



Reporting Quantitative Analyses in APA Style

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APA Style

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INSTRUCTIONS IN REGARD TO PREPARATION OF
MANUSCRIPT

History of APA Style

- ▶ Developed in 1929 to establish guidelines to help with reading comprehension in scientific writing.
- ▶ Most commonly used by:
 - ▶ Social Sciences: Psychology, Linguistics, Sociology, Economics, and Criminology
 - ▶ Business
 - ▶ Nursing

Benefits of APA Style

- ▶ Focus on content not formatting
- ▶ Predictable organization
- ▶ Ensure credit is given to sources
- ▶ Helps the writer to include all relevant information on statistical analysis.



Key Aspects of APA Style

- ▶ Paper Organization/Headings
- ▶ Citations and References
- ▶ Reporting Statistics
- ▶ Tables/Figures



General Numerical Style

- ▶ In text: Numerals for 10 and above, words for numbers below 10.
- ▶ Decimal Places:
 - ▶ One Decimal Place for Means and SD
 - ▶ Two decimal places for everything else.
- ▶ For decimal places less than 1:
 - ▶ Use a leading 0 unless the statistic cannot be greater than 1.
 - ▶ $p = .04$
 - ▶ $r = .54$

Using Tables to Present Statistics

- ▶ If reporting descriptive statistics (e.g. Means, Standard Deviations, etc.), use a Table if more than 2 rows present.
- ▶ In the narrative text, refer readers to the figure and do not repeat the information.
 - ▶ (see Table 1).
- ▶ Create the table using Microsoft Word functions; do NOT paste SPSS output.

SPSS Tables vs. Word Processor Tables

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.886 ^a	.785	.785	4.525

a. Predictors: (Constant), Age 11 standard marks

b. Dependent Variable: Age 14 standard marks

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1059510.757	1	1059510.757	51750.500	.000 ^a
	Residual	289412.550	14136	20.473		
	Total	1348923.307	14137			

a. Predictors: (Constant), Age 11 standard marks

b. Dependent Variable: Age 14 standard marks

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.261	.038		6.848	.000
	Age 11 standard marks	.873	.004	.886	227.487	.000

a. Dependent Variable: Age 14 standard marks

Table X

Regression Analysis Summary for Parent Variables Predicting Children's Phonemic Awareness

Variable	B	95% CI	β	t	p
Parental education level	1.84	[-9.06, 15.78]	.53	3.51	.001
Parental literacy	0.75	[0.79, 2.89]	.18	1.51	.136
Parents' own reading	0.37	[-0.71, 1.44]	.06	0.68	.497
Reading to child	4.60	[1.25, 7.95]	.25	2.75	.008
Socioeconomic status	-0.20	[-2.07, 1.67]	-.03	-0.21	.831

Note. $R^2 = .58$ ($N = 68$, $p < .001$). CI = confidence interval for B.

Style Rules for Tables

- ▶ Black Text on White Background
- ▶ Only include borders needed for clarity



Graphic Design
is my
Passion

Table 1

*Descriptive Statistics for Frisbee Throwing Distance
(Meters)*

Education Level	<i>M</i>	<i>SD</i>
Graduate	46.73	9.30
High School	43.74	14.61
<u>PostGrad</u>	55.51	9.18

Descriptive Statistics Table

Outcome Variable	<i>n</i>	<i>M</i>	<i>SD</i>	Percentage in Clinical Range or At Risk
Depression	124	8.66	9.33	27.95
Anxiety	127	5.09	6.23	24.34
Stress	128	11.80	9.53	31.65
Violent crimes	131	2.13	7.58	19.12
Property crimes	131	1.50	8.84	12.55

