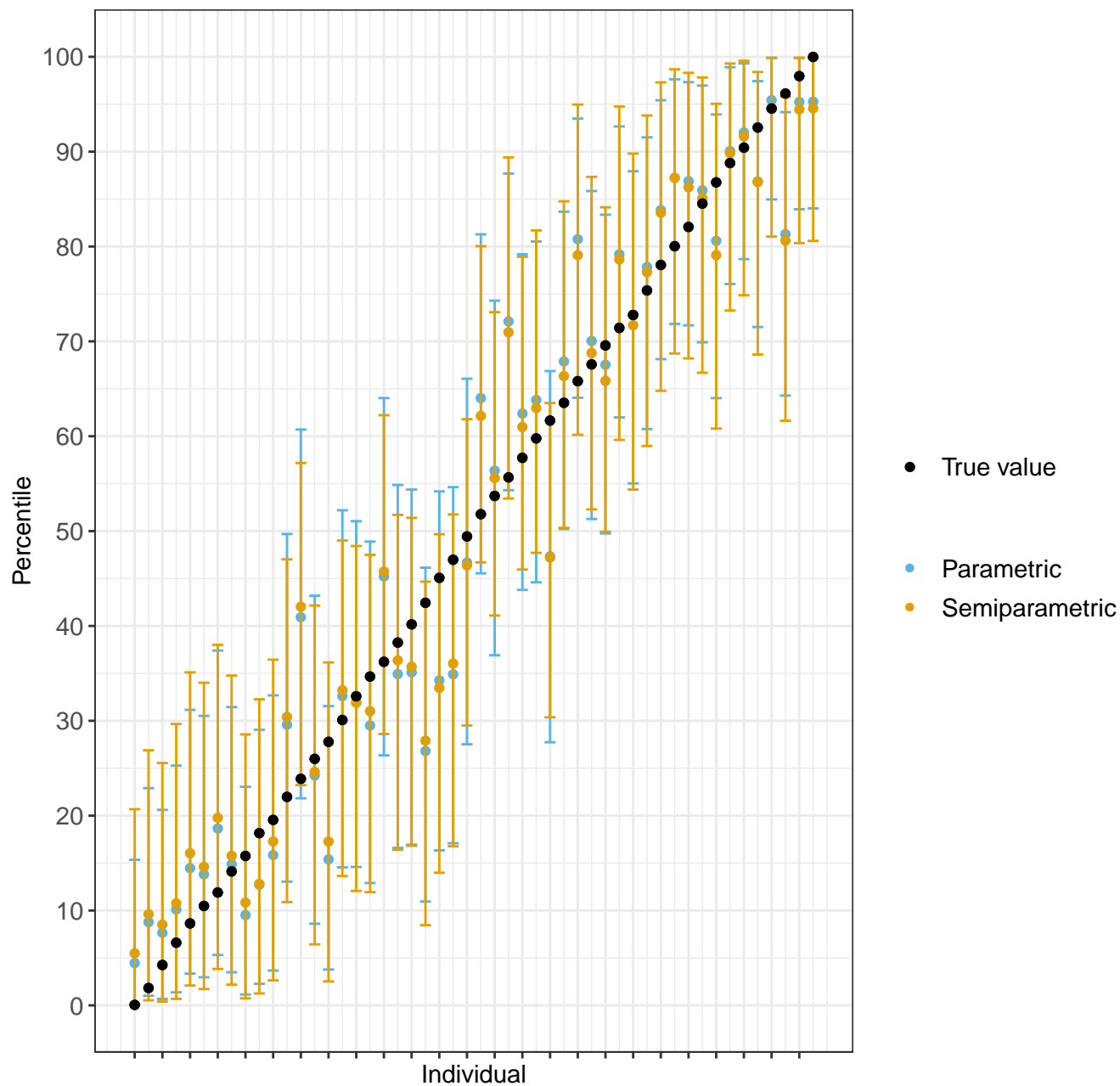
Discrimination parameters



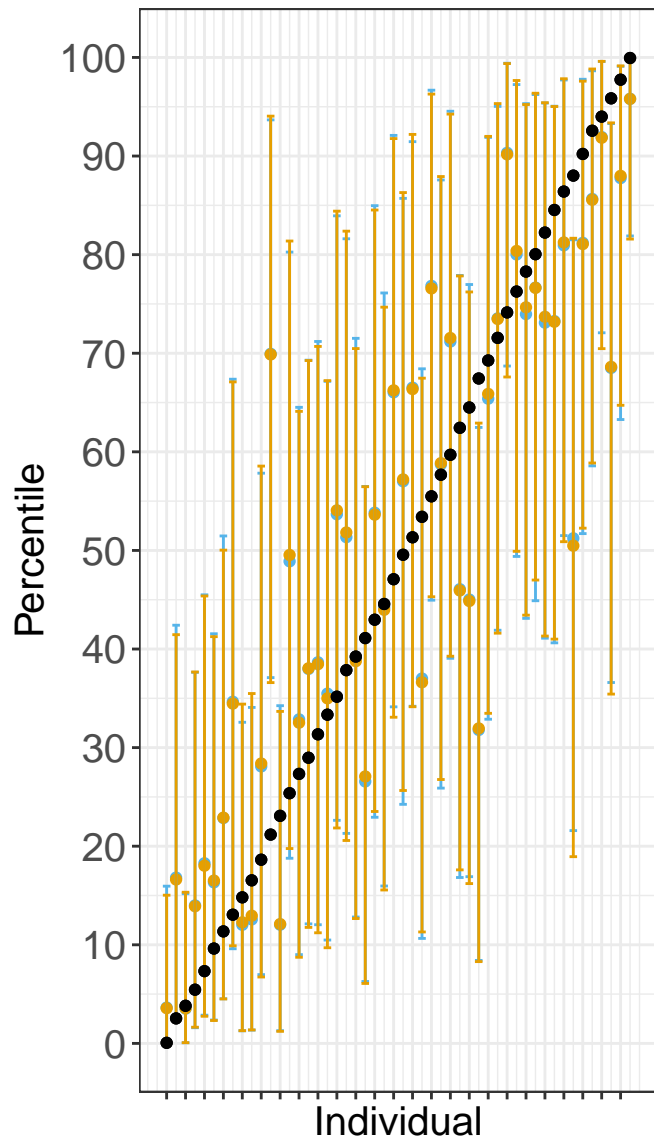
Difficulty parameters



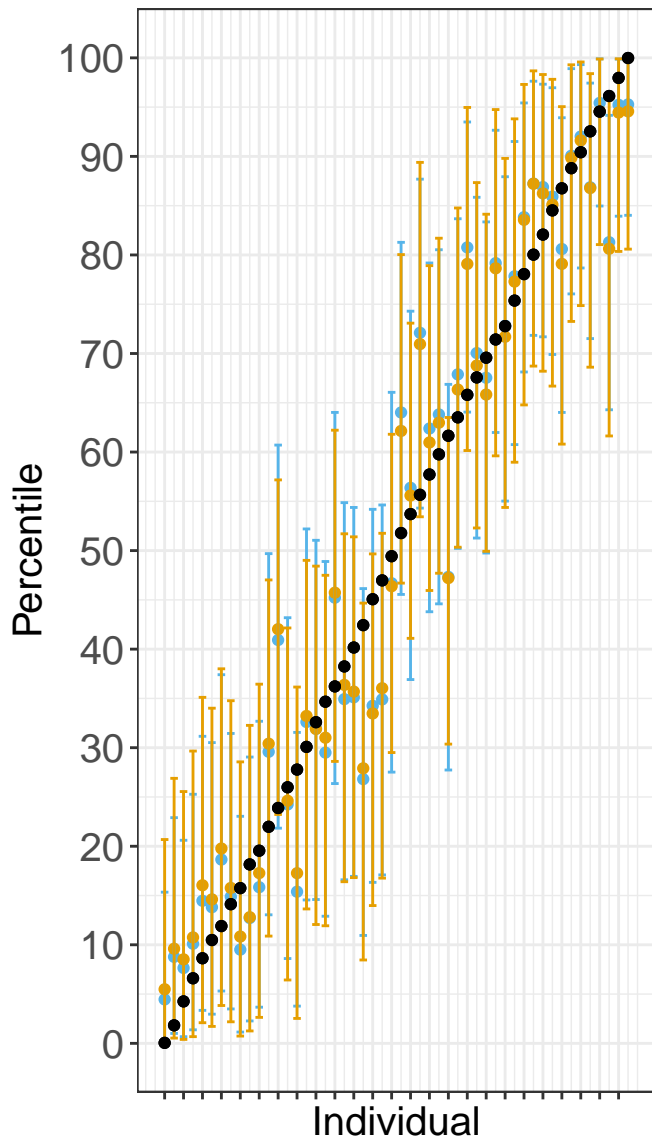
