Lab 3: Professional Bull Riding

Over 1,200 bull riders from around the world are members of the Professional Bull Riders (PBR). They compete in more than 300 PBR-affiliated bull riding events per year. In the American tradition, the rider must stay atop the bucking bull for a full eight

seconds. This data set includes information about the top-ranked bull riders for 2013. Rankings are based on a system which awards points for qualified rides at events throughout the season. More information is available at: http://www.pbr.com /en/bfts/standings/riders.aspx

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Primary Research Question

Is there a linear relationship between how often a rider places in the Top 10 and how often he stays on his bull for a full 8 seconds?

(2/3 points)

Check the Data

Let's begin by examining our data in R.

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.
4. Look at the spreadsheet view of the data to answer the following questions.

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.
5. Look at the spreadsheet view of the data to answer the following questions.

How many observations are in the dataset?

Help

684

684

Answer: 38

How many of the first 10 riders in the dataset have been pro for more than 10 years?

2

2

Answer: 2

How many rides were completed by the rider with the fewest buck-outs?

1

1

Answer: 1

Hide Answer *You have used 2 of 2 submissions*

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(3/4 points)

Check the Variables of interest

Let's find the variables we need to answer the question.

Note: *Be sure variable names are exact matches to the dataset. Fill-in-the-blank questions are case sensitive.*

Which variable tells us how many times the rider has placed in the Top 10? The variable name in the dataset is:

Top10 **Answer:** Top10

What type of variable is this?

Numerical Numerical

Which variable tells us what percentage of the time a rider stayed on his bull for the full 8 seconds? The variable name in the

dataset is:

Rides **Answer:** RidePer

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What type of variable is this?

Numerical Numerical

Hide Answer *You have used 2 of 2 submissions*

(2/2 points)

Reflect on the Method

Which method should we be using for the analysis and why?

We will use **correlation** to answer this lab question. Why?

- We have two categorical variables that may be related.
- We want to explore a linear relationship between two quantitative variables. ✔
- We want to determine how a professional bull rider makes it onto the Top 10 list.
- We want to describe the distribution of a quantitative variable.

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We should generate a **scatterplot** of these two variables before we continue our analysis. Why?

- We need to check the shape of the distribution.
- It is a good idea to make sure that we have quantitative data by plotting it.
- We want to confirm that the relationship is linear. ✔
- We need to identify how many cases are in the dataset.

Show Answer *You have used 1 of 2 submissions*

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