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Week 6 Reading Questions

I did not work with any other students.

Q1. A scenario for seed predation could be that there are two different seeds with many similar qualities (perhaps shape, germination strategy, and color) but a few slightly different qualities (perhaps average mass, time of availability, etc.). Scientists want to know if there is a difference between the predation rates of these two seeds, perhaps to make further hypotheses about seed predator diets or seed evolutionary strategies. The null hypothesis would be that there is no variation in seed predation rates among species.

Q2.

```
rm(list = ls())

pol_n_predation = 26

pol_n_no_predation = 184

pol_n_total = 210

pol_predation_rate = pol_n_predation/pol_n_total


psd_n_predation = 25

psd_n_no_predation =706

psd_n_total = 731

psd_predation_rate = psd_n_predation/psd_n_total


print(

  paste0(

    "The seed predation rate for Polyscias fulva is: ",
```

```
  round(pol_predation_rate, digits = 3)))


print(

  paste0(

    "The seed predation rate for Pseudospondias microcarpa is: ",

    round(psd_predation_rate, digits = 3)))
```

Q3.

species	any taken	None taken	N	Predation rate
Polyscias fulva (pol)	26	184	210	.124
Pseudospondias microcarpa (psd)	25	706	731	.034

Q4. The ratio of seed predation proportions is 3.62 *Polyscias fulva/Pseudospondias macrocarpa.* This basically means the data suggests that *Polyscias fulva* seeds are 3.62x more likely to be taken than *Pseudospondias microcarpa* seeds. The rate that is in the denominator technically doesn't make a difference as long as you are clear in your units, but it makes more intuitive sense if the smaller number is in the denominator. The code for calculating this is here (following on the code pasted above:

```
overall_prop = (pol_n_predation + psd_n_predation)/(pol_n_total + psd_n_total)

ratioprop = pol_predation_rate/psd_predation_rate
```