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1.

Is this an observational study or an experiment?

- ☒ Observational study
- ☐ Experiment
-

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2.

Which of the following statements is **false** about the distribution of wage?

- ☐ The median of the distribution is 905.
- ☐ 25% of respondents make more than 1160 dollars per week.
- ☒ 7 of the respondents make less than 300 dollars per week.
- ☐ wage is right-skewed, meaning that more respondents fall below the mean wage than above it.
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3.

Examine the residuals of `m_wage_iq`. Is the assumption of normally distributed errors valid?

- ☐ Yes, since the distribution of the dependent variable (wage) is roughly normally distributed.
- ☐ Yes, since the distribution of the residuals of the model looks approximately normal.
- ☐ No, since the distribution of the residuals of the model is left-skewed.
- ☒ No, since the distribution of the residuals of the model is right-skewed.
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4.

Under the reference prior $p(\alpha, \beta, \sigma^2) \propto 1/\sigma^2$, give a 95% posterior credible interval for β , the coefficient of IQ.

- ☐ (0.00793, 0.00967)
- ☒ (0.00709, 0.01050)
- ☐ (0.00663, 0.01098)
- ☐ (0.00010, 0.01750)
-

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5.

From the model, all else begin equal, who would you expect to make more: a married black man or a single non-black man?

- ☒ The married black man
- ☐ The single non-black man
-

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6.

Elimination of which variable from the full model yielded the lowest BIC?

- ☐ brthord
 - ☐ sibs
 - ☒ feduc
 - ☐ meduc
-

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7.

Based on this reduced data set, according to Bayesian model averaging, which of the following variables has the lowest marginal posterior inclusion probability?

- ☐ kww
 - ☐ black
 - ☐ south
 - ☒ age
-

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8.

True or False: The naive model with all variables included has posterior probability greater than 0.5. (Use a Zellner-Siow null prior for the coefficients and a Beta-Binomial (1,1) prior for the models.)

- ☐ True

Week 4 Lab

Quiz, 9 questions

☐ False

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9.

Estimate a 95% central credible interval for a new observation y_5 .

☐ (-3.71, 5.73)

☐ (-3.11, 5.13)

☐ (-1.18, 3.19)

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