Kinesiology Lab Manual

ACADIA UNIVERSITY

Writing your research report: A lab write-up guide

Combined from:

Rudisill, M.E., & Jackson, A.S. (1992). Theory & application of motor learning lab manual. Onalaska, TX: MacJ-R Publishing.

Conducting and Reading Research in Health and Human Performance. (2nd ed.). (1998). Boston: McGraw-Hill

Since the scientific process is now familiar to you, the next step is to learn to write a research paper. Writing a research report is like writing a series of short papers Each section requires different types of specific information. These sections include: Introduction, Method, Results, Discussion, References. What follows is an overview of the content of each of these parts. The next page is an example of the required title page for formal lab write ups.

Sample TITLE PAGE (do not include this title on your title page)

Please note that some reference styles have a specific title page format (i.e. APA) that may differ from this sample title page – verify with your lab instructor whether the sample or the style specific title page is preferred

Form and Organization for Acadia Kinesiology Research Laboratories: Creative Titles Please

Your Name
Your ID
Course # & section
Submission Date

FORMAL LAB WRITE UP

- **Reports are to be typed using *double spacing* throughout.**
- **Margins should be set at 1 inch all around.**
- **Use Time New Roman 12-point font.**

Headings should include the following:

- Introduction: Including purpose and hypothesis
- Methods: Discuss the methodology of the study
- Results: Including data tables and figures (electronically produced)
- Discussion: Including the questions and answers. Be concise when answering questions.
    - Complete the discussion section with a general conclusion or summary of what you learned in the lab.
- References: 5-8 references for informal labs and 8-10 for formal labs are REQUIRED outside of the given reference(s).
    - References should not include the lab manual or websites

***INFORMAL LAB WRITE UPS MAY NOT INCLUDE ALL SECTIONS. YOUR LAB INSTRUCTOR WILL INDICATE WHICH SECTIONS ARE REQUIRED AT THE END OF EACH LAB.**

Lab Reports will be assessed as follows:

- Accuracy of measurements, calculations, recordings
- Quality of presentation
- Completeness of answers to any questions

Besides helping you understand the lecture concepts, these lab reports are also meant to:

- Help you to become meticulous when reading instructions.
- Help you to become meticulous when collecting and recording data.
- Help you to prepare high quality presentations / reports.

Write in grammatically correct sentences; organize your ideas logically; each new idea should be discussed in a different paragraph, the same idea should be discussed in the same paragraph. The final report should reflect the 5 C's of writing and be:

(1) ***Clear***: the text should be easily understood rather than vague and ambiguous; the reader should not be left wondering what you mean.
(2) ***Complete***: in each paragraph, arguments/ideas should be briefly complemented with a rationale or relevant evidence. The text should not contain unsupported statements that leave the reader hanging.
(3) ***Concise***: state and support your arguments completely, but avoid belaboring a point by repeating it more than once using different words.

(4) ***Continuous***: there should be a logical and progressive flow of ideas, avoid rehashing points made previously later in the text.
(5) ***Considerate***: the text should be written in language that the reader can understand. Minimize the use of jargon and big fancy words that sound impressive but that no one really understands.

Reference Styles

APA
Publication Manual of the American Psychological Association (7th ed.)
https://apastyle.apa.org/
https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/general_format.html

MSSE
American College of Sports Medicine. Journal of Medicine & Science in Sports & Exercise Submission Guidelines. Available at: http://www.acsm-msse.org
http://journals.lww.com/acsm-msse/_layouts/1033/oaks.journals/informationforauthors.aspx
http://edmgr.ovid.com/msse/accounts/ifauth.htm

JAMA
Journal of the American Medical Association AMA Manual of Style: A Guide for Authors and Editors (10th edition)
/http://jamanetwork.com/journals/jama/pages/instructions-for-authors/

APNM
Journal of Applied Physiology, Nutrition and Metabolism
https://cdnsciencepub.com/journal/apnm
https://www.mendeley.com/guides/harvard-citation-guide

Other Resources: http://libguides.acadiau.ca/kinesiology

*** Your Instructor will indicate which referencing style is required

Introduction (USE THIS HEADING FOR ALL CITATION STYLES)

Previous research is cited, and the relation between the current study and past work is explained. The purpose of an introduction is to give the research question context by introducing related concepts. Giving the reader some background of the work done on these related concepts does this. A good introduction is written in such a way that it leads to a statement of the problem and the hypotheses to be tested. It provides the reader with a clear understanding of the following questions:

1. What is the general area of study, and what is the specific problem being investigated?
2. What work has been done in related areas?
3. What is the purpose of the study?
4. What variables will be involved, and how will they be operationalized?
5. What do you expect will happen?

