

MA345-01 PROJECT QUESTION

A few years ago, a discrimination lawsuit was filed against the California Department of Development Service (DDS). The California DDS provides funding for developmentally-disabled individuals within the state. The lawsuit claimed that White Non-Hispanic were receiving more funding than Hispanics. If this was true, the DDS would face some serious legal and financial ramifications, so they hire you as a statistician to analyze the data behind the issue. The data (**California_DDS_Expenditures**) can be found in the **Project Module** in your course canvas. The DDS is interested in your answers to the following questions, which should be submitted in the form of a report. Description of the format of the report can also be found the same **Project Module**.

1. Create side-by-side boxplots of the **Expenditures** by **Ethnicity** (*Native American, Asian, etc*). Describe the plots. Is the lawsuit legitimate? what's your conclusion?
2. Subset the data by Age Group (**0 to 5 years old, 6 to 12 years old, 13 to 17 years old, 18 to 21 years old, 22 to 50 years old** and **51+ years old**). Then create side-by-side boxplots of the **Expenditures** by **Ethnicity** for each of the Age Groups. Describe the new plots. What's your conclusion?
3. In order to anticipate a future lawsuit about Gender discrimination, now subset your data by **Gender** (*Female and Male*).
 - a. Construct bar charts using **Age Group** (defined above) as classes (categories) for the Expenditures for each Gender. Describe each bar chart and compare the bar charts of the two gender groups. Does it appear to be a discrimination based on Gender?
 - b. Now create bar charts using **Ethnicity** as classes for each gender. What is your finding?