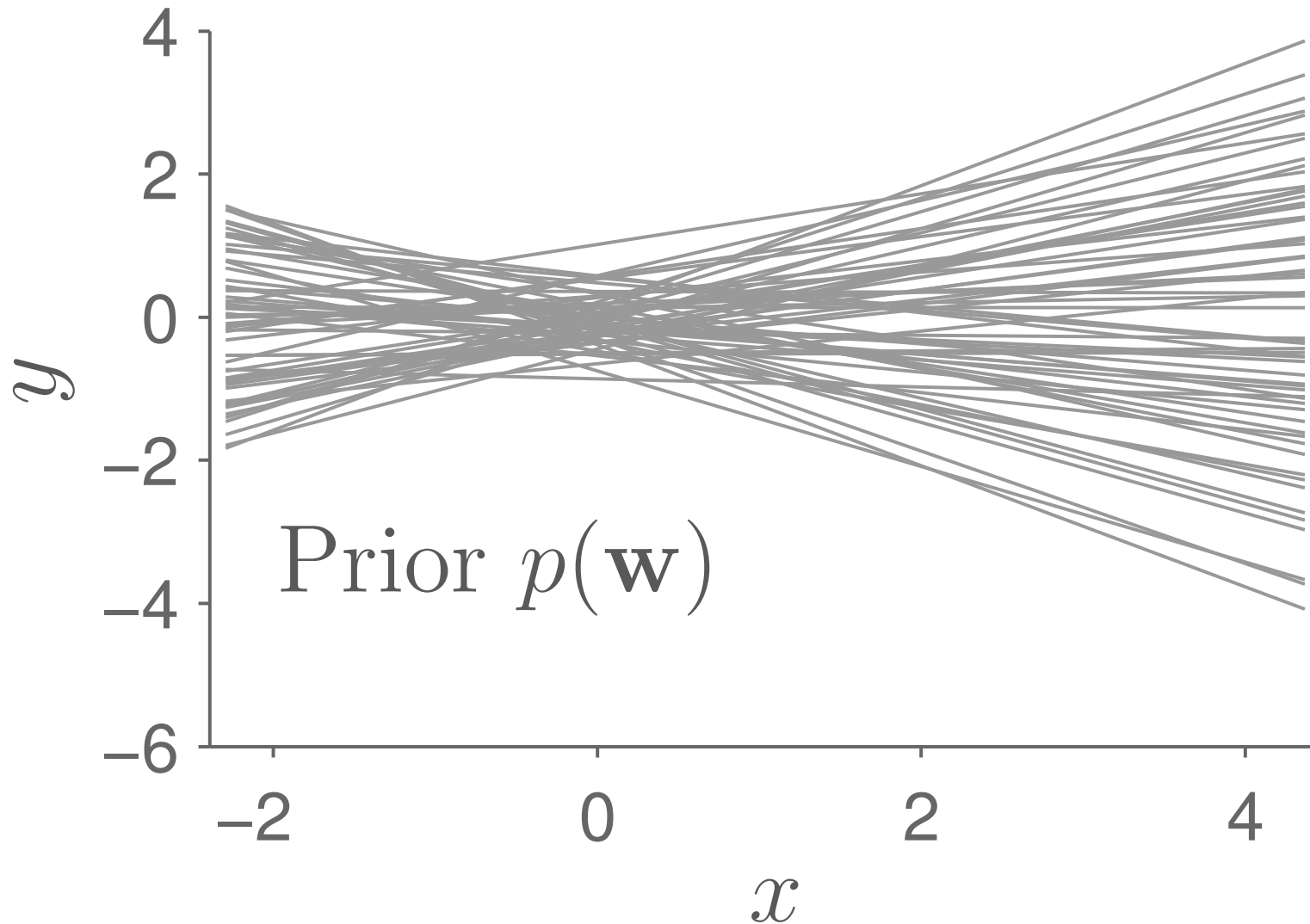


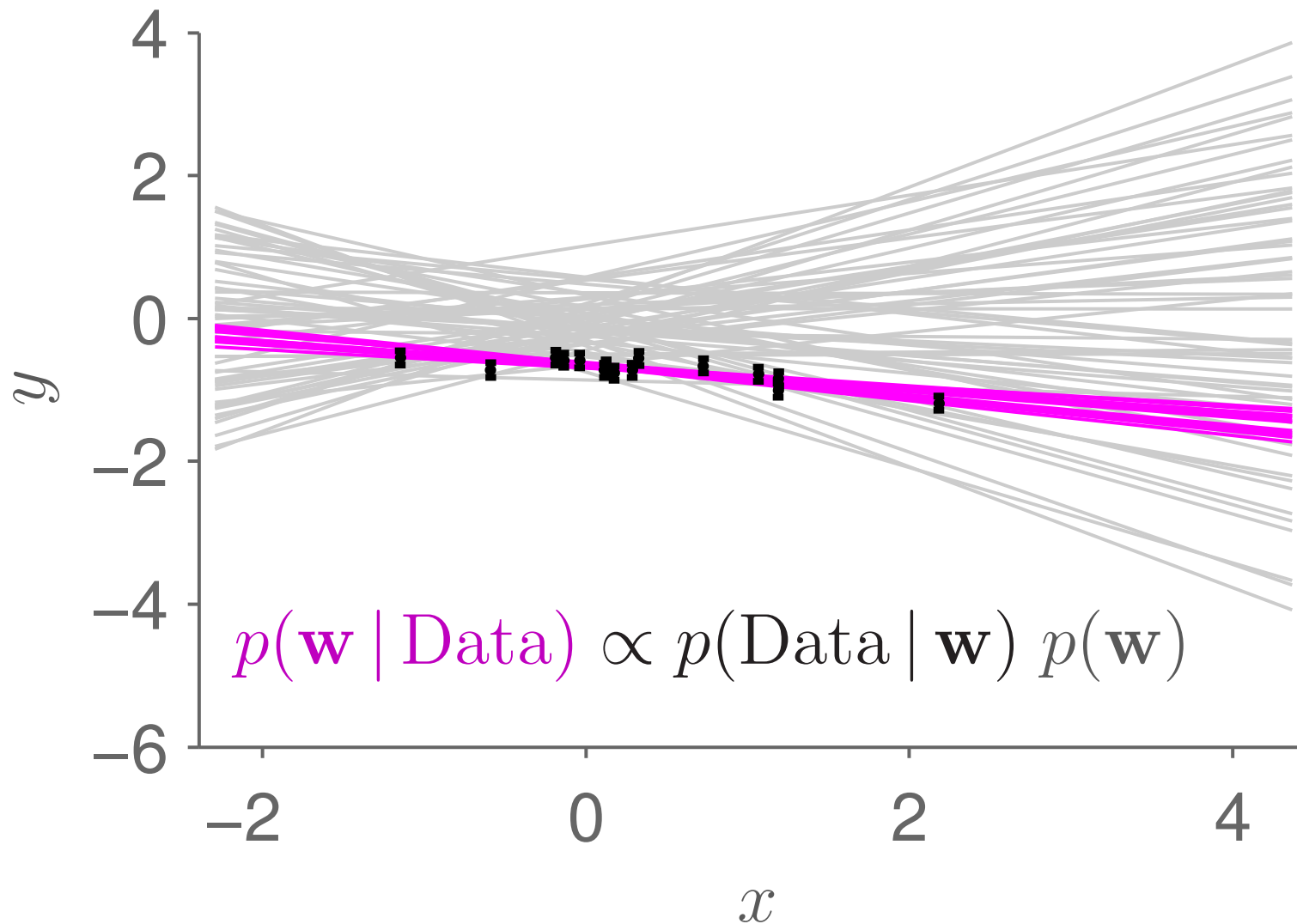
Linear regression

$$y = w_1x + w_2, \quad