The following guidelines will help you do this.

Steps to creating a good introduction.

Step 1. Introduce and develop the problem.

First, introduce the broad area of study, and then narrow it down to the specific problem that will be addressed in your experiment/study. This part of the introduction should be developed so that the reader can clearly understand things like, What is the point of the study? What is the specific research question you'll be addressing? What are some of the issues and implications surrounding this problem?

1 paragraph

Step 2. Develop background material.

This part of the introduction addresses how the study relates to previous work that has been done in the area, and includes a scholarly review of earlier work. The information presented here provides a background and rationale for the variables that will be used in your experiment, the experimental design that will be utilized, and/or the hypothesis to be tested. In discussing earlier work, emphasize pertinent findings and major conclusions. Avoid non-essential details.

1-2 paragraphs

Step 3a. State the purpose and rationale.

After introducing and developing the problem, and providing a logical rationale for what you're doing, you are in a position to state the purpose of the study. What question will you address in the study? Clearly summarize the logic behind the purpose, and briefly describe how you accomplished this purpose (what did you do?).

1-2 sentences

Step 3b. Define the variables.

Indicate what variables were manipulated in the study. Identify and describe the independent and dependent variable(s) indicating how each was operationalized. The reader should have a clear understanding of what variables were involved in the study, and how they were actualized.

Independent and dependent variables (Baumgartner, pg. 73):

Independent variable (IV): Also referred to as the experimental treatment. This variable is controlled by the researcher and will not change during the research or as a result of the research

Dependent variable (DV): this is the variable that is expected to change during the research as a result of the treatment. This variable is not under the control of the researcher.

"Independent variables are expected to CAUSE AN EFFECT on the dependent variable; the independent variable forms groups whereas the dependent variables generate data in the research."

Example: In a study regarding the effects of a vegetarian diet, one could hypothesize that a non-vegetarian diet produces stronger people than does a vegetarian diet. In this case the independent variable is the type of diet and the dependent variable is a strength score (or result of a given 'strength' test).

Step 3c. State the hypothesis.

Formally state the results that were expected and why. A hypothesis is an educated guess about how the IV(s) will affect the DV. In addition to stating what you expect, provide a clear rationale for why you expect these results. This rationale should be a logical outgrowth of the review of literature presented earlier in the introduction.
1 paragraph (Steps 3a, 3b & 3c)

Method (USE THIS HEADING FOR ALL CITATION STYLES)

The Method section provides the recipe for how the study was conducted. A good method section provides the reader with enough information about what you did and how you did so that he or she can repeat your experiment if desired. The method section is divided into the following subheadings:

Subjects. A detailed description of the subjects involved in data collection; how many, their sex, their age (mean & standard deviation), how they were obtained, and any other pertinent information

Apparatus or materials. A detailed description of any equipment that was used and its role in the study.

Procedure. A detailed summary of how the data were collected. It should include how subjects were divided into groups (if relevant), the instructions they were given, as well as a complete description of what they were required to do.

Results (USE THIS HEADING FOR ALL CITATION STYLES)

In the Results section, you should report significant findings that are important or related to the hypotheses. Here, data are summarized after they have been statistically analyzed. Statistically treated data should be reported clearly and economically. Make sure to mention all relevant results, whether or not they run counter to the hypothesis. A good results section effectively

answers the following questions: What happened? What major findings, general trends, and / or peculiar results were found?

Reporting results in text can often be laborious, not to mention confusing for the reader. Tables and Figures help you summarize large amounts of data that may be too complex to clearly communicate in text. *However, tables and figures supplement text, they do not replace it.* Always highlight the main results communicated by the table or figure, but avoid repeating in text the same information that is given in a table or figure. Tables and figures should always be referred to in the text.

I've got all this data, now what do I do with it?

Step 1. Run the appropriate statistical tests. Some of the time this will be done for you.

Step 2. State the main findings. Then back these up by reporting the data in sufficient detail. Determine the amount of data the reader needs to understand the discussion, and then decide whether a table or figure will communicate these data most clearly and economically. In making your decision, consider the following:

> **Tables** *summarize a great deal of exact values and can effectively illustrate main effects, that is, the effects of a single IV.* If you think it's important for the reader to see the exact values of your data, or simple differences between groups, choose a table. (Read below for detailed information on tables.)
>
> **Figures** *efficiently illustrate relationships and interactions, that is, the different effects caused by the interaction of multiple IVs,* making trends and comparisons easy for all to see. If you think that understanding the trends in the data is more important than knowing the exact values of the results, then give the reader a picture and choose a figure. (Read below for detailed information on figures.)

