

Statistical Reasoning in Sports - Chapter 2 Assessment

Part 1: The Research

- Choose an athlete you are interested in investigating. Baseball and basketball athletes are easiest, but you can use other sports if you make sure with me that your data is ok.
- Choose a categorical variable [like hits-outs, make-miss, etc.] that you will use to measure an athlete's/team's long-term *ability* [like a season] as compared to a short-term *performance* [like post-season].
- Find data that you will use. It's recommended to use www.sports-reference.com but there are other sites that will work too. Be sure to copy all of your data [screen shots are relatively easy and fine for our reports] and be able to site your source.
- Ask me for help with your research !

Part 2: The Written Report.

The Report [Each of these sections is graded]

- Header is in upper-right corner: [10 pts]
 - First and last name
 - 5^o Statistical Reasoning in Sports
 - Chapter 2 Assessment
- Write your title in the form of a question: Something like, “Did Cam Newton choke in the Super Bowl?” [10 pts]
- Write a paragraph to introduce and explain your question of interest (expand on the title). Include other important and/or interesting details about this team/individual and game/season. In other words, why did you choose this data? [10 pts]
- State the null and alternative hypothesis for your question. [10 pts]
- Present your data and include a graph that summarizes your data [bar graph or circle graph]. This is easiest to do by entering your data into the applet from our website and then taking a screen shot and paste to your Google Doc. Be sure to cite your source. [10 pts]
- Use the applet to compare your team/athlete’s short-term *performance* with their long-term *ability*. Remember to change the setting to proportion, enter your Hypothesized Proportion and add at least 1000 samples. [10 pts]
- Use the last part of the applet to find the likelihood (percentage) that this kind *performance* would happen by chance, given this level of *ability*. After you do this be sure to take a screenshot from the applet to include in your report. [10 pts]
- Use the results from the applet to write a paragraph to discuss the whether the player / team had a *performance* that was likely given their *ability* or if this is evidence that they ‘choked’ or were ‘clutch’ – in other words, was the *performance* likely or unlikely to happen by random chance given their *ability*? [10 pts]
- Write a paragraph for conclusion – in your words. What do you think of your results? What would you investigate next? Other thoughts? [10 pts]