Results, Tables Figures

Two Ingredients of Results

1. Overall 'big picture' descriptions of experiment

    Not repeat the experiment details

2. Present the data

What is a Graph

‣ A representation of the relation between or among data sets by means of lines, areas, curves.

What is a Chart?

‣ Showing facts graphically or in tabular form.

What is a Figure?

‣ A combination of lines, points, surfaces or solids representing an object or illustrating a condition (or relation).

Tables: General Rules

‣ If possible, present information in text

Table 1. Health Concerns of subjects

Subject	Health Concern
12	CAD
11	COPD
10	Asthma
9	Diabetes
11	Obesity

Tables: General Rules

‣ Don't overload article with tables: costly
‣ Report data to chief significant figures
‣ Avoid redundancy
  ◾ Avoid reporting in text, table and figure
‣ Study previous journals
‣ A good table supplements the article
‣ Refer to table in text

Tables: General Rules

‣ Make sure the table can stand on its own
‣ Table should have brief title on top
‣ Check journal guidelines for tables inf.
‣ If information can be stated briefly in text, you don't need the table
‣ When do you do your tables?
  ◾ Before you write
  ◾ Helps to structure the writing

How Do You Arrange Table Data?

▸ **Questions to ask?**
  ▪ **What is the grouping?**
    ◢ Category
    ◢ DV
    ◢ Largest to smallest
    ◢ Smallest to largest

Design in Tables

Check Table for Amount of Inf. In Space

TABLE 2. Exercise-associated collapse classification matrix.

	Mild	Moderate	Severe
Hyperthermic	T ≥ 39.5°C (103°F)	T ≥ 40.5°C (105°F)	T ≥ 41°C (106°F)
Normothermic	36°C ≤ T ≤ 39.5°C	36°C ≤ T ≤ 39.5°C	36°C ≤ T ≤ 39.5°C
Hypothermic	T ≤ 36°C (97°F)	T ≤ 35°C (95°F)	T ≤ 32°C (90°F)
Key symptoms and signs	Any symptom or sign Walk with or without assistance	No oral intake Extra fluid loss Unable to walk Severe muscle spasm	CNS changes Unconsciousness

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Does this table work?

Figures

‣ Includes graphs, scatter plots, bar graphs, histograms, line graphs, illustrations

‣ Displays trends and relationships in data

‣ A figure is a picturesque table

‣ Pay attention to journal guidelines
  ▪ How many copies? Camera ready?
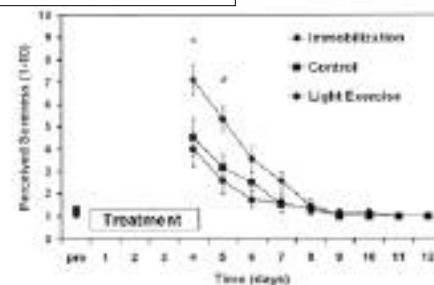 ▪ Does journal redo? If so how much?

Figures

‣ Most journals have you list legends for figures on a separate page

‣ What are the journal size requirements for figures?

‣ Figures should be self-explanatory

‣ The legend is the tile

‣ If using multiple figures, keep relatively same size
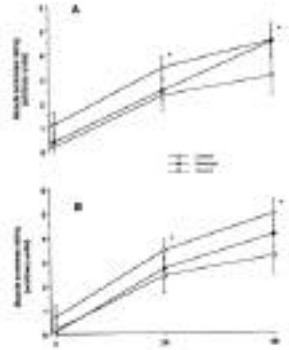

Figures cont.

‣ Correct scaling is an issue with figures

‣ Your decision: What is best type of figure to present data?
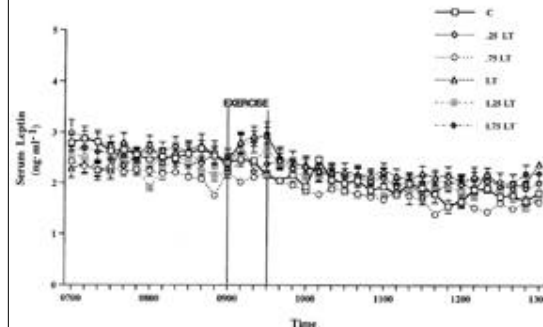 ▪ Bar chart, line graph, pie chart, columns etc.

Figures Should be Easy to Read

Figures with Same Size and Scaling

Make Sure Your Figure is Easy to Read
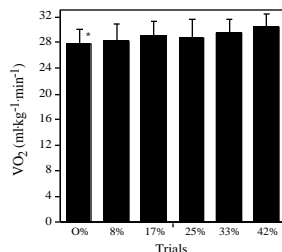

Does the Figure Stand on It's Own?

Figure 2. VO_2 trial effect
*0% significantly less than 33% and 42%

References

‣ Follow journal guidelines
‣ Check all citations against original
‣ Every cited article should appear in reference list
‣ Every entry on reference list should be cited in text
‣ Do not cite unpublished data, thesis or dissertations

Do Authors Check Their References?

‣ 1987 Data from AJPH
  ▪ Major error: prevented identification of source
  ▪ Minor error: misspellings, omissions, incorrect substitutions, incorrect pagination
  ▪ Data from ONE journal edition
    ◢ 3 different journals compared

Do Authors Check Their References?

‣ American Journal of Epidemiology
  ▪ Minor citation errors = 11
  ▪ Major citation errors = 3
‣ American Journal of Public Health
  ▪ Minor citation errors = 13
  ▪ Major citation errors = 1
‣ Medical Care
  ▪ Minor citation errors = 17
  ▪ Major citation errors = 1

Most Common Citation Errors

‣ Misspellings
‣ Minor omissions in author name or article title

Quotation Errors

‣ Major error: quote did not substantiate the original authors assertion
‣ Minor error: did not affect the original assertion, however it may have been oversimplified or incorrect conclusions

Quotation Errors?

‣ American Journal of Epidemiology
  ◾ Minor quotation errors = 5
  ◾ Major quotation errors = 7
‣ American Journal of Public Health
  ◾ Minor quotation errors = 2
  ◾ Major quotation n errors = 9
‣ Medical Care
  ◾ Minor quotation errors = 15
  ◾ Major quotation errors = 7

Multiple Citations in a Sentence!

‣ Flexibility has been shown to reduce muscle soreness (Faria, 1995), increase range of motion (Marks, 1999), prevent low back pain (Reynolds, 2000), enhance mood (Burkett, 1998) and improve performance (Gordon, 1998).

Writing is Definitely an Art and Science!