Lab 2: Bull Rider Data

Over 1,200 bull riders from around the world are members of Professional Bull Riders (PBR) and compete in the more than 300 PBR affiliated bull riding events per year. This data set includes information about the top 50 ranked bull riders for the 2013, according to the PBR standings reported in July of 2013. Rankings are based on a system which awards points for qualified rides at events throughout the season.

(2/2 points)

Review of the One-Sample t-Test

Lab due May 03, 2016 at 17:00 UTC

Problem Set
Problem Set due May 03, 2016 at 17:00 UTC

In this lab, you will use a **one-sample t-test** to answer a question of interest. Let's start by remembering why we use hypothesis tests.

1a. What is the **goal** of a hypothesis test?

- To explain a causal relationship, such as "What makes that particular bull harder to ride?"
- To identify what the true value of a population mean is, based on the sample mean.
- To determine if the sample data is consistent, or inconsistent, with the null hypothesis about the population. ✔
- To prove that the alternative hypothesis is true.

1b. For your test result to be considered trustworthy, your data must meet the **assumptions** for a one-sample t-test. Which of the following is *not* an assumption of this test?

- The data was collected voluntarily from all subjects. ✔
- The sample is made up of independent observations.
- The population distribution should be nearly Normal, or the sample should be large.
- A random sample is used.

You have used 1 of 1 submissions

(1/1 point)

Lab Preparation

In this lab you will be working with data from the Professional Bull Riders Association.

1. Open RStudio. Make sure you've installed the SDSFoundations package.
2. Type `library(SDSFoundations)`. This will automatically load the data for the labs.
3.Type `bull <- BullRiders`. This will assign the data to your Workspace.

Alternatively, you can use follow the steps in the "Importing a Data Frame" R tutorial video, and use the BullRiders.csv file. (Right-click and "Save As.") Make sure to **name** the dataframe "bull" when importing.

1. Open RStudio.
2. Click on "Import Dataset" button at the top of the workspace window. Choose *"from text file."*
3. Click on the location of the BullRiders.csv file you just downloaded.
4. Click on the BullRiders.csv file. Then, click Upload.

Feel free to use the script from the week's PreLab, which you can modify for use in this Lab.

2. One of the following questions will be answered in this lab using a **one-sample t-test**. Select the question that can be answered with this method.

- ○ Is there a difference in number of buck-offs for riders with and without event wins?
- ◉ Is the average ride percentage of professional bull riders at least 50%? ✔
- ○ Do professional bull riders with more cup points earn more money?
- ○ Do older professional bull riders have a higher ride percentage than younger riders?

You have used 1 of 1 submissions