- ▶ Columns Names
- ▶ Common Statistical Symbols Used
 - ▶ *M*, *SD*, *n*

Correlation Tables

Table 1

Means, standard deviations, and correlations with confidence intervals

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. rating	64.63	12.17						
2. complaints	66.60	13.31	.83** [.66, .91]					
3. privileges	53.13	12.24	.43* [.08, .68]	.56** [.25, .76]				
4. learning	56.37	11.74	.62** [.34, .80]	.60** [.30, .79]	.49** [.16, .72]			
5. raises	64.63	10.40	.59** [.29, .78]	.67** [.41, .83]	.45* [.10, .69]	.64** [.36, .81]		
6. critical	74.77	9.89	.16 [-.22, .49]	.19 [-.19, .51]	.15 [-.22, .48]	.12 [-.25, .46]	.38* [.02, .65]	
7. advance	42.93	10.29	.16 [-.22, .49]	.22 [-.15, .54]	.34 [-.02, .63]	.53** [.21, .75]	.57** [.27, .77]	.28 [-.09, .58]

- ▶ Descriptive Title
- ▶ Each relationship depicted only once
- ▶ Minimal borders
- ▶ Asterisks used to denote statistical significance
- ▶ Optional:
 - ▶ M, SD
 - ▶ Confidence Intervals

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * indicates $p < .05$. ** indicates $p < .01$.

Figures

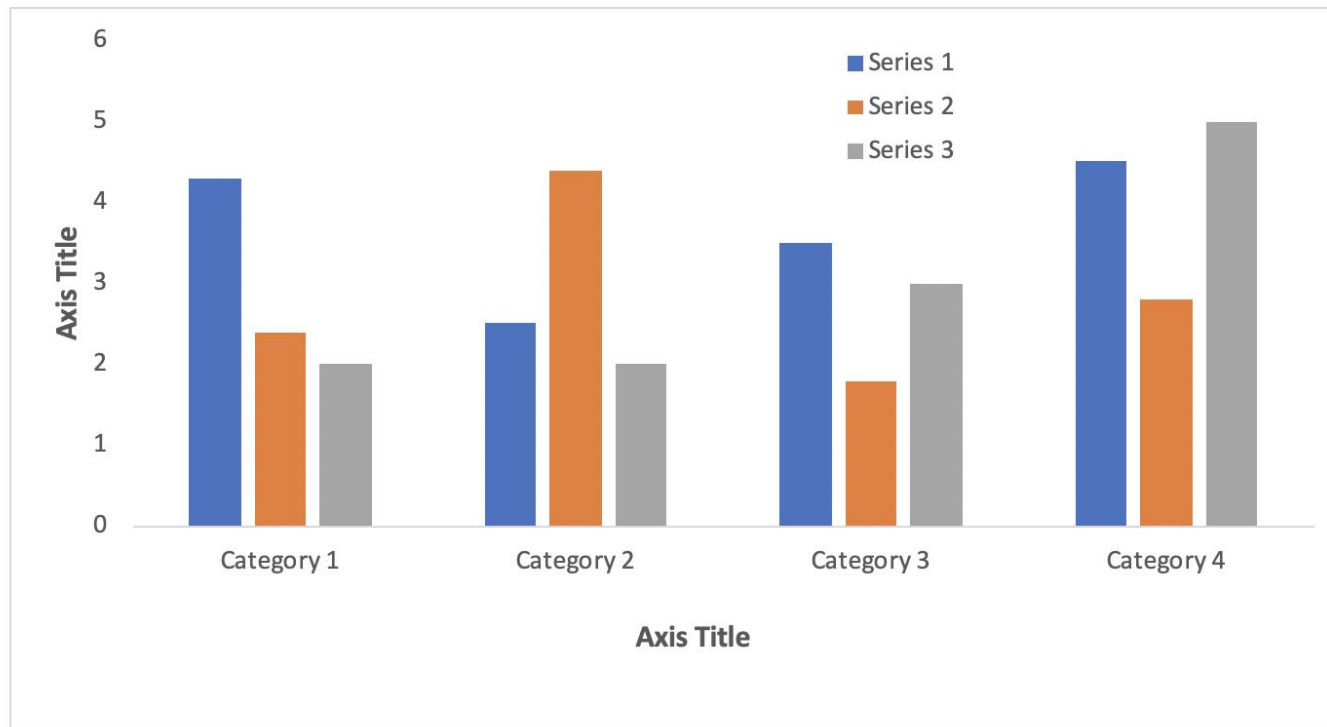
- ▶ Can be created in other software and include as .JPG or .PNG
- ▶ Examples of Figures:
 - ▶ Bar Graph
 - ▶ Line Graph
 - ▶ Scatterplot
 - ▶ Picture



