

Test 2 Revisions

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Question: 8a

Original answer:

b is the prior distribution for the variable BMI

Original score: 2/4

Feedback I referenced

“Now, fit a model with and effect of Virus and also a different slope for fake_qvar for each level of virus: one slope if there was no virus infection, and a different slope if there was viral infection.” from Interaction Example

Revised answer

b is the slope of triglyceride for BMI

Question: 1b

Original answer:

For prior c, they use a mu of 90 w/ sd of 5 when health WHR100 is between 85-100, what is an unhealthy WHR100? The prior attempts to skew the model towards a healthy output.

Original score: 2/4

Feedback I referenced

“That’s not quite what the problem is - c is a slope. also how exactly would we fix?”

Revised answer

The prior for c is the slope which could look something more like $\text{dnorm}(0, 0.1)$ since the slope of BMI shouldn’t be too large.

Question: 7b

Original answer:

For b, I would lower the sd a lot since their prior knowledge tells them the avg BMI is 26.5. Potentially using a uniform prior from 18.4-29.9 could also help since they know the range of possible BMI.

Original score: 2/4

Feedback I referenced

“But this prior is for the SLOPE of trigly vs. BMI”

Revised answer

A better prior for b should be $\text{dnorm}(0, 0.2)$ since b is the slope on BMI rather than BMI and thus we would need a slope for each BMI. The prior for c is the slope which could look something more like $\text{dnorm}(0, 0.1)$ since the slope of BMI shouldn't be too large.

Question: 1a**Original answer:**

For prior b , they used a μ of exactly the BMI average that they expected but then a sd that would contain the entire range of healthy/overweight adults which doesn't inform the model well.

Original score: 2.5/4

Feedback I referenced

"Why is this wrong/what is needed instead?"

Revised answer

For prior b , they used a μ of exactly the BMI average that they expected but then a sd that would contain the entire range of healthy/overweight adults which doesn't inform the model well. So they should choose a prior b that is actually the slope of BMI and something more like $\text{dnorm}(0, 0.1)$ since it shouldn't be drastic.