

Lab 4 Homework Template

Your Name Here

2020-08-25

Part 1a: Surveillance behavior

Question 1: Were there any major differences between you and your partner in terms of the observed relationship between flock size and surveillance rate?

YOUR ANSWER HERE

Question 2: If the null model is ranked higher than the model with flock size as a predictor, how do we interpret this finding? What if the model with flock size as a predictor was ranked higher? What were your results?

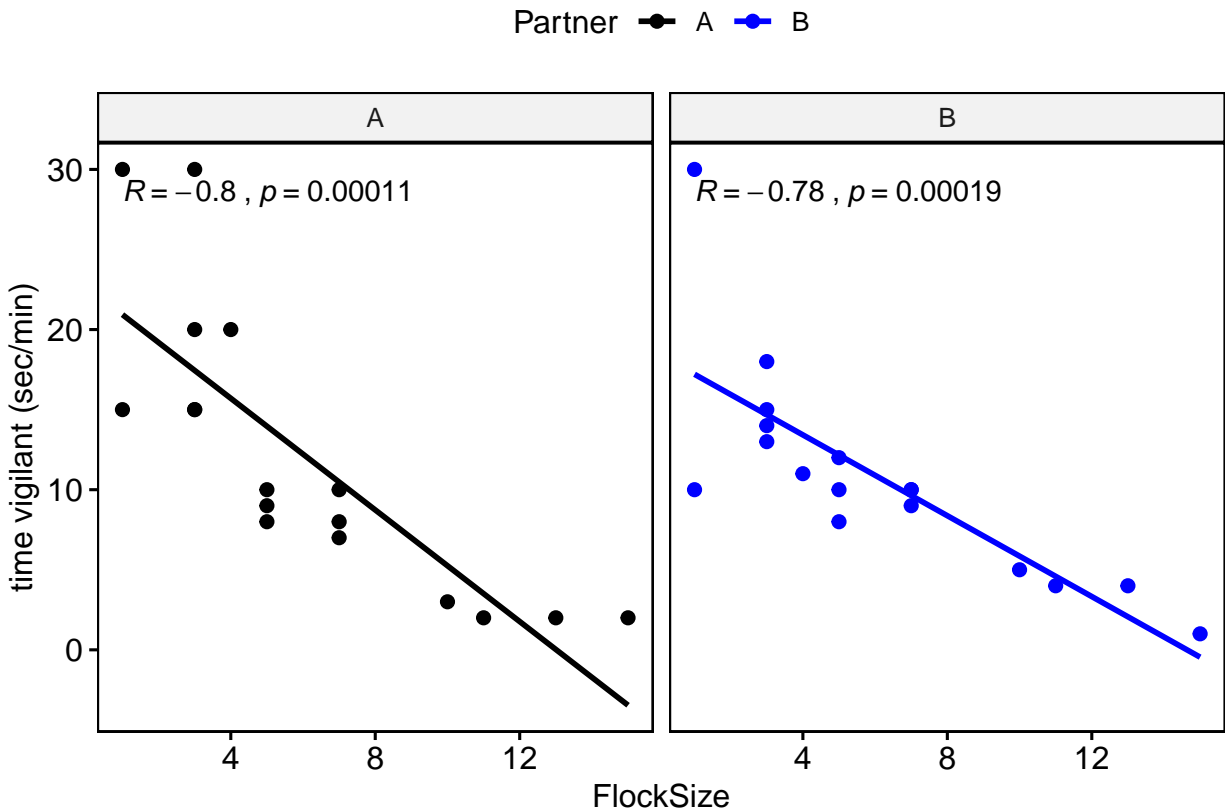
YOUR ANSWER HERE

Part 1b: Time vigilant (sec/min)

NOTE: You should not have to modify the code below to run assuming your barnacle goose data is in the correct format!

```
BarnacleGooseData <- read.csv('BarnacleGooseData.csv')

ggscatter(data=BarnacleGooseData,x='FlockSize',y='TimeSecHeadUp',add='reg.line',
          facet.by = 'Partner', color='Partner', cor.coef = T,
          palette =c('black','blue'))+
  ylab('time vigilant (sec/min)')
```



```
# This is our null model
VigilanceNullModel <- lmer(TimeSecHeadUp ~ (1|Partner), data=BarnacleGooseData)

# This is our model with flock size as a predictor duration of vigilance
VigilanceModel <- lmer(TimeSecHeadUp ~ FlockSize + (1|Partner) ,data=BarnacleGooseData)

# Now we compare the models using AIC
AICtab(VigilanceNullModel,VigilanceModel)
```

```
##              dAIC df
## VigilanceModel      0.0 4
## VigilanceNullModel 28.1 3
```

Question 3. How do you interpret the results of your model selection? Was there a relationship between flock size and duration of vigilance behavior?