Bimodal simulation



Unimodal simulation

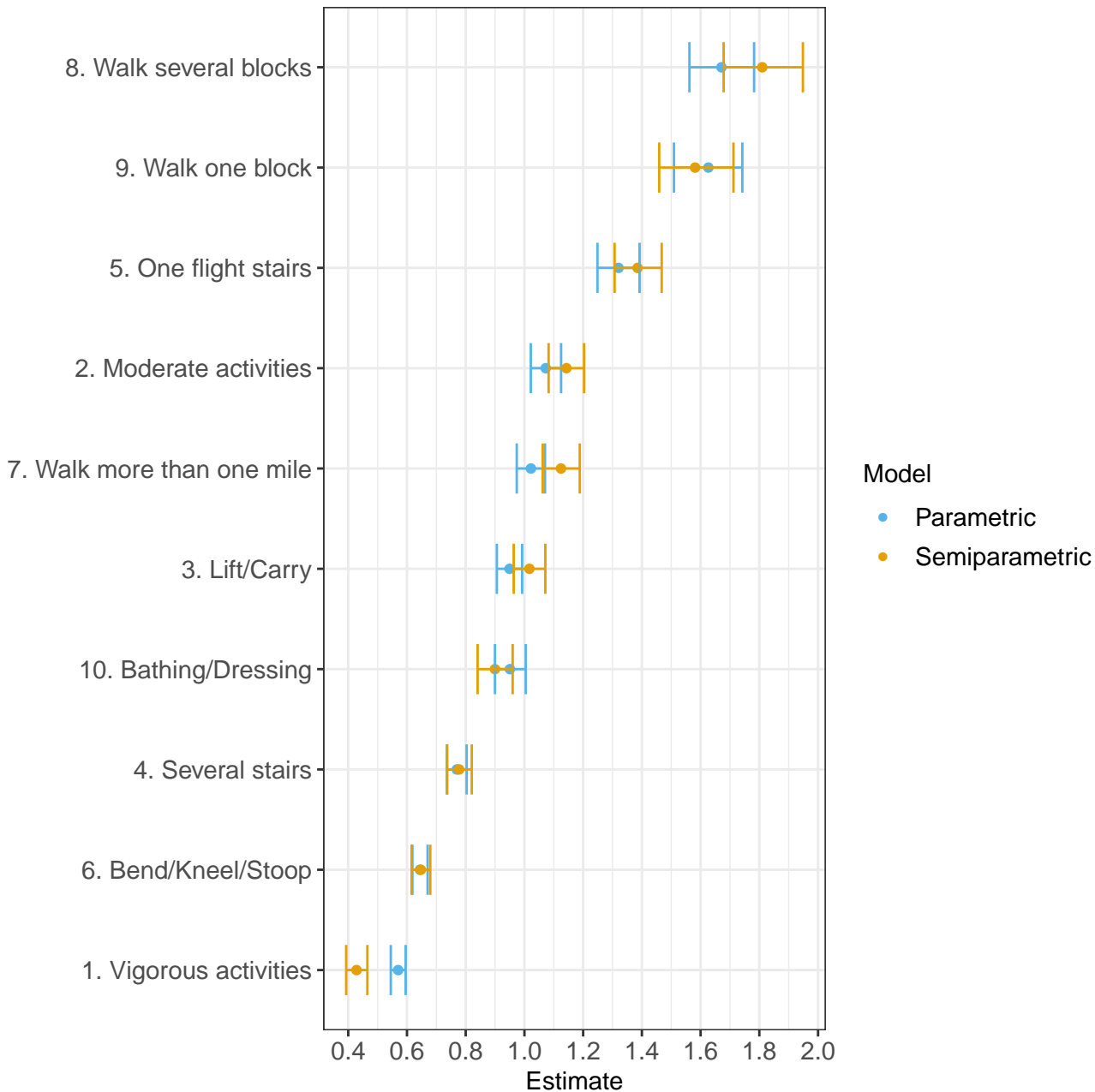


Bimodal simulation

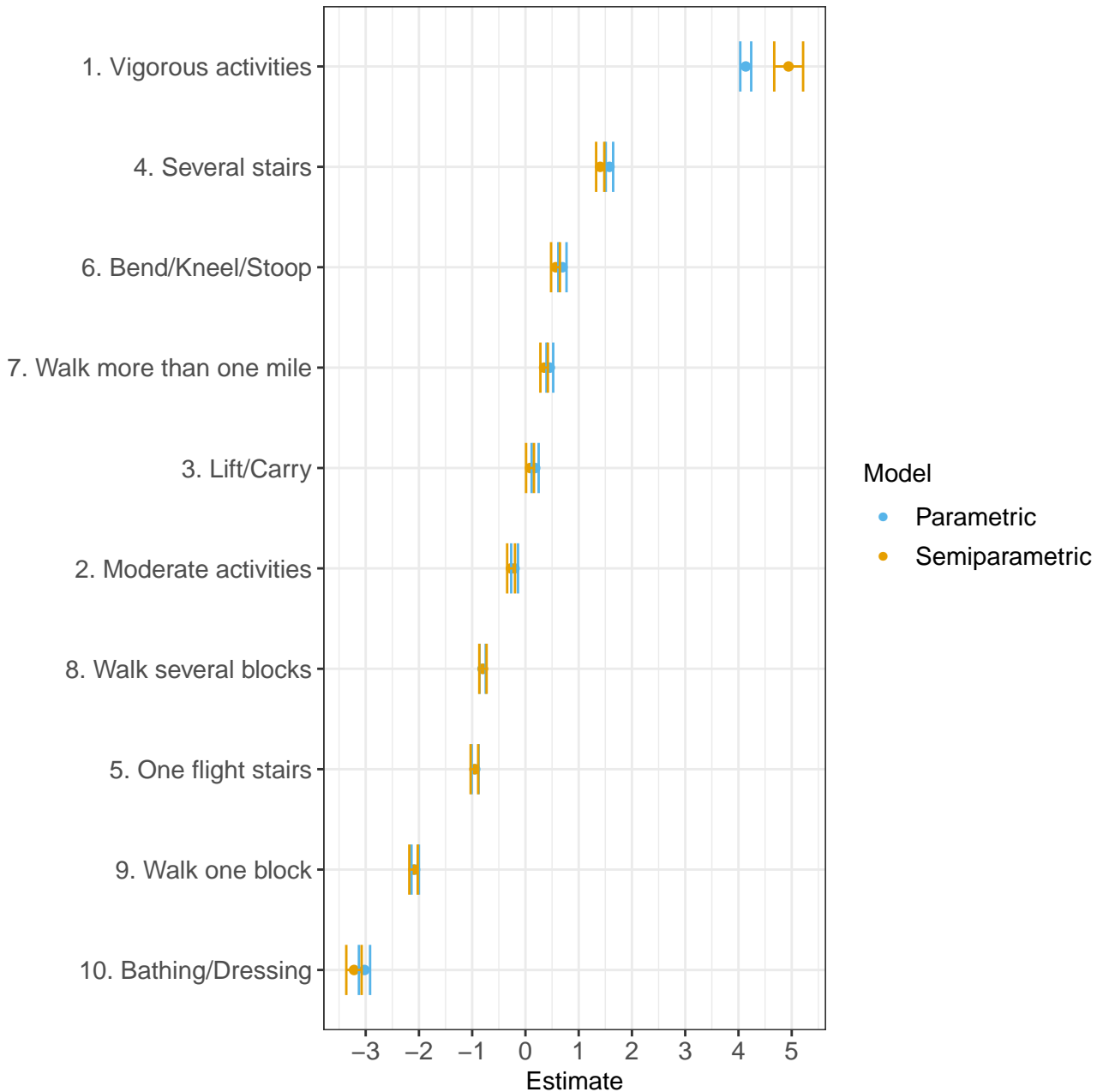


• Parametric • Semiparametric • True value

