Chances are you’ve seen people posting their Wordle scores (and blocks of green and yellow squares) on social media. Today we will investigate the popularity of Wordle.

Identify an appropriate categorical variable under investigation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Suppose our population of interest is the individuals in this class

Define a parameter of interest:

Let p represent the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

We will consider randomly sampling n = 5 individuals “from the class” and compute the for the sample.

For each sample, what does represent?

is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

We will repeat this process many times, and you will sketch a dotplot of all of the sample results below.

0/5 1/5 2/5 3/5 4/5 5/5

1. Which sample proportion(s) occurred the most often?
2. What were the smallest and largest sample proportions?
3. For this population (class), the value of the actual parameter is p = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How does what we have observed in our dotplot compare to the actual true p for our population?

1. Now, suppose we are interested in learning about the popularity of Wordle among all 18-45 year old adults in America

We will consider randomly sampling n = 60 individuals from the population and compute the for the sample.

To sample from this population, we need to make an assumption about the population proportion (*p*). Gaming experts believe that 20% of adults in this age group (18-45 years old) play Wordle at least occasionally.

*p* = \_\_\_\_\_\_\_\_\_\_

*In words: p is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

We will use StatKey to randomly sample from this (assumed) population, and sketch a dotplot of all of the sample results below.

1. How does the shape and spread of the distribution of ’s from samples of size “*n*” compare to the distribution of ’s from samples of size 5? (What do they have in common? How do they differ?)
2. Does it seem reasonable to “model” this sampling distribution with a Normal distribution? If so, which Normal (i.e., and ) should we use?
3. Suppose we sample 60 students in the Student Center during the “lunch hour” and ask if they play Wordle. What is a sample outcome ( ) that you might expect to see? What is a sample outcome ( ) that you would be surprised to see?