Make sure to mention **all** relevant results, whether or not they run counter to the hypothesis.

When you use tables or figures, be certain to mention all of them in the text. Refer to all tables as *tables* and to all graphs, pictures, or drawings as *figures*. Tables and figures supplement the text; they cannot do the entire job of communication. Always tell the reader what to look for in tables and figures, and provide sufficient explanation to make them readily intelligible.

The figure(s) or table(s) you include in the results section should be organized to easily communicate how the independent variable affected the dependent variable. A rule of thumb is that IVs are represented on the horizontal (x) axis while DVs are represented on the vertical (y) axis of tables and figures.

Tables

Tables are used to display a large amount of data in a small amount of space (columns and rows). They replace text that would otherwise be too dense with numbers. Tables are effective when the data are arranged so that their meaning is obvious at a glance. See the example below. Each table should be understandable on its own, without having to refer to the text.

Table Example in APA (7th Ed):

https://apastyle.apa.org/style-grammar-guidelines/tables-figures/tables

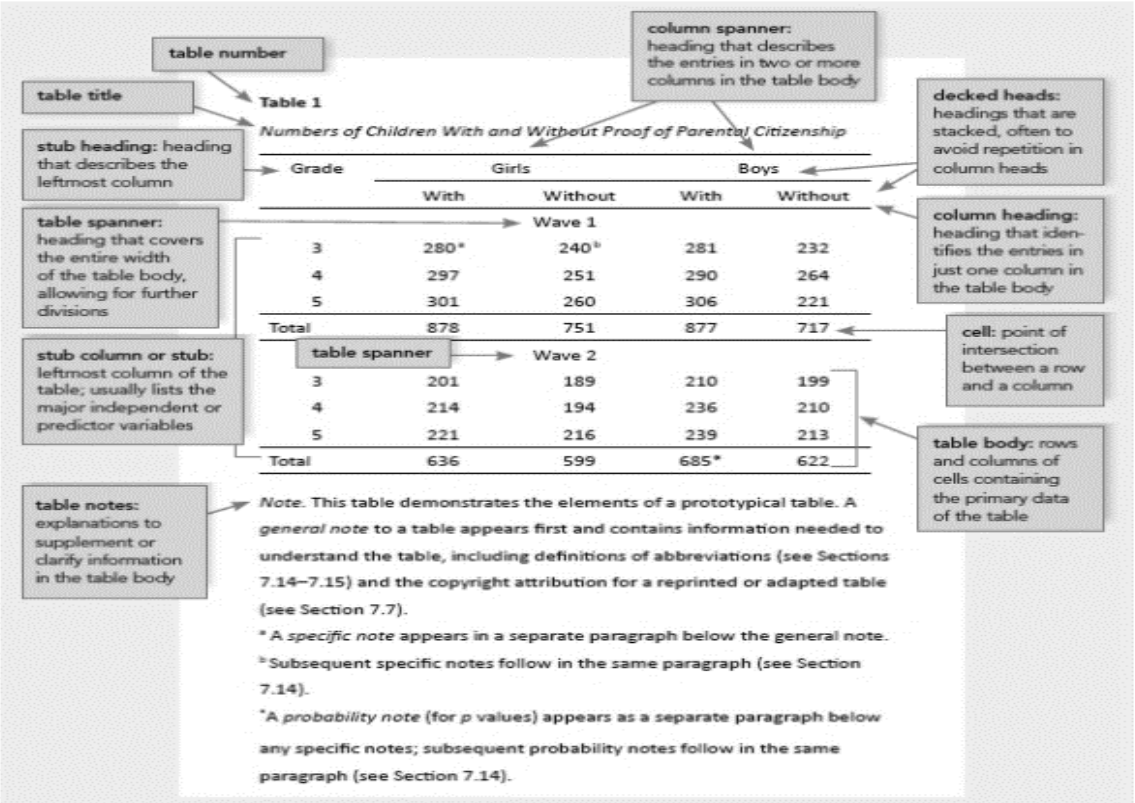


Table Example in MSSE:

http://edmgr.ovid.com/msse/accounts/ifauth.htm

TABLE 3. Association of PA and CPET parameters.