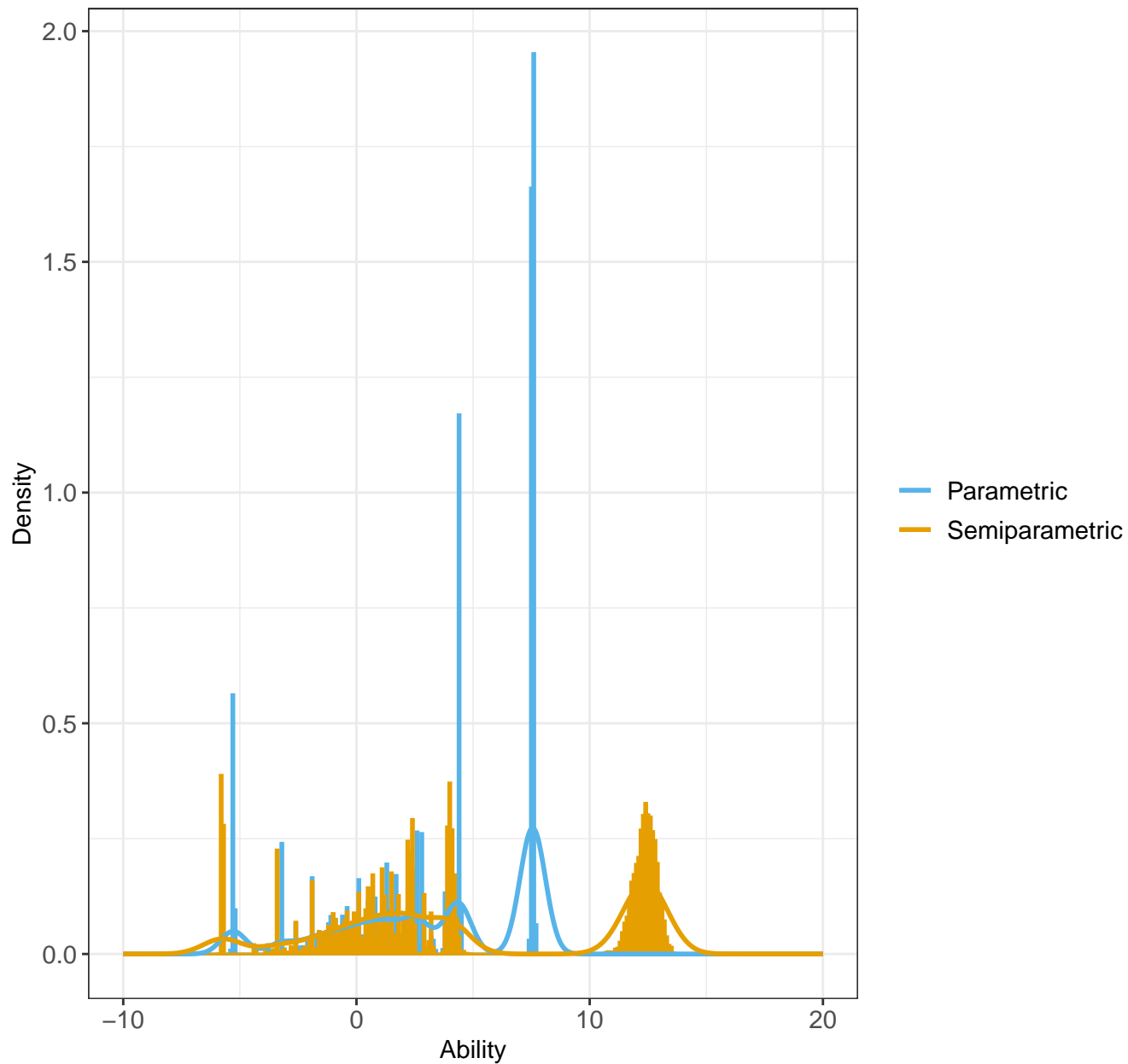
Discrimination parameters



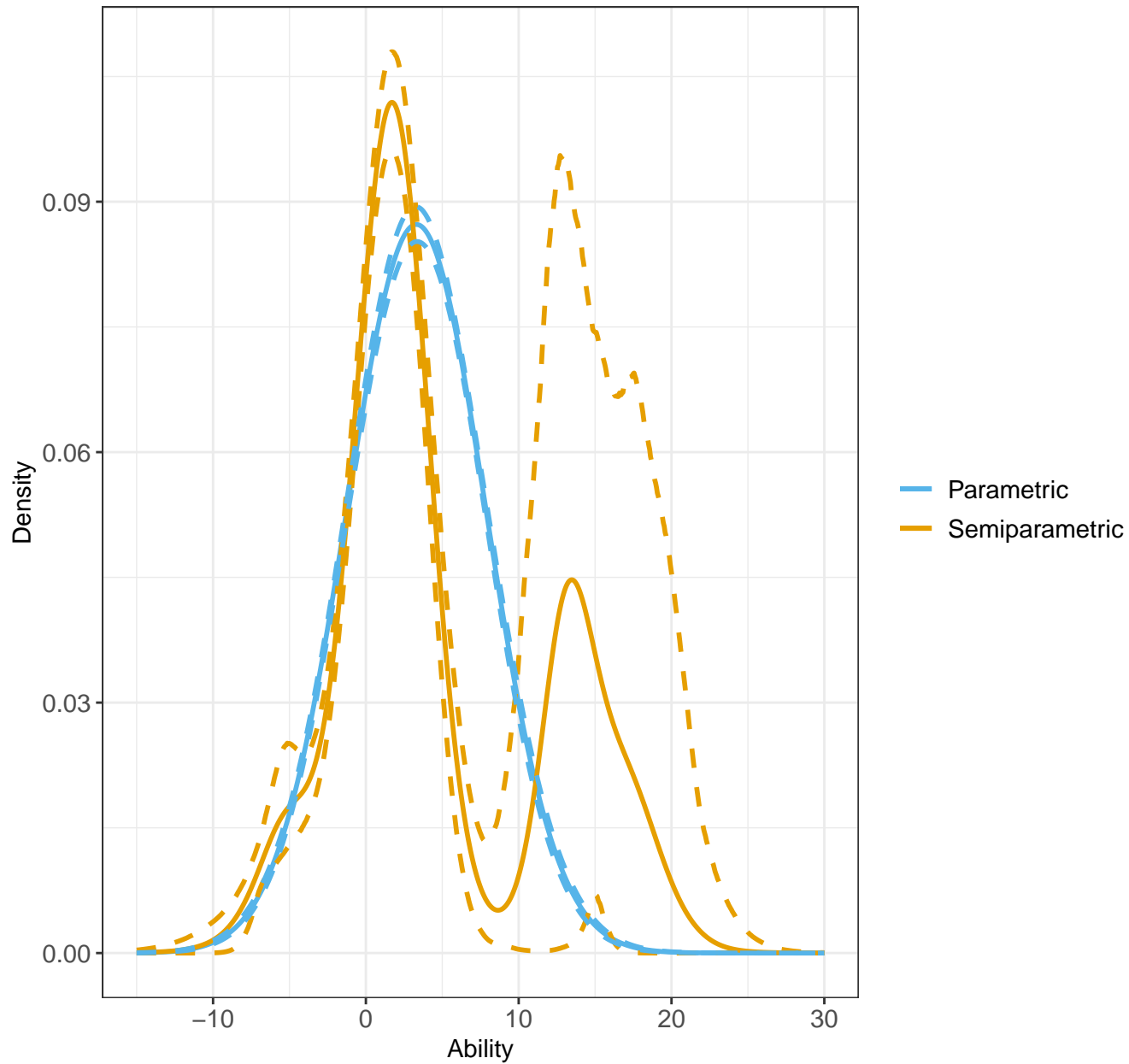
Difficulty parameters



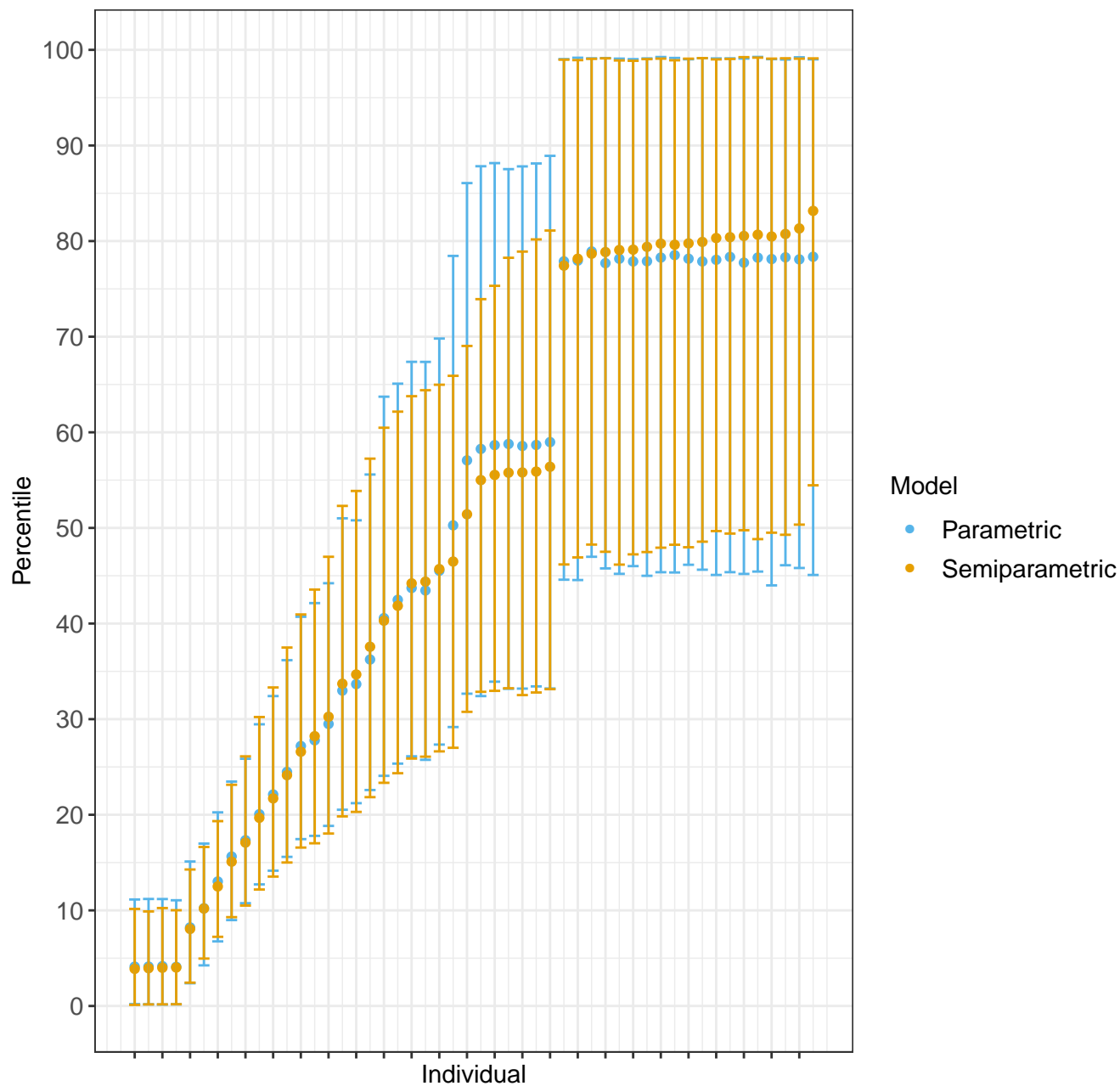
