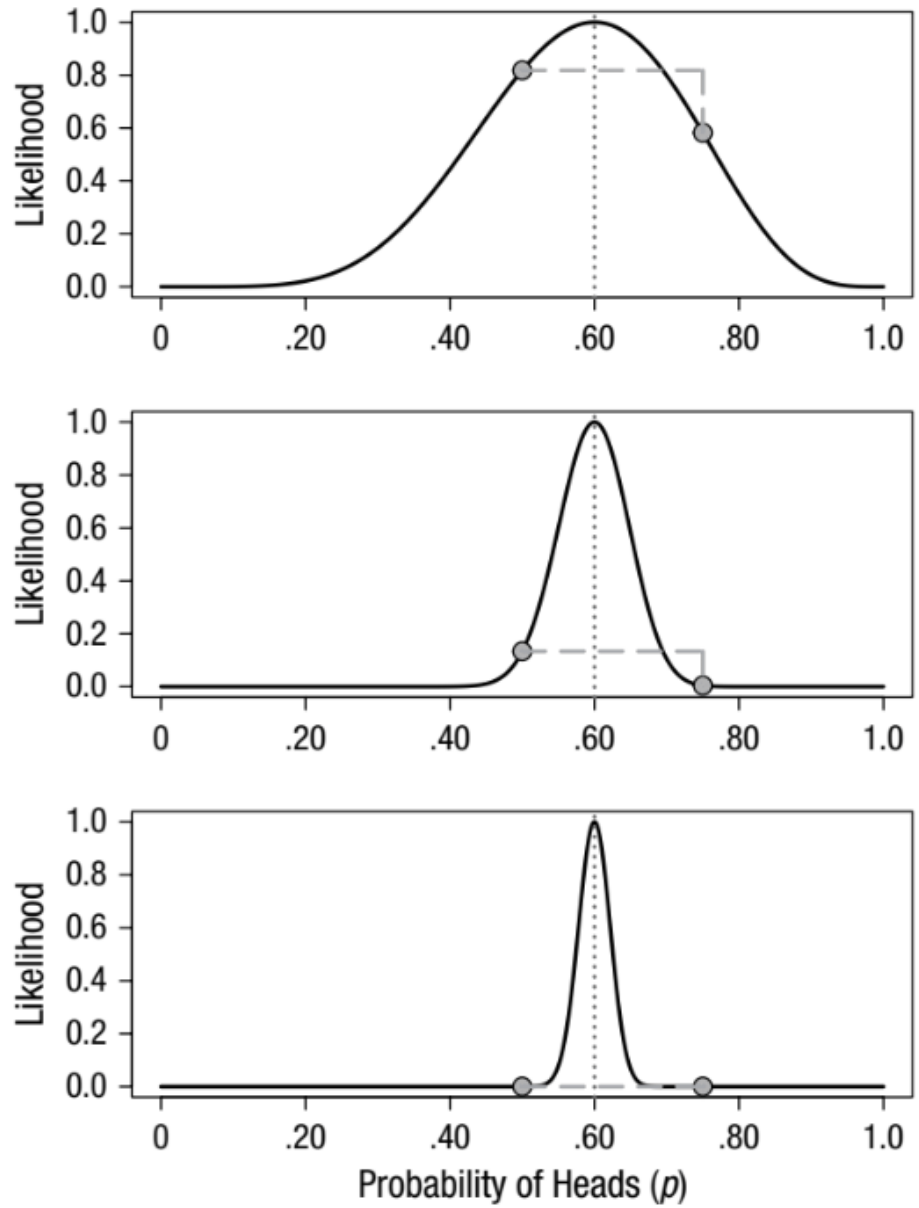
Bayesian vs Likelihood inference/models

Likelihood

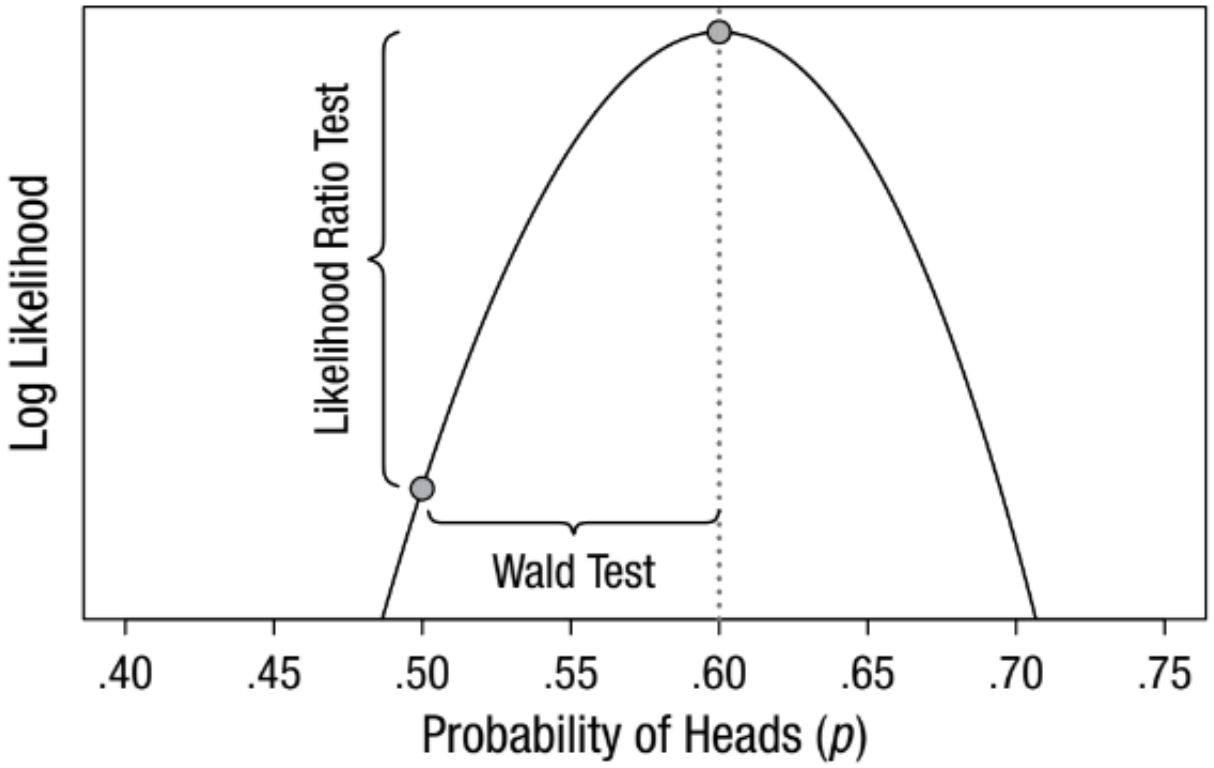
$$L(H) = \mathrm{K} \times P(D \mid H)$$

