Julia Vineyard

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Week 7 Reading Questions

1. The population mean does not effect the width of the confidence intervals since confidence intervals are calculated from standard errors.

2. The population standard deviation influences the sample standard error which in turn influences the width of the confidence intervals since CI's are calculated using sample standard error. A smaller variance in the population decreases the error and thus the width of the confidence intervals.

3. The population size does not affect the width of the confidence intervals. The entire population is not sampled, and the confidence intervals are calculated from the sample statistics.

4. An increase in the sample size will allow you to reduce the standard error. Since confidence intervals are calculated from standard errors, reducing the error allows you to get narrower confidence intervals.

5. If we repeat Doug's river herring sampling methodology many different times and calculate the mean fish length based on those samples, we will be able to say that with a 95% confidence interval we can expect that the true value of river herring length is located within the range that we get from the calculations 95% of the time. Since the population is large and Doug is not capable of catching and measuring every river herring, we cannot claim to know the true value of the mean river herring length.