Health data
Distribution of individual posterior mean abilities



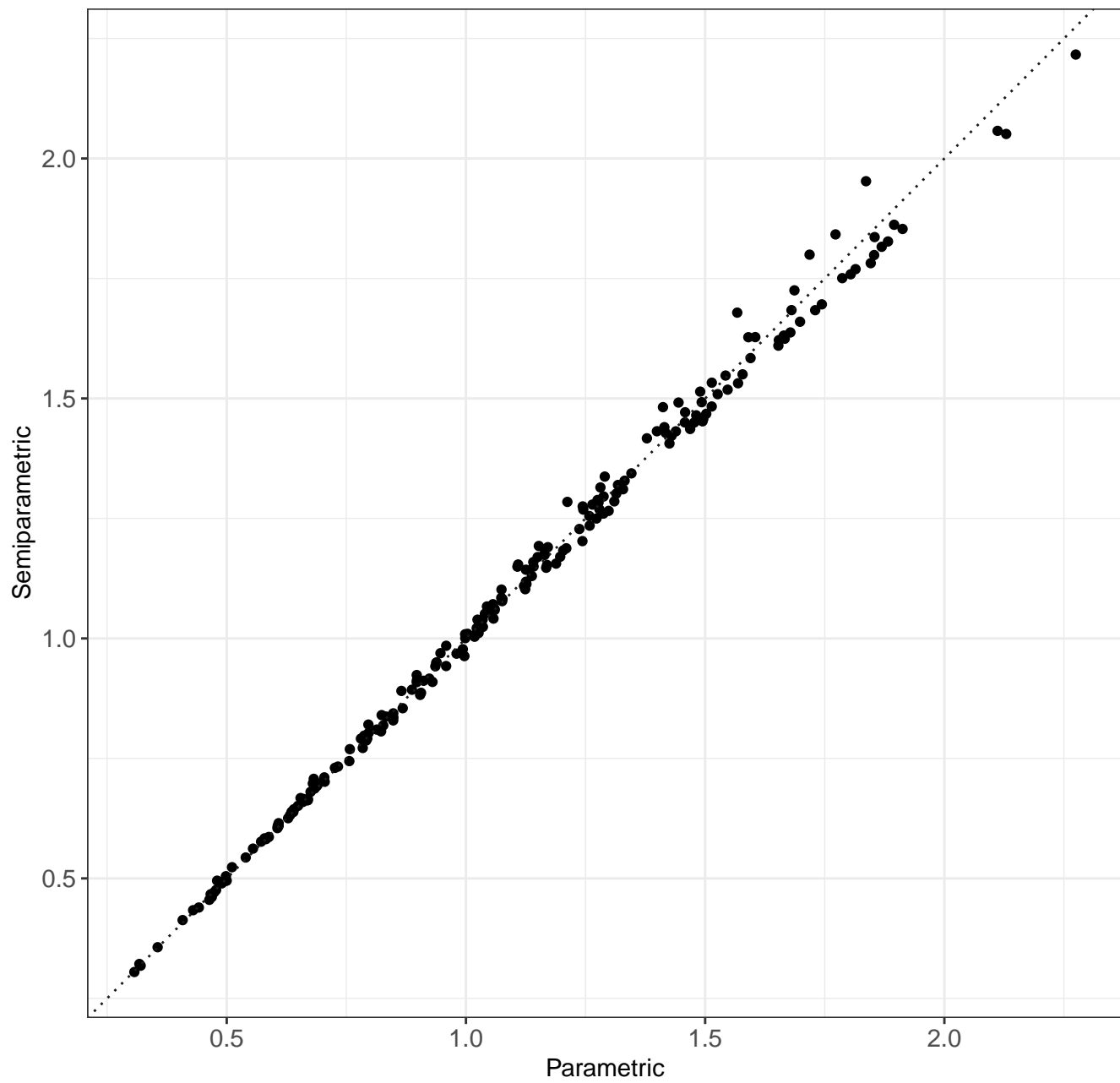
Health data
Estimate of distribution of abilities



