APA Style

- Example, hints and tips for writing your Psyc 402 Project Paper in APA style

APA headings: 5 levels

First Level

The first level is bold and centered, and each word is capitalized. The paragraph that follows it is indented.

Second Level

The second level is bold and flush left and each word is capitalized. The paragraph which follows it is on a new line and indented.

Third level. The third level is bold, indented, and followed by a period. Only the first word is capitalized. Notice there is no line break : the next sentence starts on the same line.

Fourth level. The fourth level is bold, italic, and indented. Words are not capitalized. There is no line break.

Fifth level. The fifth level is italic and indented. Words are not capitalized. There is no line break.

APA Style Paper

- Abstract
- Background
- Methods
  - Subjects
  - Materials & Measures
  - Analyses
- Results
- Discussion
- Tables & Figures

Abstract

- Not an introduction paragraph
- Summarizes the *important* points of your paper
- Only restate points in your paper
  - do not put anything unique in the abstract
- Best to write it last:
  - each section of your paper gets 1-2 sentences in the Abstract
  - follow same outline as paper
- Length: 150 - 250 words

Background

- Reintroduce reader to topic (field, subfield, constructs)
- Assume reader has general knowledge, but is not an expert in the subfield.
- Summarize the *Review* article
- Summarize the *Research* article
- Propose your study
  - your motivation (creating a new, shorter test)
  - why? rationale for measures, methods, constructs
  - compare / contrast with *Research* article
  - predictions

Background: Construct & Facets

- There may be multiple definitions of your Construct
- In the Background, pick one definition of (usually, citing your Review article)
- Explain the Facets (aka factors, dimensions)
- Pick 2 facets that you will measure (Q1 and Q2)

Methods: Subjects

- Describe Subjects
  - Who they are
  - Why they were chosen
  - Basic Demographics
    - N = ___
    - Age : mean (SD)
    - Gender : % male or female

Methods: Materials & Measures

- Summarize the procedures and technology used
- What kind of questions?
- How administered? (online)
- For this paper, mention that this is a class project (e.g. the survey included many questions) but only discuss the specific questions / data you are using.
- Explain how you combine your 2 question scores into one and why. Reverse scoring?

Methods: Analyses

- Summarize the statistical method used, and the prediction for each step.
- Analysis 1 : Reliability
- Analysis 2A : Convergent Validity
- Analysis 2B : Divergent Validity

- In the Results section, follow this same outline

Results

- "Just the facts" style
- Avoid interpretation or discussion
- Convert numbers to real-world examples
  - "Mean score on the XYZ scale (a Likert scale with 1=Happy and 7=Sad) was 3.4, roughly corresponding to half-way between "OK" and "Somewhat bored"
- Subject Demographics : usually not in this section

Graphs

- Every paper should have 5 graphs
- Descriptives
  - 2 Histograms (Q1, Q2)
- Reliability
  - 1 Scatterplot / Linear Regression (Q1 vs Q2)
- Validity
  - 2 Scatterplot / Linear Regressions
    - Q vs _____ (convergent)
    - Q vs _____ (divergent)

Numbers

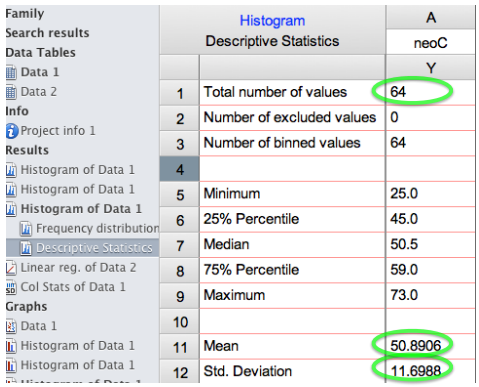
- Use 3 *significant digits*
  - Example:
    - 0.000234552 —> 0.000235
    - 1976234 —> 198000
    - 1.23456 —> 1.23
    - 12.96 —> 13.0
- P-value - include the actual value
  - $p > .05$ (BAD) $p = .767$ (GOOD)
  - $p < .0001$ (OK, if stats program does this)

Scientific Notation

- Used for very small or very large values - you may see this in Prism results.
- Example
  - 0.00000000923
  - Scientific Notation
    - 9.23E-9
    - which means 9.23×10^{-9}
- Example
  - 9,876,453 (too many digits)
  - Scientific Notation
    - 9.88E6
    - which means 9.88×10^{6}

Prism : Descriptives for one variable

- Mean
- (SD)
- N



Histogram
Descriptive Statistics

		A
		neoC
		Y
1	Total number of values	64
2	Number of excluded values	0
3	Number of binned values	64
4		
5	Minimum	25.0
6	25% Percentile	45.0
7	Median	50.5
8	75% Percentile	59.0
9	Maximum	73.0
10		
11	Mean	50.8906
12	Std. Deviation	11.6988

Example : descriptive statistics

Concept	Writing Sample
N	The survey was completed by N=26 students.
What variable?	On the self-report of GPA,
Range	answers ranged from 1.9 to 4.0
Midpoint	with a mean of 3.52
Variation	and a standard deviation of 1.21
Explain	corresponding roughly to a grade of "B+."
Distribution	Scores appeared to be normally distributed (see Figure 1).