	LPA		MPA		VPA	
Parameter	Estimate (95% CI)	P	Estimate (95% CI)	P	Estimate (95% CI)	P
$\dot{V}O_{2peak}$ (mL·kg^{-1}·min^{-1})	−0.012 (−0.033 to 0.010)	0.30	0.020 (0.007 to 0.033)	0.003	0.260 (0.194 to 0.325)	<0.001
$\dot{V}O_2$ at VT1 (mL·kg^{-1}·min^{-1})	−0.005 (−0.023 to 0.014)	0.63	0.017 (0.006 to 0.027)	0.002	0.196 (0.136 to 0.256)	<0.001
Peak oxygen pulse (mL per beat)	−0.004 (−0.012 to 0.004)	0.32	0.006 (0.001 to 0.010)	0.01	0.046 (0.021 to 0.070)	<0.001
QUES (mL·min^{-1})	−2.147 (−4.027 to −0.267)	0.03	1.314 (0.247 to 2.380)	0.02	12.640 (5.631 to 19.590)	<0.001
$\dot{V}_E/\dot{V}CO_2$ slope	0.004 (−0.014 to 0.021)	0.68	−0.008 (−0.018 to 0.002)	0.13	−0.014 (−0.064 to 0.036)	0.59
$P_{ET}CO_2$ at VT1 (mm Hg)	−0.004 (−0.018 to 0.010)	0.61	0.005 (−0.003 to 0.012)	0.21	0.015 (−0.022 to 0.052)	0.42

VT, ventilatory threshold.

Source: Wagner, JW, Knaier, R, Infanger, D, et al. Novel CPET Reference Values in Healthy Adults: Associations with Physical Activity. *Med Sci Sports Exerc*. 2021;53(1):26-37

Table Example JAMA:
https://jamanetwork.com/journals/jama/pages/instructions-for-authors#SecTables

Table 2. Dietary Niacin Intake and the Risk of New-Onset Hypertension Stratified by Quartiles and Combined Quartiles

			Crude model		Adjusted model[b]	
Niacin intake, mg/d	Participants, No.	Events, No. (rate)[a]	HR (95% CI)	*P* value	HR (95% CI)	*P* value
Quartiles						
Q1 (<12.4)	3061	1188 (51.7)	1 [Reference]		1 [Reference]	
Q2 (12.4 to <14.3)	3060	1166 (46.6)	0.90 (0.83-0.97)	.009	0.95 (0.87-1.04)	.27
Q3 (14.3 to <16.7)	3061	952 (36.2)	0.70 (0.64-0.76)	<.001	0.83 (0.75-0.90)	<.001
Q4 (≥16.7)	3061	998 (47.0)	0.92 (0.85-1.00)	.05	1.08 (0.99-1.19)	.09
Categories						
Q1-2 (<14.3)	6121	2354 (49.0)	1.36 (1.26-1.47)	<.001	1.18 (1.09-1.28)	<.001
Q3 (14.3 to <16.7)	3061	952 (36.2)	1 [Reference]		1 [Reference]	
Q4 (≥16.7)	3061	998 (47.0)	1.32 (1.21-1.44)	<.001	1.31 (1.20-1.44)	<.001

Abbreviations: HR, hazard ratio; Q, quartile.

SI conversion factor: To convert niacin to μmol/d, multiply by 8.123.

[a] Incident rate is presented per 1000 person-years of follow-up.

[b] Adjusted for age, sex, body mass index, smoking status, systolic blood pressure, diastolic blood pressure, region, education, and occupation, as well as energy intake and sodium to potassium intake ratio.

Source: Zhang, A, Mengyi, L, Zhou, C, et al. Evaluation of dietary niacin and new-onset hypertension among Chinese adults. *JAMA Network Open.* 2021;4(1):e2031669. doi:10.1001/jamanetworkopen.2020.31669

Table Example APNM:
https://cdnsciencepub.com/journal/apnm/authors#guidelines

Table 1. Participant characteristics and baseline body composition indices and biomarkers of cardiometabolic health in function of the intervention.