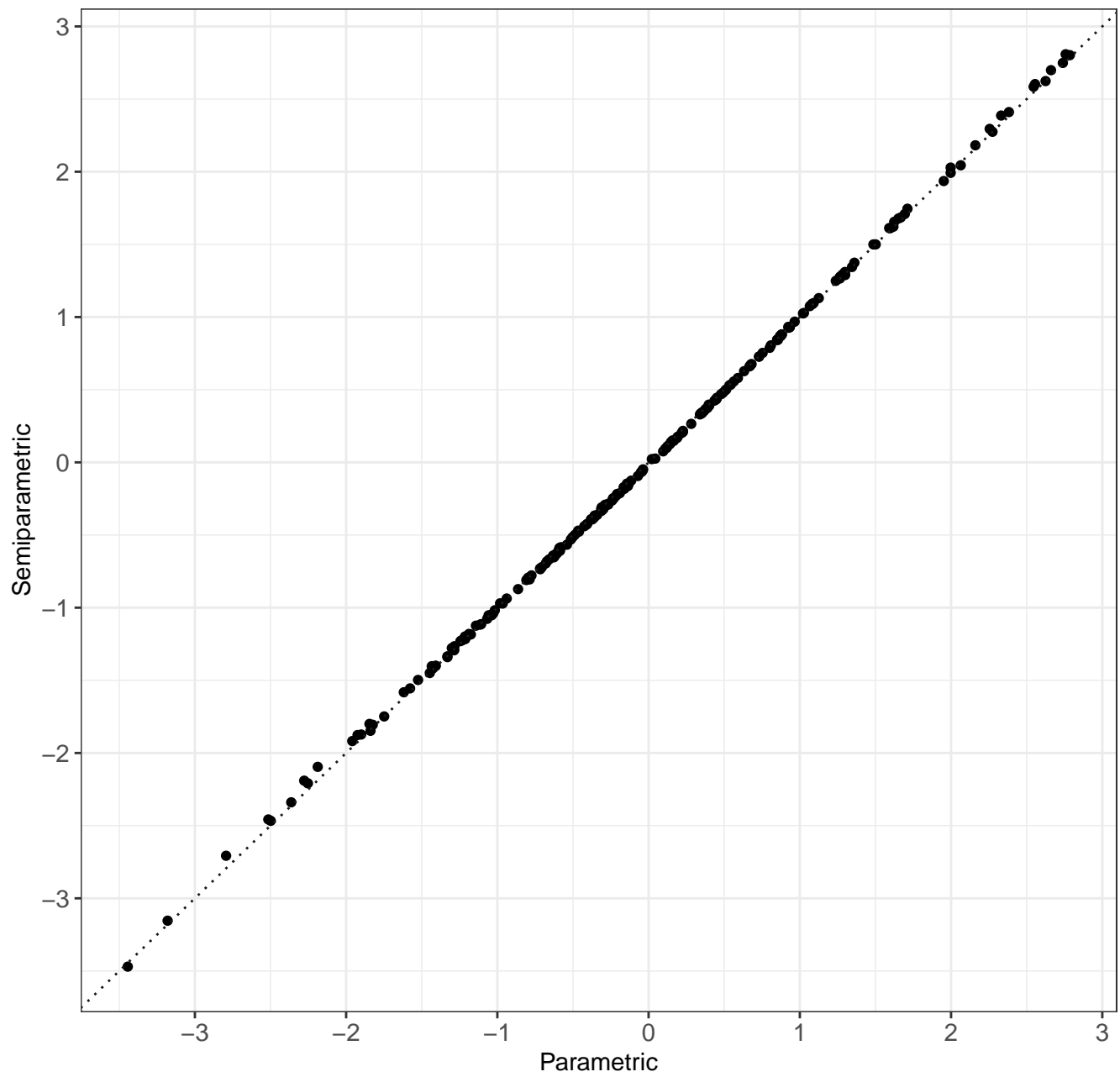
Health data



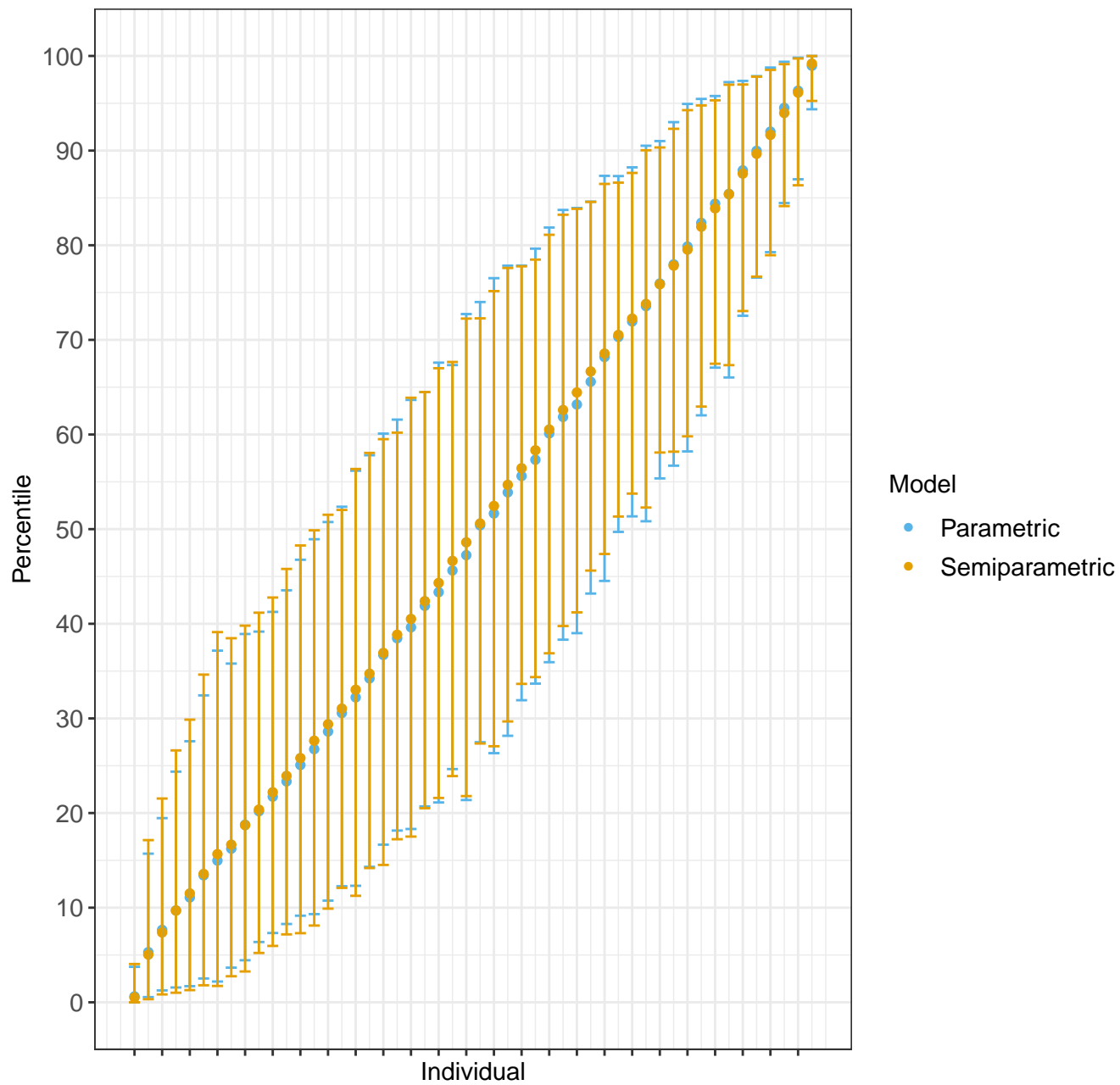
Discrimination parameters



Difficulty parameters



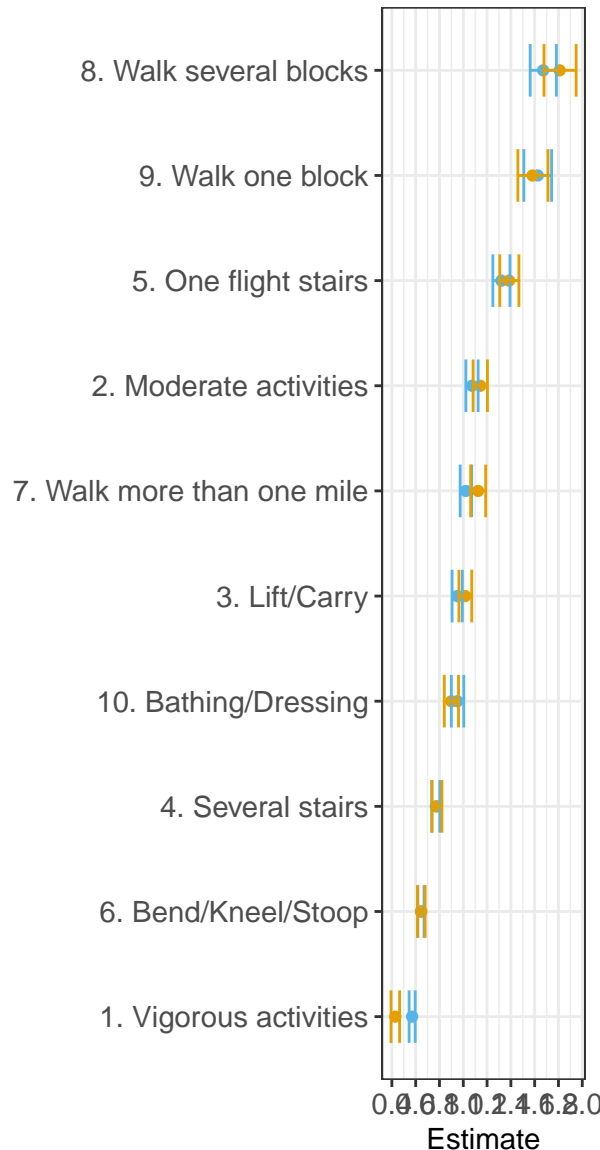
TIMSS data



Difficulty parameters

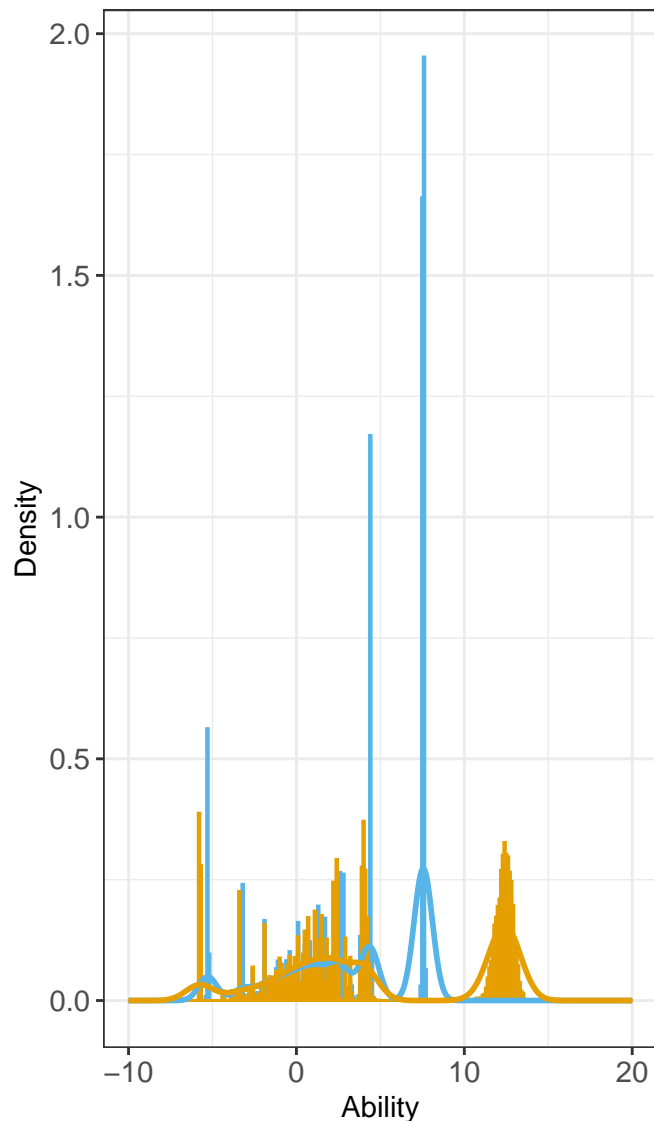


