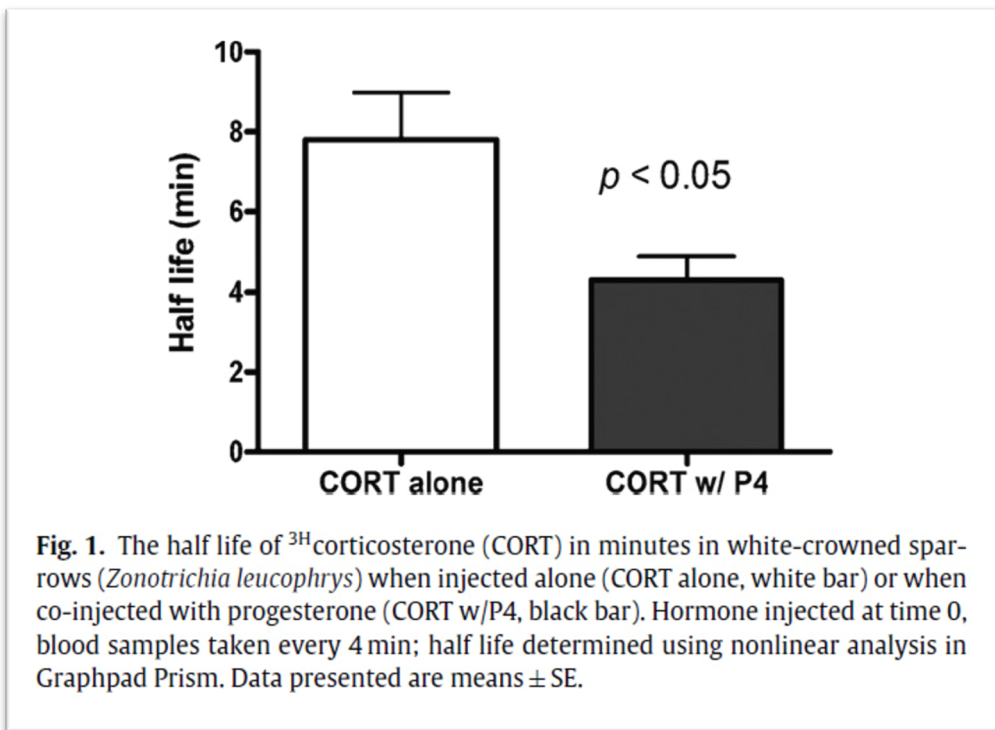


### Formatting Figures and Tables for Lab Reports

*Adequate Figure Example:*



When scientists read papers, they don't actually read them in order. They first skim through the Introduction to locate the hypothesis and predictions, and then look at the figures and tables for the results. Therefore, construct figures and tables so that they provide a clear summary of your results.

The figure above is from Malisch and Breuner, 2010. It depicts the half life of CORT in white crowned sparrows that were injected with CORT or CORT + progesterone. I know this because the description of the methods and results is the first sentence in the figure's caption.

The y axis is labeled with the dependent variable and the dependent variable's units. The x axis *should be* labeled with "Treatment" along with the two treatments. The figure caption begins with the figure number, to indicate the order that it appears in the paper relative to the other figures. The figure caption then, in the first sentence, explains exactly what the figure is showing. The following sentences give a very brief review of the treatments, methods, and statistics. Note that all acronyms (CORT, P4) are explained (SE = standard error, and is standard for all scientific papers so it is never written out).

The titles of tables are formatted similarly, but are shorter and placed at the top of the table. Most scientific journals do **not** want figures to be titled.

I may say "figure" and "graph" interchangeably in class. The terms are usually interchangeable (since figures are usually graphs), but in lab reports, all graphs, pictures, and diagrams are called figures.

Two other critiques: **Boxplots** are preferred over barplots and should include both positive and negative error bars. Also include one sentence that summarizes the major finding (e.g. "Sparrows injected with CORT+progesterone had a significantly shorter CORT half-life than those injected with CORT alone (t-test;  $t = \_\_\_\_\_\_$ ,  $df = \_\_\_\_\_\_$ ,  $P < 0.05$ ).")

**Figure and Table formatting checklist:**

- Is the Figure/Table relevant to my results?
- Do I refer to the Figure/Table in my written results?
- Is there a short title to all of the Figures within the Figure legend?
- Do all of my Figures have clearly labeled axes with units (when applicable)?
- Do I have a complete Figure/Table caption?
  - Are my Figure/Table captions correctly numbered? Note that the number of figures and tables are independent of each other. If your report has one figure and one table, then the figure and table should be named Figure 1. and Table. 1. respectively.
  - Does the first sentence of the figure/table caption concisely and accurately summarize what is depicted?
  - Do I provide a brief summary of the treatments and methods?
  - Are all acronyms explained?
  - Is my figure/table caption between 2 – 10 sentences long?
  - Have I included a one-sentence take-home message with the appropriate statistical comparison?
- If my figure shows a regression, have I included the regression equation in either the graph or in the figure legend?
- If I have run a t-test or any statistical test that shows significant differences, have I labeled significantly different groups with an asterisk or letters, and included information about statistics and p-values in the figure legend?