p(\mathbf{w}) = \mathcal{N}(\mathbf{w}; 0, 0.4^2I)$$

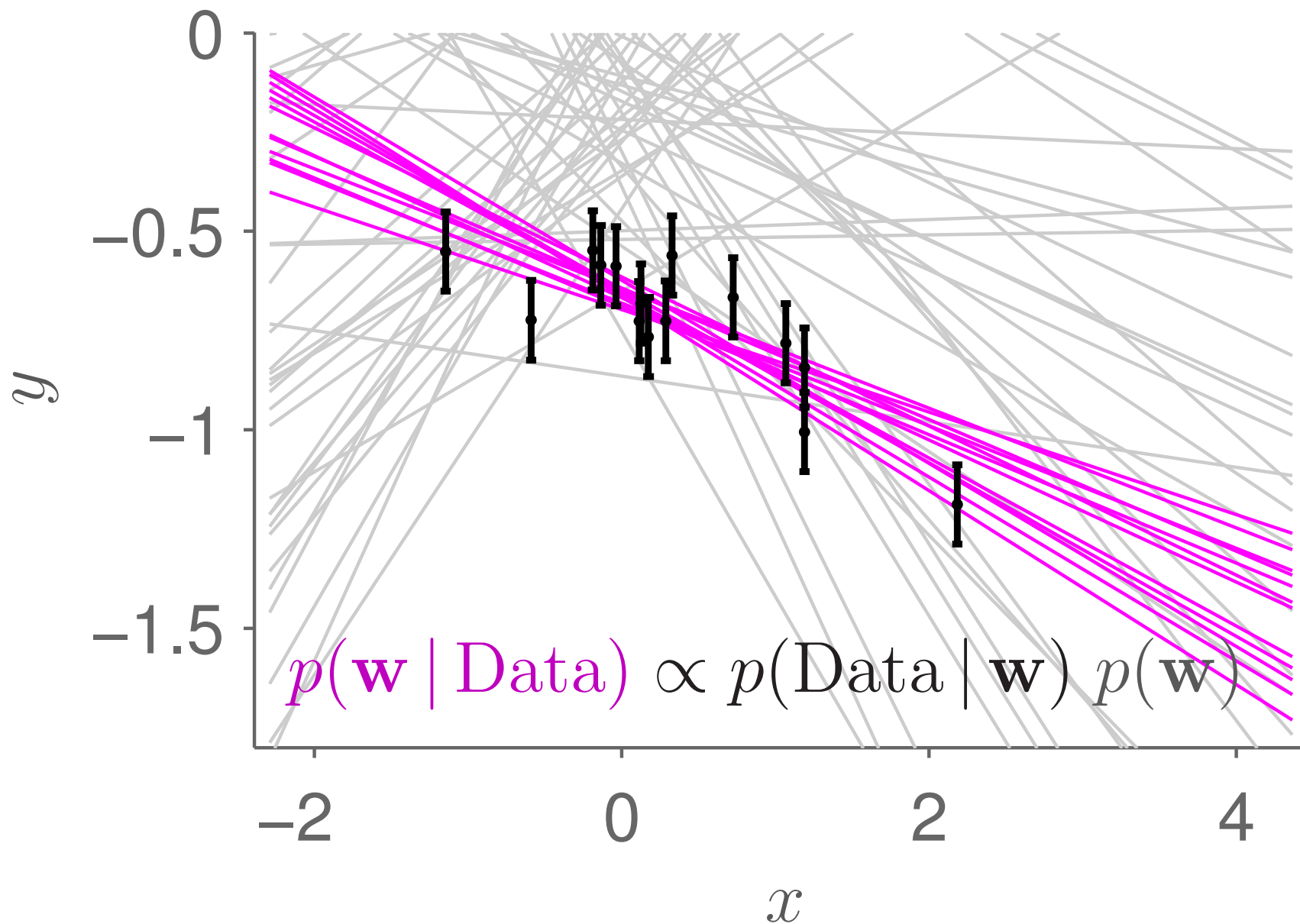


Linear regression