	Control, *n* = 56	Aerobic, *n* = 35	Resistance, *n* = 23	Combined, *n* = 29
Age, y	15.5 (1.3)	15.6 (1.2)	15.6 (1.5)	15.2 (1.4)
Sex, % female	67.3	65.7	69.6	55.2
Height, cm	168.7 (7.1)	167.4 (8.1)	167.4 (8.1)	167.8 (7.3)
Weight, kg	98.0 (18.4)	96.9 (15.3)	103.2 (18.2)	98.7 (17.8)
BMI, kg/m²	34.2 (5.1)	34.4 (3.4)	35.7 (5.4)	34.9 (4.3)
Body fat mass, %	48.3 (5.2)	48.8 (5.4)	49.4 (6.2)	49.6 (5.2)
Lean body mass, %	50.9 (6.9)	50.2 (5.1)	48.8 (6.9)	49.3 (5.6)
Waist circumference, cm	95.6 (11.6)	95.9 (9.2)	102.8 (12.8)	98.0 (10.7)
Systolic blood pressure, mm Hg	113 (10)	116 (11)	120 (10)	113 (8)
Glucose, mg/dL	5.1 (0.4)	4.9 (0.4)	5.0 (0.5)	4.9 (0.4)
HDL-C, mg/dL	1.1 (0.3)	1.1 (0.3)	1.1 (0.2)	1.2 (0.3)
Triglycerides, mg/dL	1.5 (0.8)	1.2 (0.5)	1.4 (0.5)	1.3 (0.6)

Note: Data are presented as means (SD). Intervention: diet-only control versus diet plus aerobic, resistance, or combined exercise training. BMI, body mass index; HDL-C, high-density lipoprotein cholesterol.

Source: Walsh, J.,J., Bonafiglia, J.,T., Goldfield, G., S., Sigal, R., J., Kenny, G.,P., Doucette, S., et al. 2020. Interindividual variability and individual responses to exercise training in adolescents with obesity. Appl. Physiology, Nutri. Metab. **45**: 45–54 dx.doi.org/10.1139/apnm-2019-0088

Tables in General

1. Explain all abbreviations (except standard statistical ones like *M* and *SD*). Long explanations are given in a general note under the table.

2. Table Checklist
   - Can the table be understood on its own?
   - Do you make reference to the table in the text?
   - Is the table necessary, or is the same data given in the text or in a figure?
   - Is the entire table--including the title, headings, and notes--double-spaced?
   - Is the title brief but explanatory?
   - Does every column have a column heading?
   - Are all abbreviations explained?
   - Are all vertical lines eliminated?
   - Does the text highlight the major findings provided in the table?

Figures

The type of figure you will use to best convey your data depends on the nature of your IVs. IVs can be either continuous or categorical. An IV is continuous when its various levels refer to the repeated measurement of the same subjects over a period of time. An IV is categorical when its various levels refer to different experimental conditions.

Bar graphs (Histograms). Use this type of figure to show the effects of categorical IVs. Again, the value of the DV is placed along the vertical axis. Each bar represents one level of the IV. Where multiple IVs are represented, they can be differentiated easily through shading.

Line graphs (Frequency Polygons). Use this type of figure to show the relationship between one or more levels of a continuous IV on a DV. Line graphs allow the reader to quickly and easily compare the effect of the IV on the DV.

Values of the DV are plotted along the vertical axis (y). The continuous measure (e.g. time, trials, distance) is plotted along the horizontal axis (x). Each line on the figure represents a level of a categorical IV. Be sure to differentiate the lines with easy-to-identify symbols, and include a legend to explain what each symbol represents.

