Intro to Sampling

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Math 141, 3/8/21

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- Discuss random sampling: the heart of statistics!
- Perform a group sampling activity

- The distribution of a data set allow us to quantify the shape, center, and spread of the data.
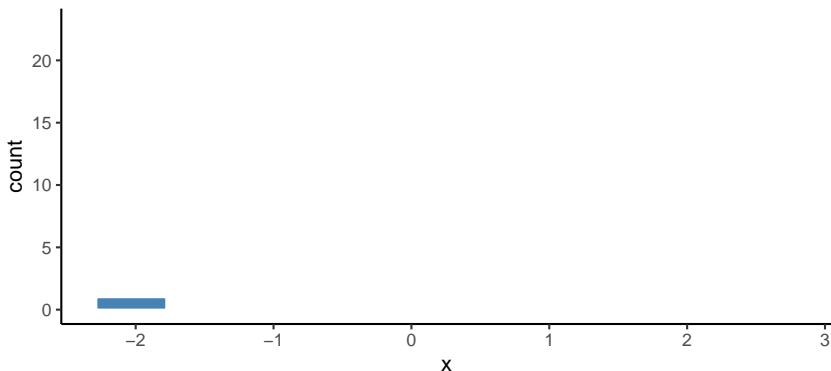
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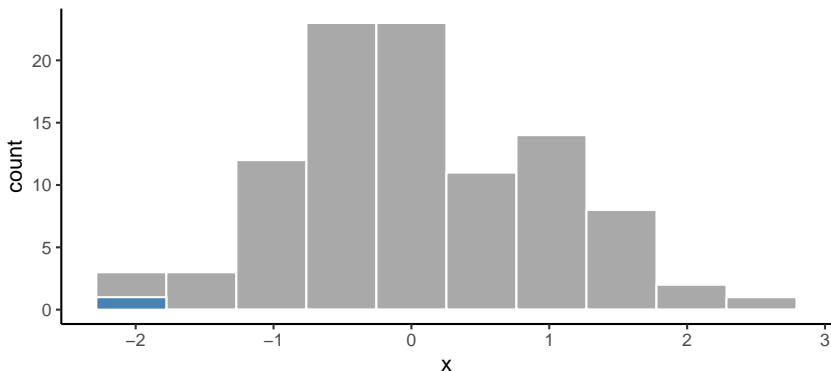
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  - The standard deviation of the statistic tells us how its value fluctuates from sample to sample.

Sampling Activity

Goal: Describe the distribution of a statistic by observing its average value and variability between samples. Compare to the distribution of the variable in the population.

Activity

1. Draw 10 cards from the decks of playing cards to form a sample.
2. Compute the mean of your cards (counting Aces as 1 and Face Cards as 10).
3. Add a dot to record your sample mean on the Jamboard.
4. Repeat steps 1-3 at least three more times.

Discussion

Answer the following questions in your group:

- What is the theoretical mean value for the data set of card values?
- How does the distribution of sample means compare to the distribution of card values?
- What is the relationship between the centers of the two distributions?
- Which distribution appears to have more variability?
- How do the shapes of the two distributions compare?
- What does the variability of sample means suggest about the means in repeated samples?