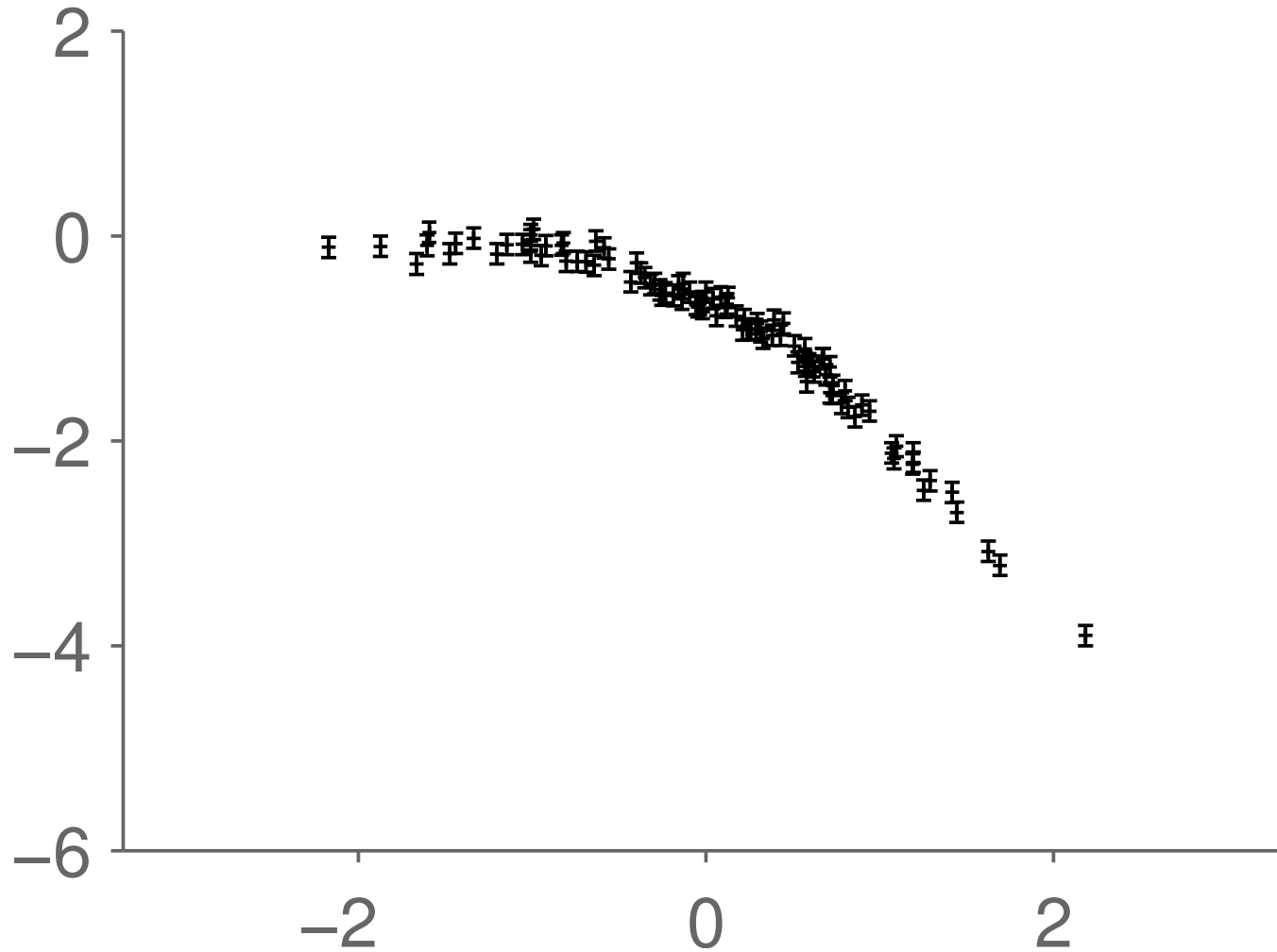
$$y^{(n)} = w_1 x^{(n)} + w_2 + \epsilon^{(n)}, \quad \epsilon^{(n)} \sim \mathcal{N}(0, 0.1^2)$$