***Figure Example* APA (7th Ed):**
https://apastyle.apa.org/style-grammar-guidelines/tables-figures/figures

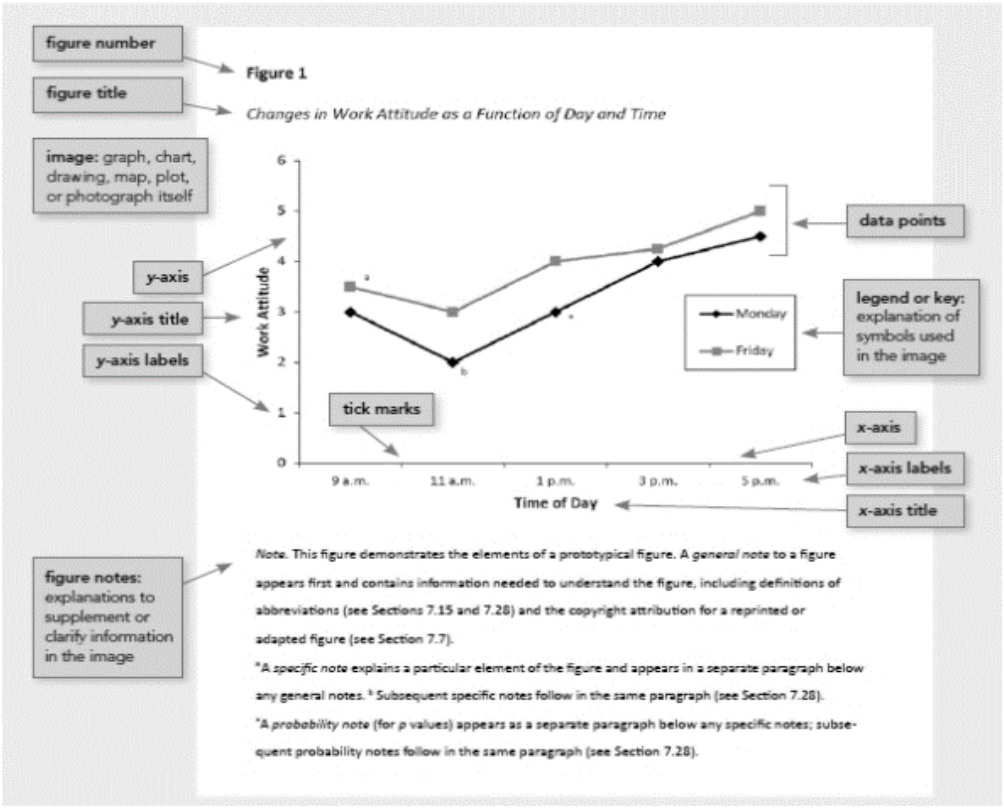


***Figure Example* MSSE**:
http://edmgr.ovid.com/msse/accounts/ifauth.htm

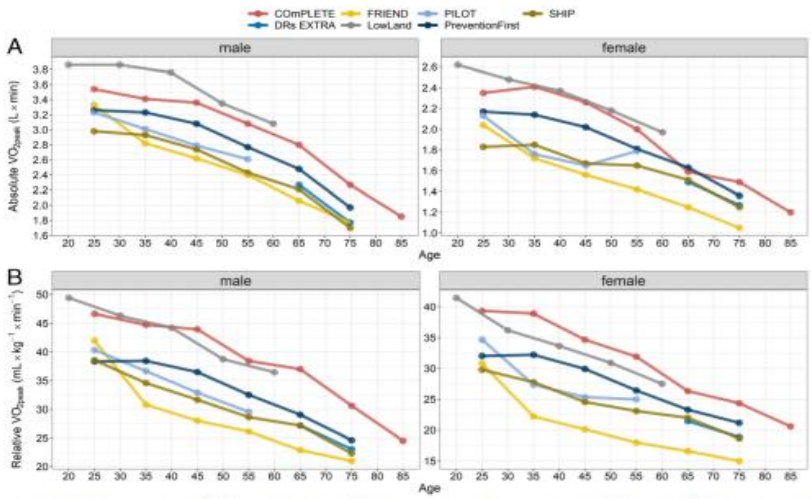
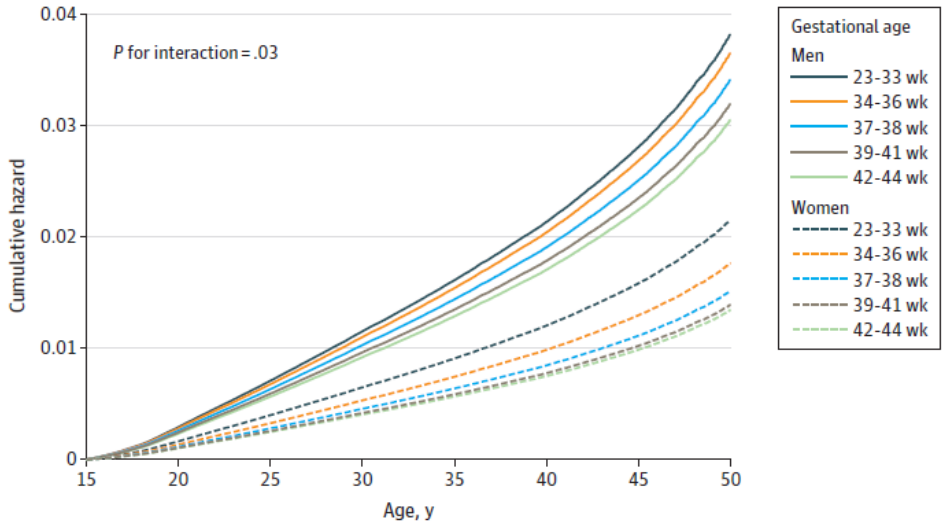


FIGURE 3—Comparison of relative and absolute $\dot{V}O_{2peak}$ reference data sets of all major studies reporting CPET reference values for tests performed on cycle ergometers. For men (A); for women (B).

