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## Homework

Please answer the following questions. Be sure that you have downloaded the associated Excel file before beginning the homework. This lesson uses the **JulyPopulationSamplesHW.xlsx** file.

*Remember that homework counts for 20% of your final grade. You are allowed **unlimited** attempts per question for homework problems. The main goal of homework is for you to practice and learn how to apply what you've learned in the content without worrying about getting the problem right the first time. Some homework problems may also provide hints or advice. Have fun!*

### M4L1HW1

2/2 points (graded)

In 2016, SurveyMonkey and NBC administered web surveys to determine the preferences of voters in each state. Suppose 10,000 voters responded in each state.

Would the preferences obtained from the survey reflect the preferences of all voters in the state? If not, what type of bias has occurred?

☐ The sampling plan is not biased.

☒ Response bias ✓

☐ Selection bias

☐ Publication bias

What is the simplest way to overcome this problem and get an accurate estimate of the voter preferences in each state?

☐ Interview 1,000 people in each state at the state's largest airport.

☒ Survey a simple random sample of 1500 voters in each state. ✓

☐ Conduct a 20000 participant web survey.

☐ Nothing needs to change as this research is not biased.

Submit

✓ Correct (2/2 points)

M4L1HW2

1/1 point (graded)

A study showed that a lower percentage of cats who fell from six or fewer stories survived than cats who fell from more than six stories. The results were based on visits to vet's offices.

Is this study biased? If so, which bias occurred?

☐ The sampling plan is not biased.

☐ Response bias

☐ Selection bias

☒ Survivorship bias ✓

Submit

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✓ Correct (1/1 point)

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## M4L1HW3

1/1 point (graded)

Clinical trials that indicate a new drug is better than an older drug are twice as likely to be published than studies that indicate the new drug is no better.

This is an example of which type of bias?

☒ Publication bias ✓

☐ Response bias

☐ Selection bias

☐ Survivorship bias

Submit

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✓ Correct (1/1 point)

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