Linear regression (zoomed in)



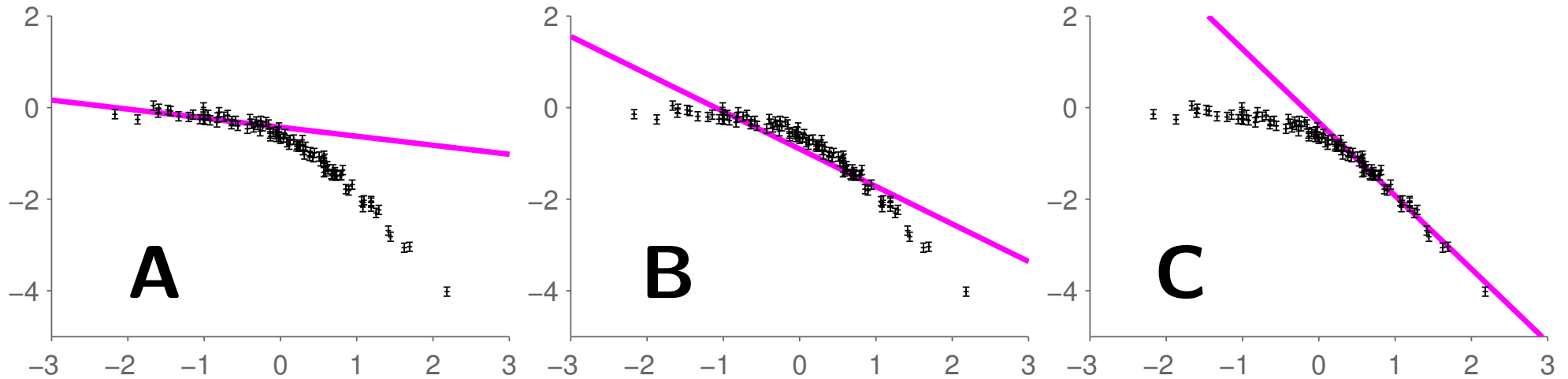
Model mismatch



What will Bayesian linear regression do?