Discrimination parameters

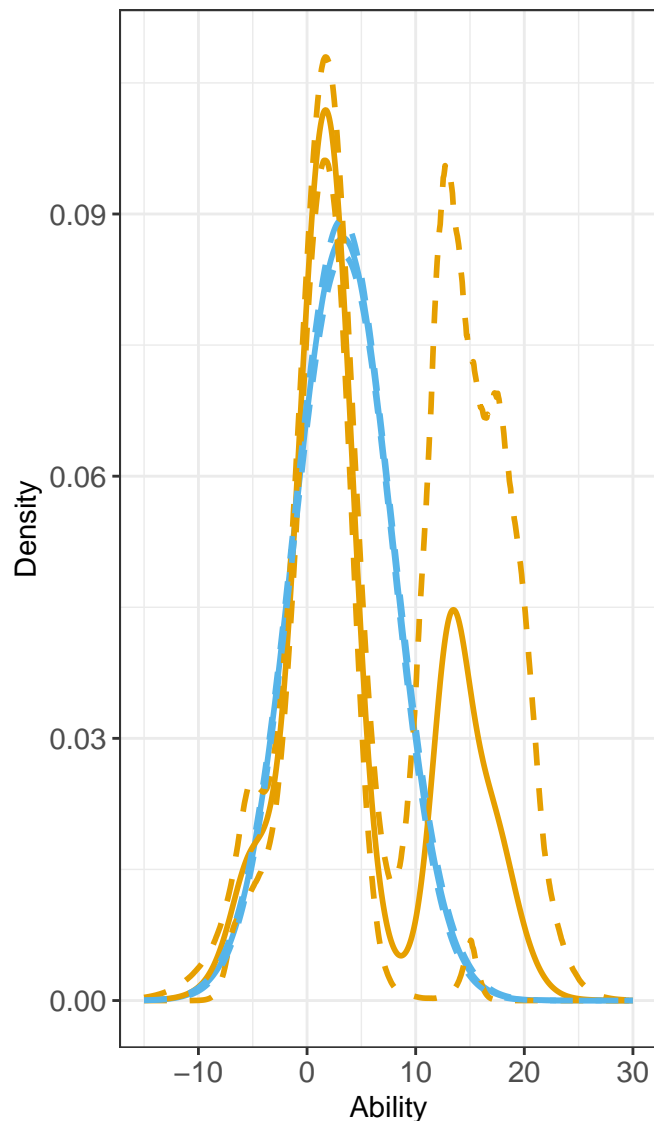


• Parametric • Semiparametric

Health data
Distribution of individual posterior mean

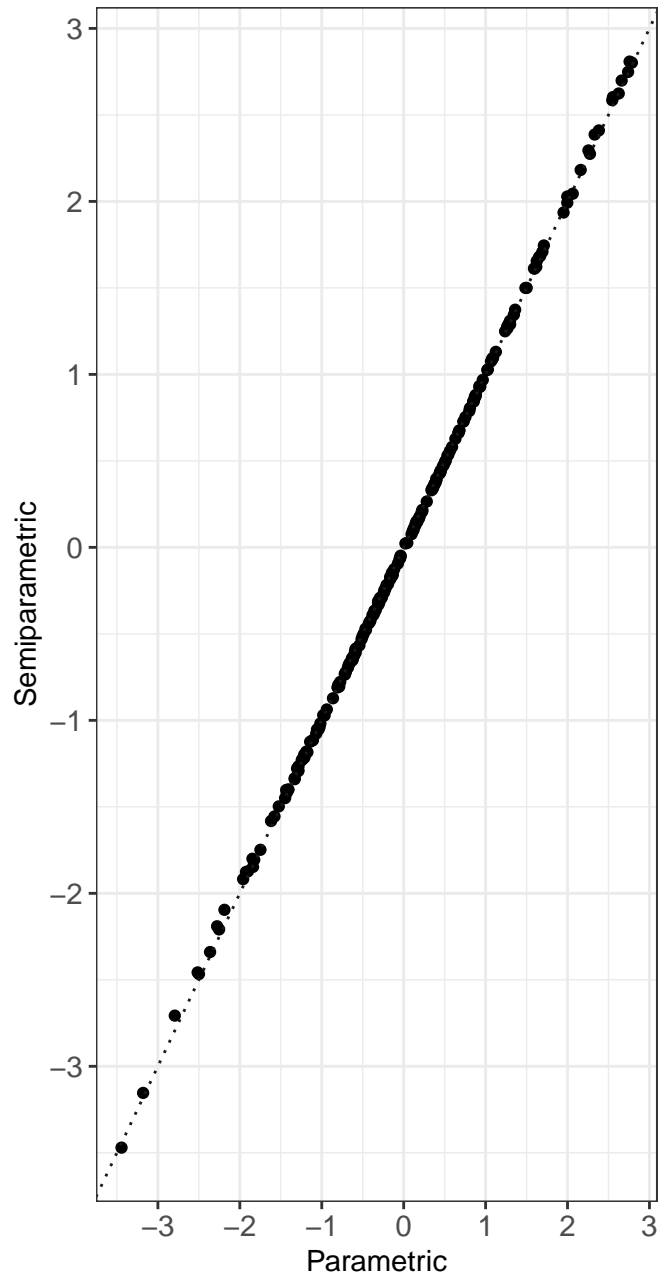


Health data
Estimate of distribution of abilities