Source: Wagner, JW, Knaier, R, Infanger, D, et al. Novel CPET Reference Values in Healthy Adults: Associations with Physical Activity. *Med Sci Sports Exerc*. 2021;53(1):26-37

***Figure Example* JAMA**:
https://jamanetwork.com/journals/jama/pages/instructions-for-authors#SecTables

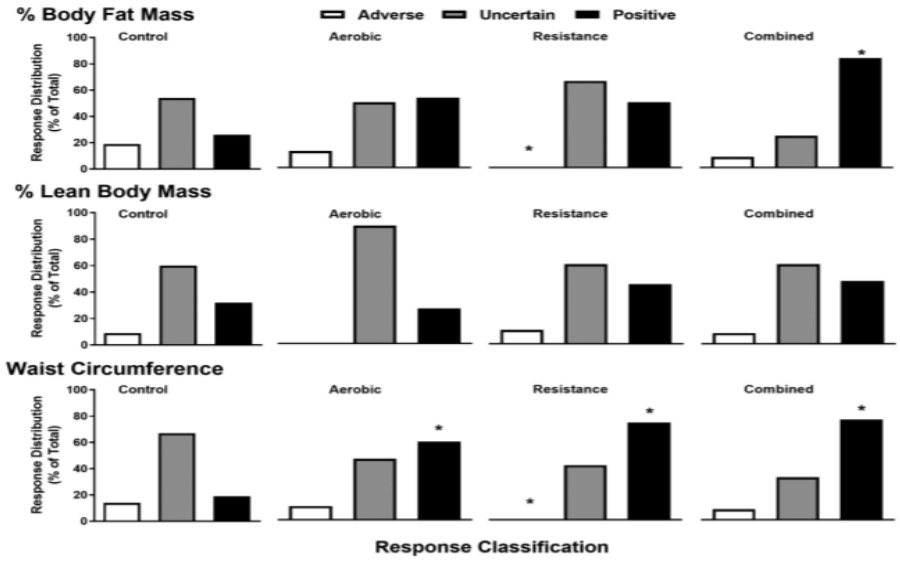
Figure 2. Cumulative Hazard of Death by Sex and Gestational Age Category in Data Sets from Norway and Sweden



Source: Risnes, K, Funck-Bilsteen, J, Brown, P, et al. Mortality among young adults born preterm and early term in 4 Nordic nations. *JAMA Network Open*. 2021;4(1):e2032779. doi:10.1001/jamanetworkopen.2020.32779

Figure example APNM:
https://cdnsciencepub.com/authors-and-reviewers/preparing-figures

Fig. 2. Distribution of adverse (white bars), uncertain (grey bars), and positive (black bars) response probabilities for indices of body composition. The proportion of positive responses (>75% probability greater than 0 in positive direction) were statistically compared with the all nonpositive responses (uncertain and adverse responses). The proportion of adverse responses (>75% probability greater than zero in negative direction) were statistically compared with the all nonadverse responses (uncertain and positive responses). *, Significantly different compared with control, $p < 0.05$.



Source: Walsh, J.,J., Bonafiglia, J.,T., Goldfield, G., S., Sigal, R., J., Kenny, G.,P., Doucette, S., et al. 2020. Interindividual variability and individual responses to exercise training in adolescents with obesity. Appl. Physiology, Nutri. Metab. **45**: 45–54 dx.doi.org/10.1139/apnm-2019-0088

Guidelines for creating effective figures

Like tables, each figure should supplement the text but be understandable on its own, without having to refer to the text to understand what is being presented. A good figure is simple and easy to understand. Its purpose is obvious and it communicates only essential facts, it is not cluttered with irrelevant detail. Number all figures (graphs, charts, photographs, and illustrations) in the order of their citation in the text.

Refer to the following guidelines for the basic elements of a figure.

1. Information on horizontal and vertical axes should be orderly (e.g., small to large). Choose the appropriate grid scale. Indicate units of measurement by placing tick marks at appropriate intervals. Plot the DV on the vertical axis and the IV on the horizontal axis.

2. If the units of measurement do not begin at zero, break the axis with a double-slash.

3. Clearly label each axis with both the quantity measured and the units in which the quantity is measured. Axis labels should be placed parallel to the axis it describes.

4. Include a legend to explain the symbols that are used in the figure.

5. All figures are numbered and given a title that briefly explains the figure. Titles are placed below the figure.

6. Figure titles should be sufficiently descriptive. Add any information needed to clarify the figure after the descriptive phrase.