Quiz

Given a (wrong) linear assumption, which explanations are typical of the posterior distribution?

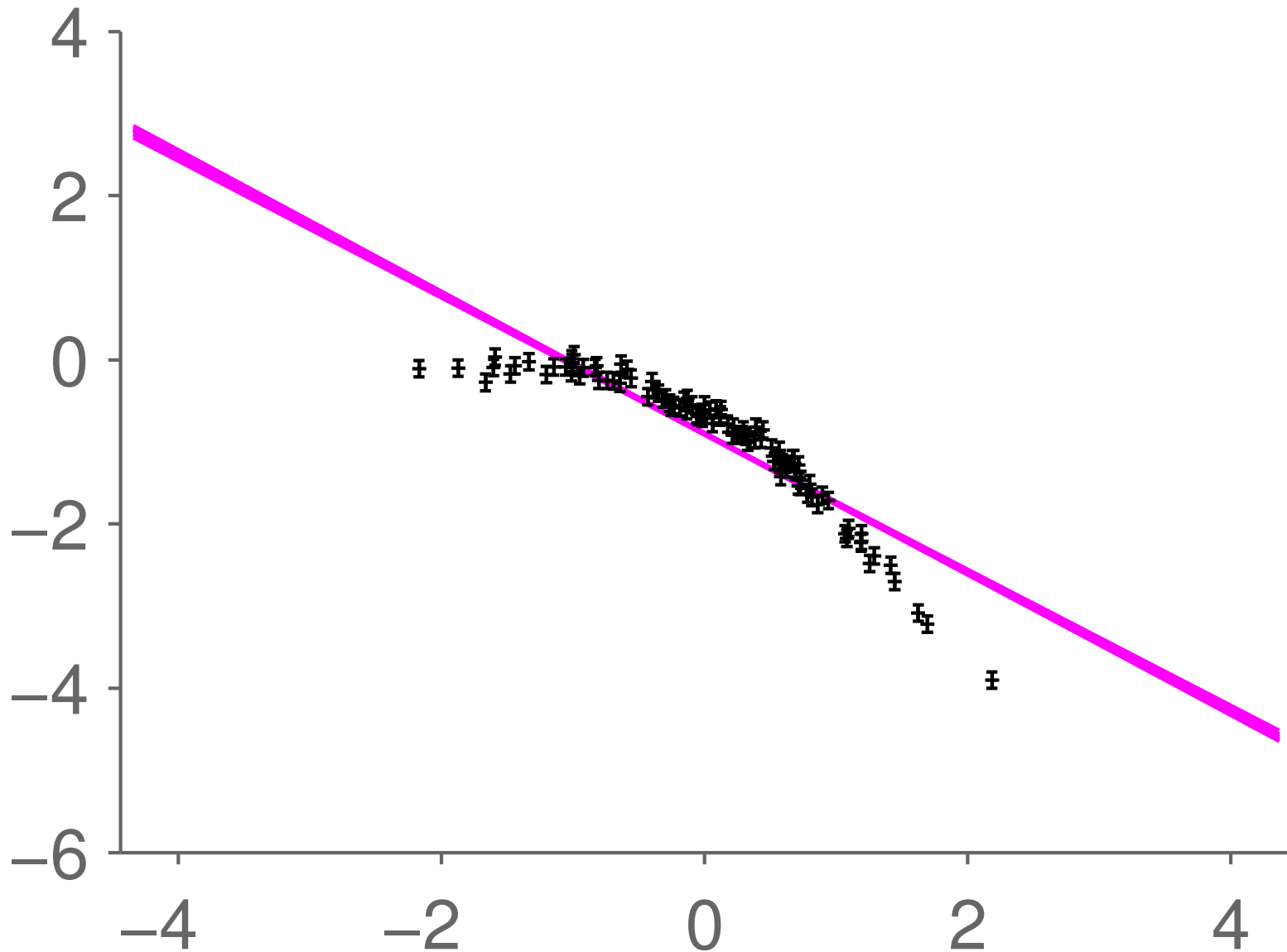


D All of the above

E None of the above

Z Not sure

'Underfitting'



Posterior *very* certain despite blatant misfit. Peaked around least bad option.