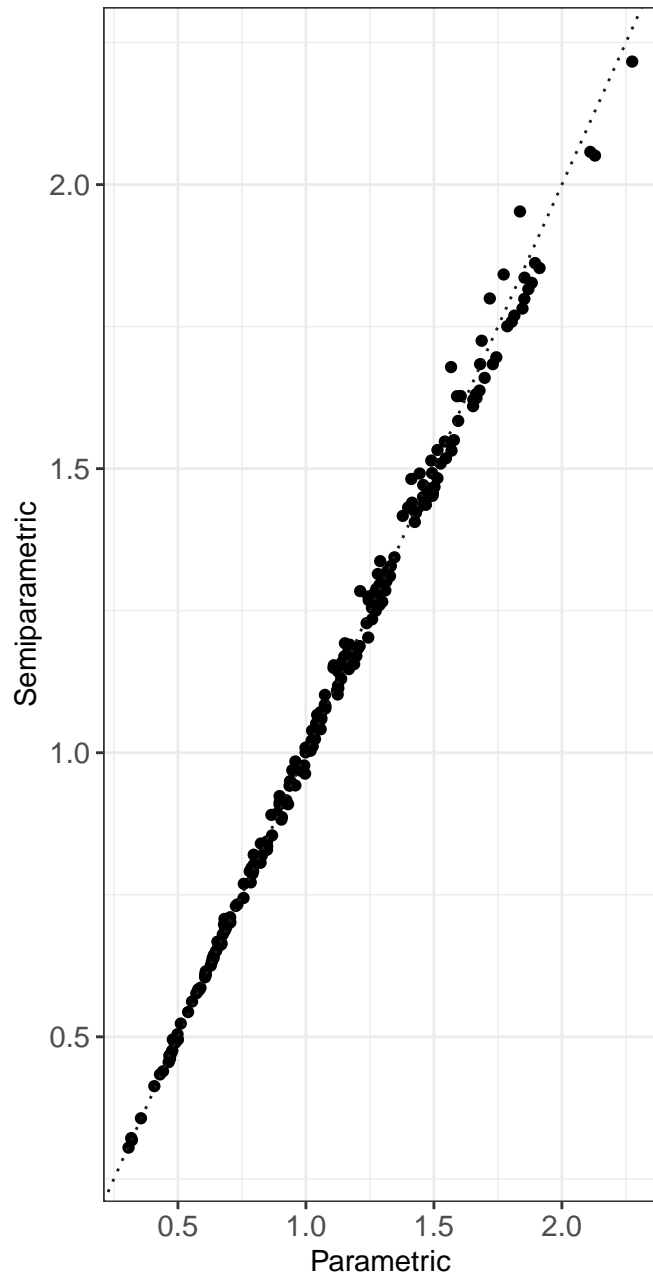


— Parametric — Semiparametric

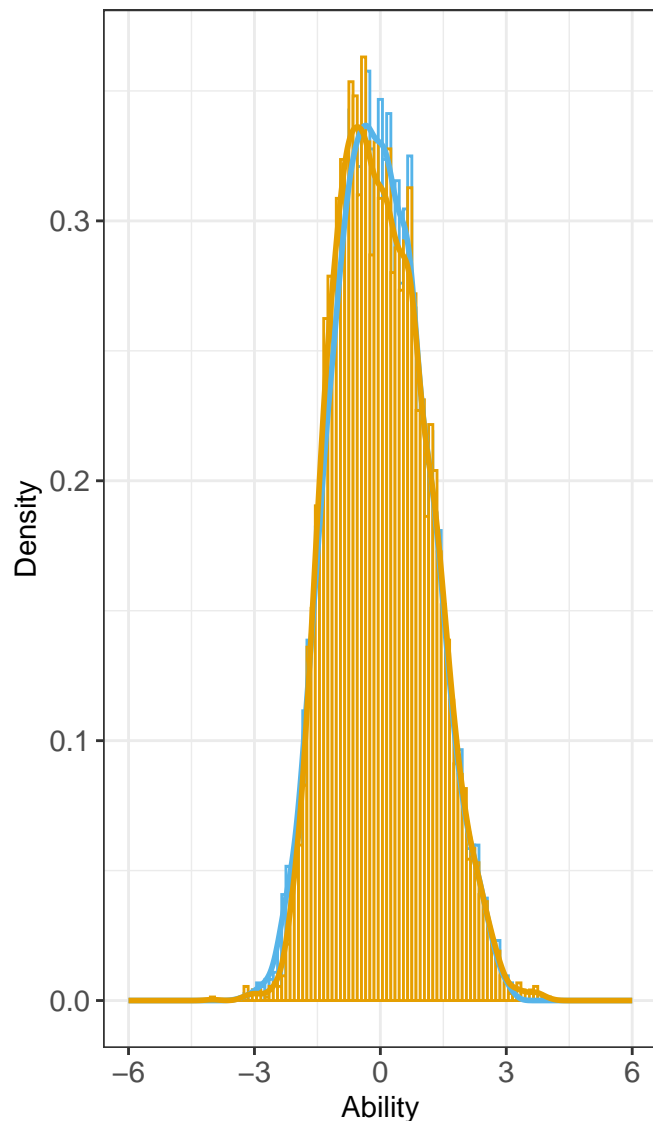
Difficulty parameters



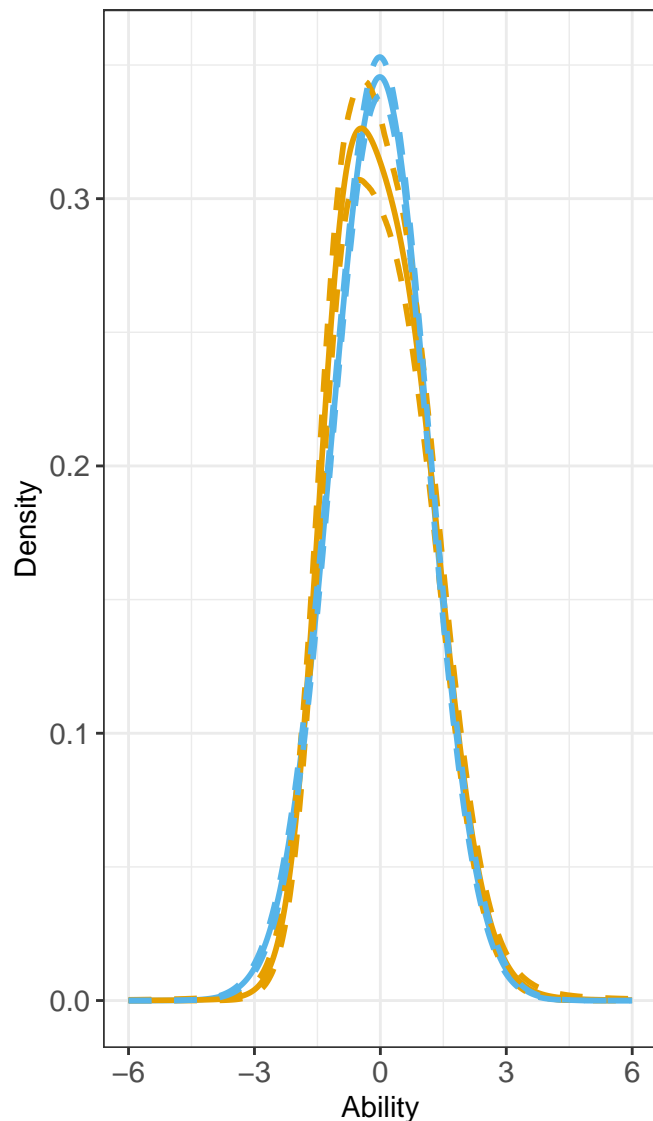
Discrimination parameters



TIMSS data