Prism : Linear Regression

- R-squared
- P
- N

Best-fit values	
Slope	0.4177 ± 0.1032
Y-intercept when X=0.0	28.99 ± 5.568
X-intercept when Y=0.0	-69.39
1/slope	2.394
95% Confidence Intervals	
Slope	0.2114 to 0.6241
Y-intercept when X=0.0	17.85 to 40.12
X-intercept when Y=0.0	-188.6 to -28.78
Goodness of Fit	
R square	0.2090
Sy.x	10.49
Is slope significantly non-zero?	
F	16.38
DFn, DFd	1.000, 62.00
P value	0.0001
Deviation from zero?	Significant
Data	
Number of X values	64
Maximum number of Y replicates	1
Total number of values	64
Number of missing values	0

Example : Linear Regression

Concept	Writing Sample
What kind of test?	A Pearson product-moment correlation…
What variables?	…of Age (X) with GPA (Y)…
Effect Size? (see next slide)	suggested a [small | medium | large] [positive | negative] correlation
Significant?	that [was | was not] statistically significant
Direction?	such that increasing Age was associated with higher GPA
Statistics?	(N = 42, r = .172, r^2 = .0295, p = .031).

Correlation Effect Sizes (Cohen 1990)

r	r^2 (as decimal)	r^2 (as %)	Terminology
0.1	0.01	1%	"small"
0.3	0.09	9%	"medium"
0.5	0.25	25%	"large"

Discussion

- Restate (summarize!) your findings
  - were your predictions met?
    - if not, trending in the correct direction?
- Interpret & Explain your results
- Refer back to literature
  - compare / contrast with other research
- Limitations
- Suggestions for future experiments

Limitations

- Problems with the theory (construct, facets…)
- Problems with your test questions or answer choices
- Problems with the experimental design
- Problems with the subjects
- etc.

Tables & Figures

- In APA Style
  - "Tables" are Tables
  - "Figures" include Figures, Graphs, Pictures, Diagrams, etc.
- For this paper:
  - I prefer figures & tables inline (within the body) but you can also locate them at the end of paper if you prefer.

Table Example

- APA Style for Tables
  - Title is *above* the table
  - Note (if any) is below the table

Table 1: Mean (SD) taste ratings for each seasoning group

Salt	Pepper	Salt + Pepper
4.0 (2.7)	3.0* (1.8)	5.0* (1.2)

Note: * denotes groups significantly different by T-Test at p<.05

Table : Hints

- Don't include raw SPSS or Prism statistical output
- Use **Mean (SD)** format
- Include the units of measurement (e.g. seconds, # of responses, score, Likert scale, etc.)

Figure Example

- *Caption* is required below the figure
  - notes (optional) are within the caption
- *Legend* is within the figure (optional)

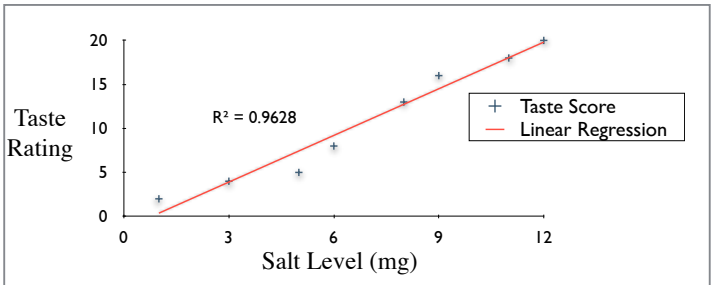


Figure 1 : Taste ratings as a function of Salt level. Linear regression trend line shown: r=0.98, p = .023

Figures : Hints

- Figures (includes Graphs and Tables)
  - must be numbered
  - must have a Caption underneath
  - must be referred to in text
  - Avoid color / shading unless necessary
- Graphs
  - Y axis : usually the DV
  - X axis : usually the IV
  - Histograms are good
  - Label the axes well