7. Always explain units of measurement, symbols, and abbreviations that are not included in the legend.

8. Figure Checklist
   - Can the figure be understood on its own?
   - Do you make reference to the figure in the text?
   - Is the figure necessary, or is the same data given in the text or by a table?
   - Is the figure simple and free of needless detail?
   - Are the data plotted accurately?
   - Are the units of measurement orderly, scaled proportionately, and marked at appropriate intervals?
   - Are all symbols and abbreviations explained in the legend or figure title?
   - Are units of measurement given for axis labels?
   - Does the text highlight the major findings provided in the figure?

Discussion

This is arguably the most important section of a research paper because this is where you interpret what the study's findings mean, and why they are relevant. This is accomplished by comparing obtained results with previous research findings and with your hypotheses, and providing explanations, theoretical and otherwise, as to why you got the results you did. If the results confirm or refute the hypotheses, explain why. The whole point of doing research is to be able to draw a conclusion about the problem under investigation. Brief mention of the shortcomings of the experimental design and ways to improve on it are also appropriate in this section. The questions and references at the end of each of the laboratory experiments have been designed to guide the content of your discussion.

Steps to organizing a good discussion.

Step 1. Open with a clear statement of support or non-support for your research hypothesis or hypotheses.
1 sentence

Step 2. Show how the study's findings compare with what other researchers have found. Similarities and differences between your results and the work of others should allow you to draw some conclusions about the relationship between the variables under investigation, or about flaws in the experimental design used to examine this relationship. Are your results consistent or inconsistent with your original hypothesis, other research, and/or theoretical predictions? If they're consistent, what can you conclude? If they're inconsistent, provide a logical rationale explaining why.
3+ paragraphs

Step 3. Make sure *all* the questions at the end of each lab document are addressed somewhere in your discussion (include these in the appropriate paragraphs)

Step 4. Finish with a concluding paragraph.

(REFERENCES ON SEPARATE PAGE)

References (USE THIS HEADING FOR ALL CITATION STYLES)

The final section of a research paper is the reference list. Research that you cite in your text must be listed here. You must have BOTH the listed references at the end of your document and the in-text citations in your document. Please use the CORRECT citation format. Websites, blogs, forums and magazine articles are NOT peer-reviewed references and cannot be used in your laboratory reports.

A WRITING STRATEGY

When you sit down to write a report or paper, consider using a multi-layer approach. A multi-layer approach treats thinking and writing as separate processes and can simplify the process.

1. Using free association, write down all the ideas/points/arguments you intend to discuss in each section of the report. Identify all of them without regard to the order in which you'll discuss them. The idea is to get all the information on paper in front of you.
2. Order your ideas. Organize them into a list so that there is a start and end point, and a logical flow of ideas between them.
3. New ideas should be discussed in new paragraphs. Go through the list and separate similar ideas from new ones to identify paragraph breaks.
4. In point form, list the supporting evidence or rationale for the main idea of the paragraph. Include information that is important for the reader to comprehend the argument presented. Avoid nonessential detail.
5. Last, now that all the information is on paper, smooth it out; put in into grammatically correct sentences. Ensure that there is a smooth transition from one paragraph (set of ideas) to the next.

COMMON MISTAKES

1. Check your grammar; incomplete sentences and spelling error are unacceptable. Every laptop has a spell checker, use it.
2. Waiting to the last minute. Lab reports take time to complete, do not underestimate the time you will need to complete your work.
3. Text is unclear. Write exactly what you mean. Make sure that the words you choose mean exactly what you intend to say. Ask yourself whether what you've written is what you really want to say.
4. Text is difficult to understand. Writing using short words and short sentences is easier to understand. NEVER use a big fancy word unless smaller words do not convey the proper meaning.
5. The scientific style is impersonal. Avoid using first and second persons in reporting research. For example, "It was found" rather than "I found." Avoid at all costs referring to how you feel about the experiment, what you have learned from it, etc. Do not use "I", "my", or "me".
6. Present tense is used. When writing an article, the past tense must be used. i.e. "it was found…", "The subjects were asked to…", etc.
7. Vague descriptions of IVs and DVs. If your descriptions are clear, the reader should be able to figure out what was done in the experiment.
8. Title and labels for Tables and Figures. The aim of a title is to allow the reader to easily interpret the data in the body of the table or figure. Labels allow the reader to understand what is being illustrated by the figure.
9. Information-poor figure labels. Make sure that both the x & y axes are clearly labeled, and include units of measurement.
10. Poorly scaled figures. Make sure that the scales of measurement on both axes are scaled proportionately and that the increments on both axes increase consistently.

11. Improperly citing references in text. Refer to the style guide of the reference style that you are using for proper form of in text references for each type of references used (articles, text etc.)
12. Research cited in text not included in the reference list. Double check as part of your final proof reading of your work.