**Name: Andre Davis Lab Section: B2**

Directions: Use the following rubric to evaluate and provide constructive feedback to your classmates. Please write comments in the boxes. You will earn full points for thoughtfully completing this assignment.

**Research Question: Does the red light color have more total instances of each behavior than the yellow light color?**

**Hypothesis: The red light color has more total instances than the yellow light color**

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|  | **Criteria** | **Present and Appropriate (PA)** | **Present but Needs Improvement (NI)** | **Absent (A)** |
| **Graph Mechanics** | **Descriptive title**   * P/A-Should be: a) in the form of a statement, b) mention the subject, c) appropriate variables, and d) include relevant details about the experiment that help understand the take home message. * NI- If the title is missing any one of the four points mentioned above. |  | The title is slightly wrong, firstly, they could just say yellow and red light environments and on the key they indicate just “number of instances” when on the title it says average number of instances |  |
| **Label for the X axis (e.g. time)**   * P/A- Should be appropriate and descriptive for the experiment. For graphs with categorical independent variables, there needs to be a label under each set of data and a larger label under all data plotted. * • NI- If the label is missing any one of the points mentioned above. | The label for the x-axis follows the criteria of the rubric |  |  |
| **Label for the Y axis (e.g. heart rate)**   * P/A- Should be appropriate and descriptive for the experiment. If the data is manipulated (average, change, percentage, etc.), then it should be indicated on the y axis. * NI- If the label is missing any one of the points mentioned above. |  | I don’t know why they call this a mean, it seems like a total of instances but the y-axis follows criteria |  |
| **Units for the X axis (e.g. seconds)**   * P/A- Should be appropriate and descriptive for the data displayed. * NI- If the units are not appropriate or descriptive. | The units follow the criteria, lists what each behavior was |  |  |
| **Units for the Y axis (e.g. average beats per minute)**   * P/A- Should be appropriate and descriptive for the data displayed. * NI- If the units are not appropriate or descriptive. | The units follow the criteria, clearly number of instances are understood as numbers |  |  |
| **Scale (appropriate intervals and range for data)**   * P/A- Should be appropriate for the data displayed such that the increments are clear and without clutter and includes appropriate significant figures. If the scale is discontinuous or doesn’t start at the origin, it should be indicated by a break in the axis. * NI- If the scale is not appropriate for the data such that it is cluttered, does not include appropriate significant figures, and/or if the scale does not indicate axis break. | The scale is pretty appropriate for the values they have and it’s a good spacing for the highest instance |  |  |
| **Key (defines different data sets that are plotted)**   * P/A- Should be appropriate and descriptive for the data displayed. It should include: a) descriptions of different colors (if applicable), b) the sample size and c) the number of trials. * NI- If the key is not descriptive and does not indicate the sample size. |  | The key is not necessarily expressing the same data |  |

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|  | **Criteria** | **Excellent (E)** | **Needs Improvement (NI)** | **Unsatisfactory (U)** |
| **Communication** | **Ease of Understanding: Aesthetics**   * E- If the graph is aesthetically pleasing, meaning that: a) the data plotted takes up sufficient room in the Cartesian plane, b) makes use of legible size font, c) the x and y axis lines are clear and legible, d) the graph displays data in an appropriate number of bars and lines, and e) is devoid of chart junk elements such as: distracting background colors, patterns, and dark gridlines * NI- If the graph has one of the following flaws: a) the graph displays too much white space, b) the font size is too small, c) the x and y axis lines are not clear and legible, d) the graph shows too many bars or lines OR e) elements of chart junk are clouding interpretation of data. * U- If the graph has multiple flaws, which interfere with the understanding and interpretation of data. | The graph is good for the most part, and I can understand what they wanted to show |  |  |
| **Ease of Understanding: Take-Home Message**   * E- If the graph has sound construction and mechanics that allow for clear sorting of trends and take home message. * NI- If data trends are difficult to observe or it is difficult to formulate a proper take home message. * U- If the graph is ineffective at communicating data trends and take home message, such that it causes confusion. | The data was sorted well and had a good visualization |  |  |
| **Graph Choice** | **Graph Type Appropriateness (Bar, Line, Scatter, Dot, Histogram, Box and Whisker…)**   * E- If data displayed in a graph is appropriate for both independent and dependent experimental variables (i.e. categorical and continuous) and data. (\*Referring to the data form) * NI- If data displayed in a graph is a) not suitable for either the dependent or independent experimental variables OR b) there is a better way to present data. * U- If the graph type is not suitable for both experimental variables. | The bar type is definitely appropriate here, since it’s just visualizing values |  |  |
| **Type of Data Displayed (Raw, Mean, Median, Change, Percentage…)**   * E- If the graph indicates the type of data (ex. Raw, averages, etc.) that are plotted. There should be a clear distinction between raw data and manipulated data based on the information presented in the key (ie. sample size and number of trials) and axis label. If the graph is showing averages, then it should also be accompanied with STDEV or error bars. * NI- If the graph is missing one of points mentioned above. * U- If data type is inappropriate for the graph type |  | Not sure what type of data it was. The key showed raw but the title and y-value showed mean |  |
| **Alignment with Research Question** *(at least one of the graphs presented should align with the research question and hypothesis. Other graphs can be exploratory.)*   * E- If the graph is completely aligned with the research question and/or hypothesis. In other words, the independent, dependent variables, and information about the experiment are explicit. * NI- If the graph is partially aligned with the research question and/or hypothesis. In other words, the graph is missing information about either the independent, dependent, or details about the experiment. * U- If the graph is not aligned with the research question and/or hypothesis. | The graph does align with the research question. The independent and dependent variable make the graph appropriate |  |  |

What are some advantages to this representation? The graph is well visualized and it communicates its findings very well

What are some disadvantages of this representation? The key and the title indicated two different things

Are there any missing statistics? If so, what? Just the confusion of the mean and raw, but the graph has the necessary statistics.