Example Figure: Bar Graph

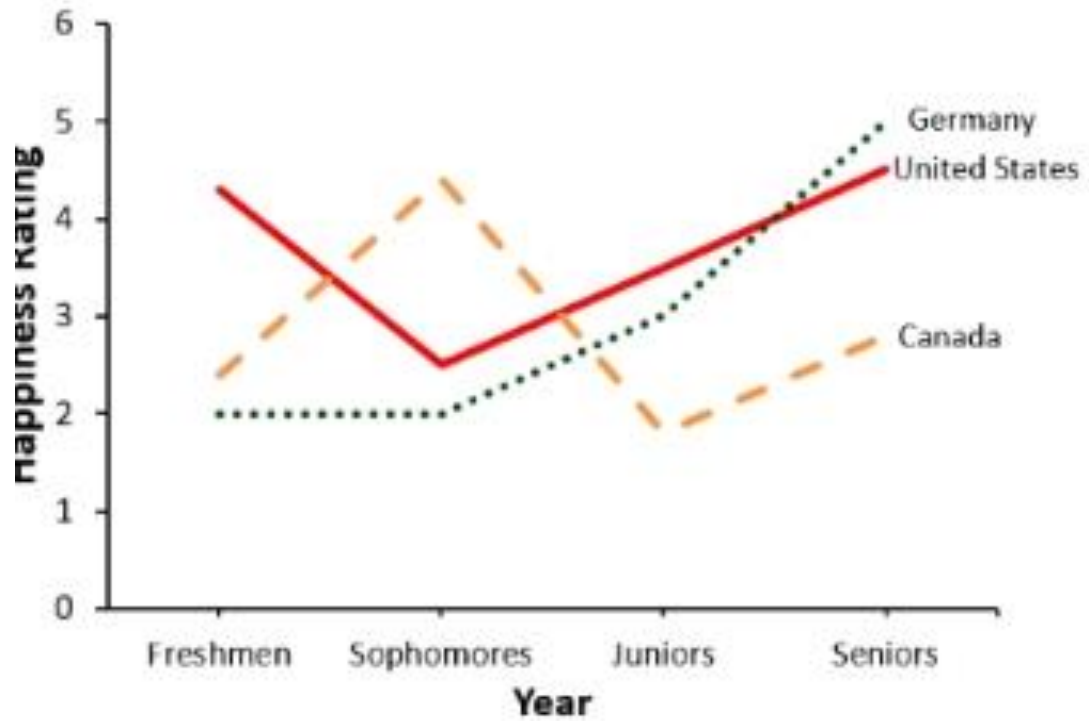
Figure 1

Sample Figure Title



Note. A note describing content in the figure would appear here.