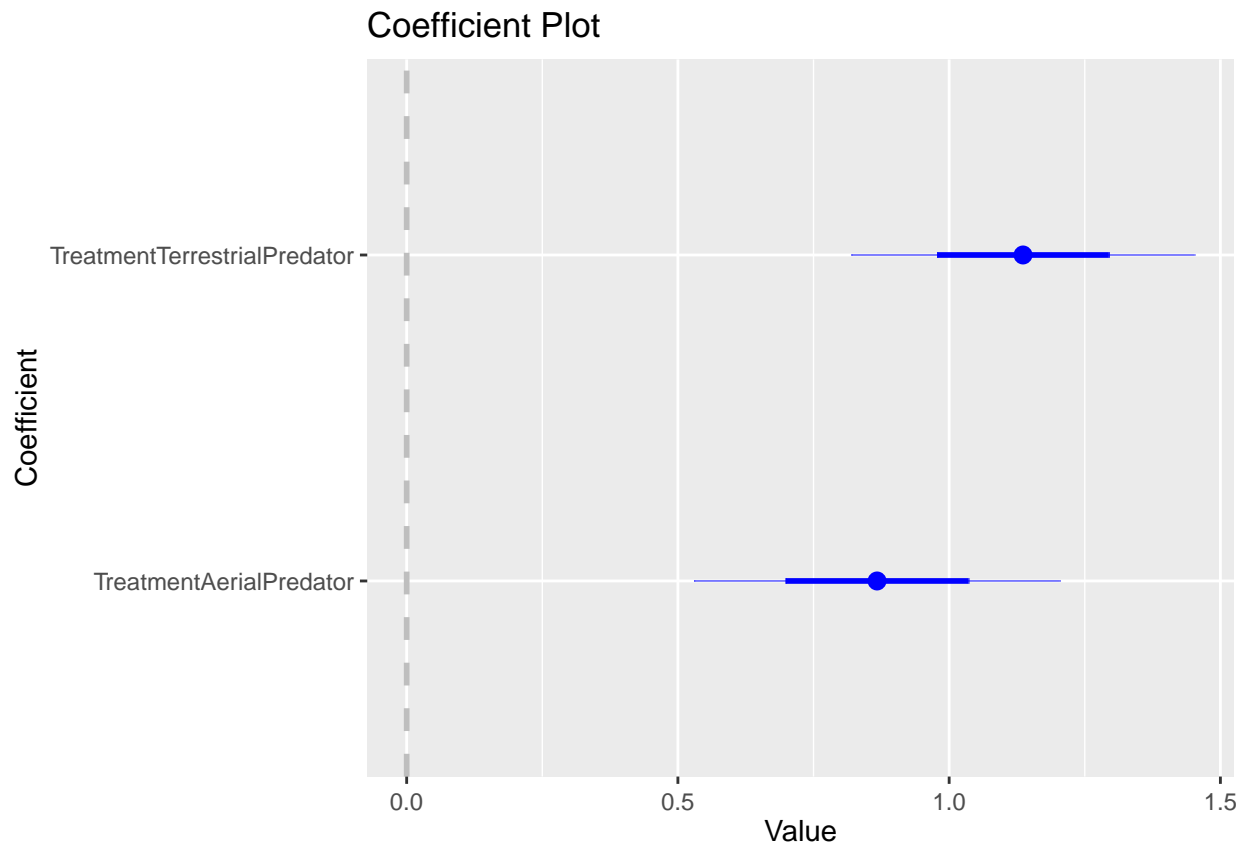
YOUR ANSWER HERE

Part 2: Meerkat data revisited

Question 4. Based on your inspection of the boxplots, are there any major differences between treatment groups?

YOUR ANSWER HERE

```
##              dAIC df
## MeerkatVigilanceModel      0.0 3
## MeerkatVigilanceNullModel 59.2 1
```



Question 5. Based on your interpretation of the model selection and the coefficient plots were there differences between treatment groups (e.g. control, terrestrial and aerial predators) in meerkat vigilance behavior?

YOUR ANSWER HERE