Distribution of individual posterior mean

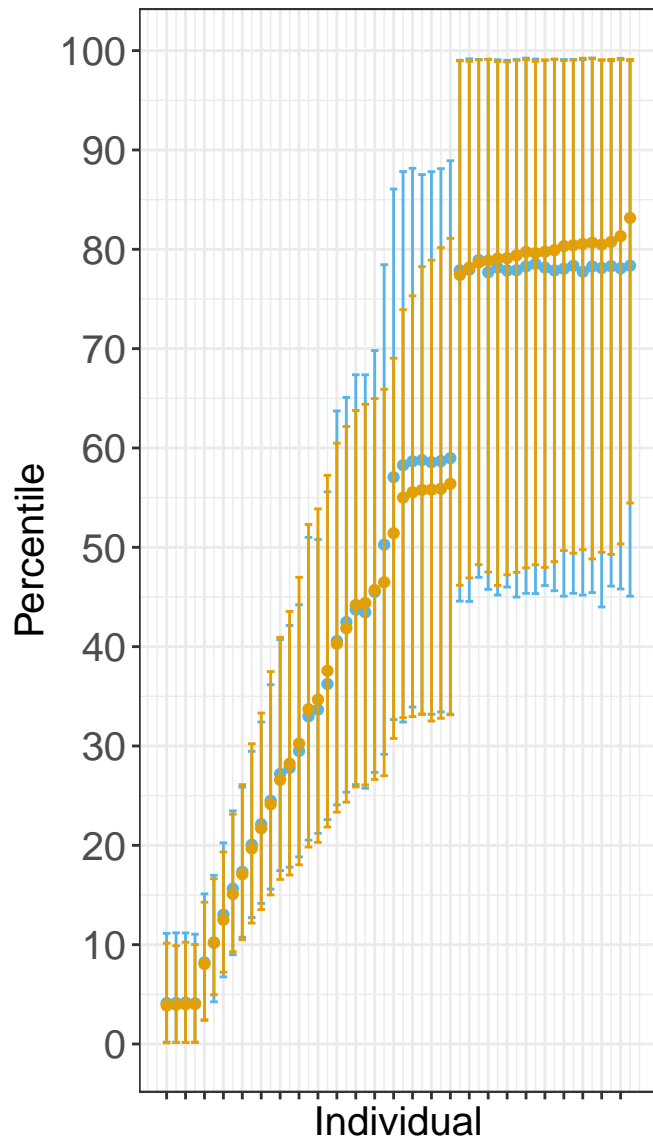


TIMSS data
Estimate of distribution of abilities

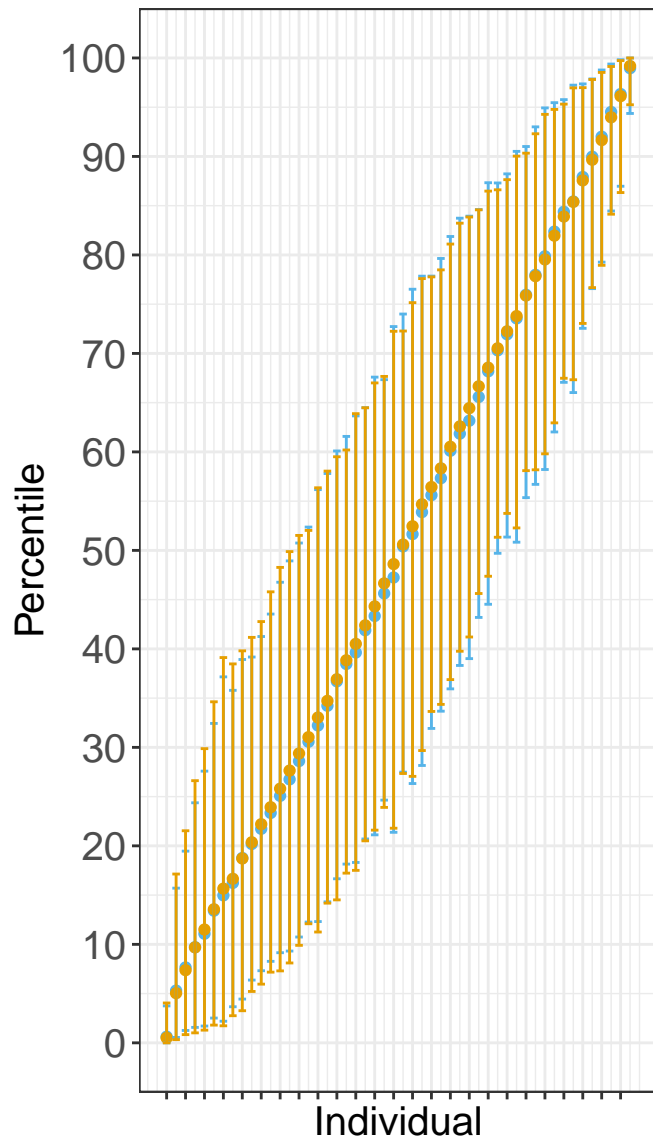


— Parametric — Semiparametric

Health data



TIMSS data



• Parametric • Semiparametric