Example Figure: Line Graph



- ▶ Color Contrast
- ▶ No Gridlines
- ▶ Axis Labels
- ▶ Patterned Lines

Example Figure: Scatterplot

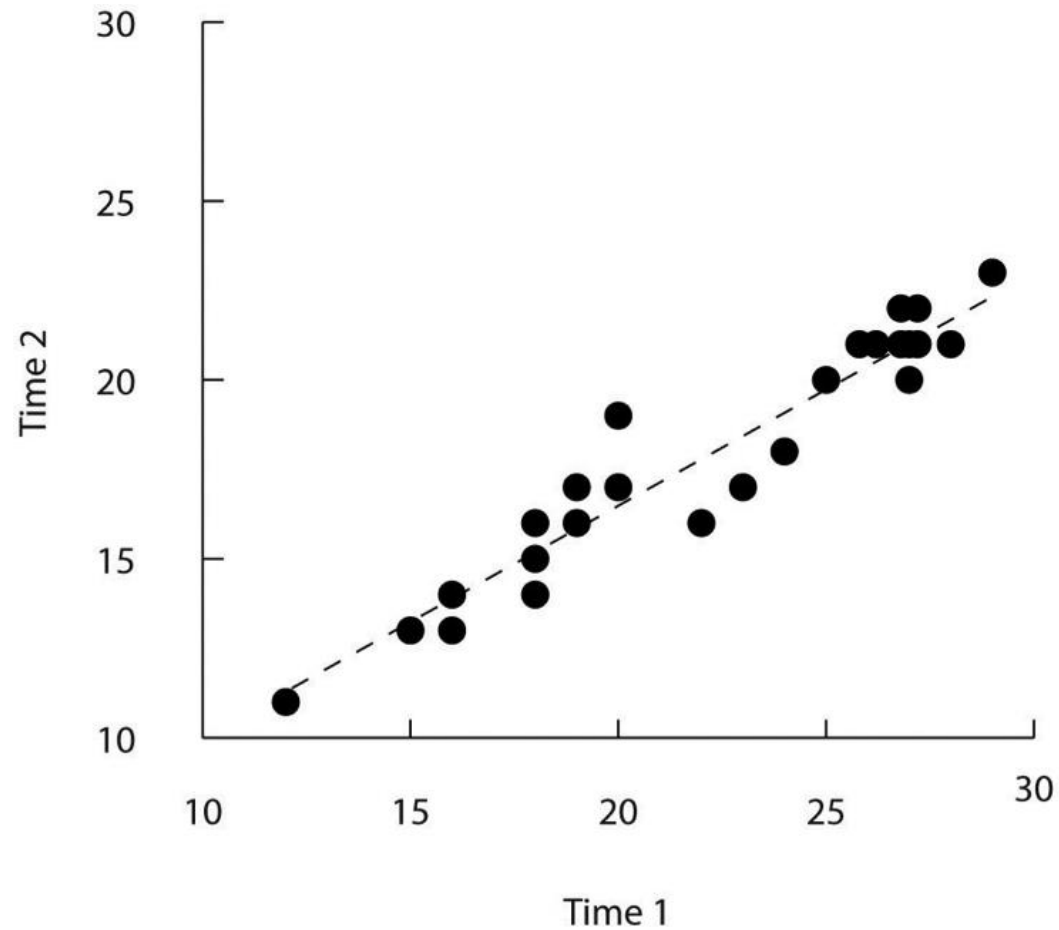


Figure X. Relationship between scores on the Rosenberg self-esteem scale taken by 25 research methods students on two occasions one week apart. Pearson's $r = .96$.

Reporting t -tests

- ▶ $t(\text{degrees of freedom}) = \text{the } t \text{ statistic}, p = p \text{ value}.$
- ▶ The 25 participants who received the drug intervention ($M = 480, SD = 34.5$) compared to the 28 participants in the control group ($M = 425, SD = 31$) demonstrated significantly better peak flow scores, $t(51) = 2.1, p = .04$

Reporting ANOVA

- ▶ $F(\text{between groups df, within groups df}) = F \text{ statistic}, p = p \text{ value}$
- ▶ A one-way ANOVA demonstrated that the effect of leadership style was significant for employee engagement, $F(2, 78) = 4.58, p = .013$.

Reporting Multiple Regression

- ▶ Most often done using a table.

Table X

Regression Coefficients for Predicting Yearly Health Care Costs (in Euros) over 2020

Variable	B	95% CI	β	t	p
Sex	509.27	[235.09,783.45]	0.13	3.65	0.000
Age at Survey Completion (Years)	114.66	[90.20,139.12]	0.32	9.21	0.000
Average Consumption of Alcoholic Beverages per Week	50.39	[30.20,70.57]	0.19	4.90	0.000
Average Consumption of Cigarettes per Day	139.41	[105.26,173.57]	0.31	8.02	0.000
Average Hours of Exercise per Week	-271.27	[-342.58,-199.96]	-0.28	-7.47	0.000

Note. $R^2_{adj} = 0.39$ (N = 525, p = 0.000). CI = confidence interval for B.

①

②

Where can I find examples of APA Style reporting?

- ▶ Look at peer-reviewed publications in top journals in your field using the statistics you are using.
 - ▶ 2020 or sooner
- ▶ Purdue OWL
 - ▶ https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/index.html
- ▶ APA Style Guidelines website
 - ▶ <https://apastyle.apa.org/style-grammar-guidelines>

Thank you!

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