

class 8

## Results, Tables and Figures

What did you find?

### Basic Principles

1. Use no more tables and figures than you absolutely need (one rule: no more than one table or figure for every 1000 words of text)

2. Follow the journal instructions and layout

3. For each major result, choose one of three alternatives:

Table: for precise numerical data

Figure: when trends are more important than exact numbers; for pictorial data

Text: for a straightforward experiment with few variables

4. Summarize individual pieces of data; give means and a measure of variability

5. Summarize data from tables and figures in text; don't repeat them

TABLE I Effect of Caffeine Consumption on Lecture Attentiveness of Students in the Health Sciences

Caffeine-containing Coffee Consumed (cups)	Number of Head Nods Before ODS <sup>1</sup>	Interval Between Nods (sec.)	Students Achieving Deep Slumber (%)
0	1.1 ± 0.3	N.D. <sup>2</sup>	92
1	1.8 ± 0.7	27.3 ± 8.9	84
2	4.7 ± 2.5	56.9 ± 15.4	44
3	2.6 ± 1.1	135.1 ± 38.2	28

Caffeine-free or caffeine-containing cups of coffee were administered to sleep-deprived students (25 per group) 1 hr before attendance at the designated lecture, as described in Materials and Methods. Head nods were identified by visual inspection, and sleep status was determined according to the criteria of Wynken, Blynken and Nod [23]. Values are means ± S.D.

<sup>1</sup>ODS, onset of deep slumber.

<sup>2</sup>N.D., not determined.

## TABLES

### Table Construction

- Be sure all data and calculations are correct before you start!
- Provide an informative title
- Make column headings clear; include appropriate units
- Provide explanatory footnotes and/or legends
- Experiment to find the best design
- Conform to journal instructions and layout

### Principles of Table Design

- Place related results as close together as possible
- Be sure your tables are self-contained
- Arrange your variables according to a logical progression (top to bottom, left to right)
- In most cases, orient your tables so that values to be compared read down, not across
- Make your tables as compact as possible

## Conventions Regarding Data Presentation

- Align decimal points wherever feasible
- Use a 0 before the decimal point in any number  $<1$
- Use the same number of significant figures for analogous values
- Keep numbers in tables small by choosing appropriate units
- Don't leave any blank spaces within the body of the table: use a 0 or N.D. (and define N.D.!).
- Don't use arrows or ditto marks to indicate repeated values
- Keep units in the headings (not the body) of the table

## Table Titles

- Make the first title comprehensive--include:
  - population or species studied
  - experimental conditions and/or techniques used
  - characteristics or variables examined
- Later titles can be briefer
- Avoid sentences
- Make titles more general than table headings (use summary terms to describe the dependent and independent variables)
- Be sure your titles work together (keep them parallel in grammatical structure and choice of technical terms)

### Table Legends and Footnotes

- Use a legend to present information that applies to the entire table:
  - details of experimental conditions (numbers of subjects, methods)
  - statistical information
  - source of table if previously published
  - definition of abbreviations
  
- Use footnotes to provide specific details:
  - complete versions of units too long for headings
  - keys to specific symbols or abbreviations
  - indications of statistical significance
  - information about qualifications, limitations, or exceptions

### Checklist for Proofreading Tables

(Use before submitting your manuscript and when checking proof)

- Are any tables missing?
- Are all tables in the proper order?
- Are all the textual references to the tables correct?
- Are all the data correct (watch especially for repetitions, transpositions, decimal points in the wrong place)?
- Do all variables have appropriate units?
- Do like measurements within a table have the same number of significant digits? Should values be rounded off?
- Are lines drawn appropriately within the table?
- Are headings and data aligned properly?
- Are footnotes and legends correctly handled and consistent with journal instructions? Is any information missing?
- Are headings and format consistent from one table to another (grammatical structure, terminology, capitalization, boldface/underline, typeface, punctuation)?

## FIGURES

### Guidelines for Continuous-Tone Illustrations (photographs, scanning images)

- Make sure drawings and photographs are of the finest quality possible (adequate contrast, sharp focus, no clutter)
- When photographing or cropping, zoom in on the area of interest
- Make sure labels are easily visible and appropriate in size
- Provide an indication of scale when relevant (bar, ruler, or easily identifiable object)
- Mask or crop photographs to protect the privacy of human subjects, or obtain permission to publish the photo if the subject will be identifiable

### Guidelines for Line Illustrations (graphs, diagrams, line drawings, tracings)

- Don't present straight-line functions as figures (summarize in text)
- Strive for simplicity and clarity (don't overload your figures)
- Make sure lines, labels, and symbols are large and heavy enough for reproduction and reduction
- Use standard printer's symbols
- Define all symbols and be sure axes are clearly labeled
- Use appropriate scales on both axes