L(H) …… likelihood of a hypothesis H
P(D|H) …. probability of obtaining the data D given that the hypothesis H is true
K ……. a positive constant

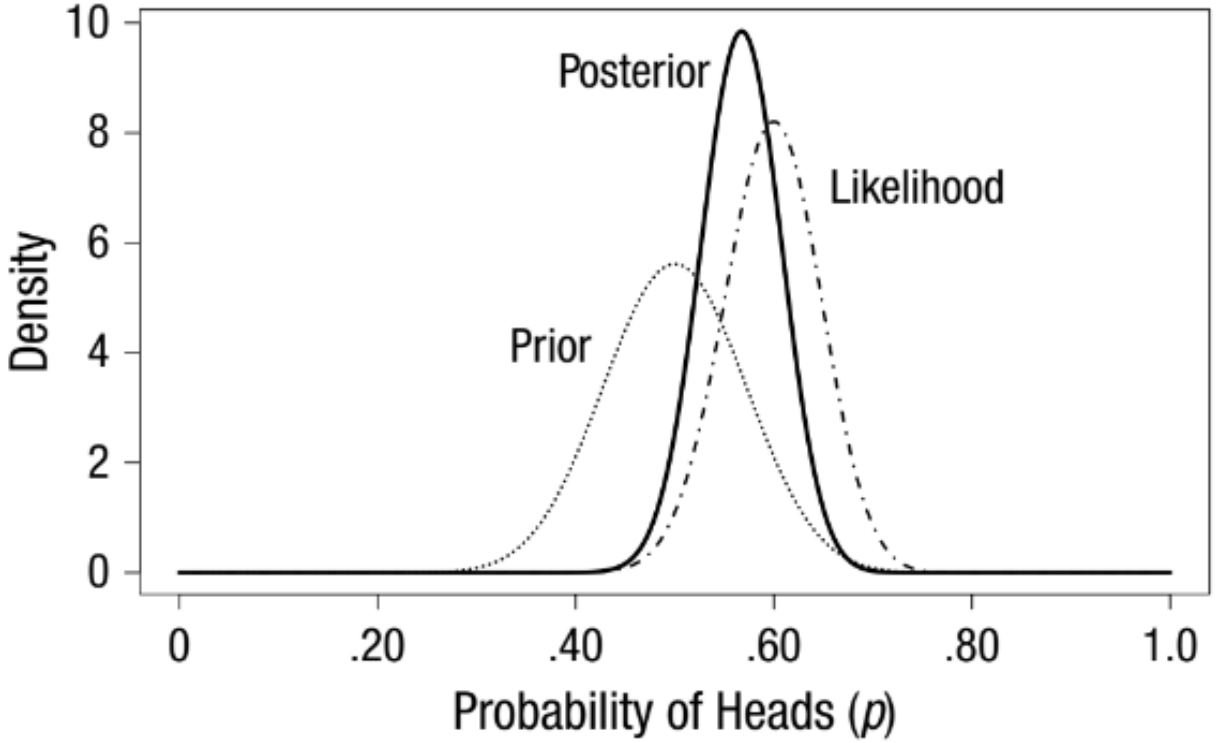

Likelihood
1.0
0.8
0.6
0.4
0.2
0.0
0
.20
.40
.60
.80
1.0
Likelihood
1.0
0.8
0.6
0.4
0.2
0.0
0
.20
.40
.60
.80
1.0
Likelihood
1.0
0.8
0.6
0.4
0.2
0.0
0
.20
.40
.60
.80
1.0
Probability of Heads (p)

Inference using likelihood function

- Maximum likelihood estimation
  - Likelihood ratio test
  - Wald tests



Bayesian inference



Discussion/Exercise

Which teacher (Thomas, Palle, Iker) is the smartest given the data?