# STYLE SHEET ON TABLES, GRAPHS, AND FIGURES

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This document contains a summary of key points regarding the presentation of tables, graphs, and figures in APA style. In the version 7 APA manual, these rules and examples can be found in chapter 7. Examples are included in this text.

# Placement Notes

1. APA style requires the placement of tables, graphs and figures after the list of References (end-of-document format) or embedded in the text. How these items are positioned in a published text is the decision of the editor, not the author, though the author can make recommendations. I prefer the endo-of-document format because it is easier to edit.
2. A table, graph, or figure should be placed on a single page.
3. The presence of each table, graph, and figure should be mentioned at the first reference to the item in the text. This referral happens either by mentioning the item directly in the sentence or with a parenthetical reference:
	1. Table 3 presents a summary of results from the logistic regression analysis.
	2. The logistic regression analysis indicates a relationship between mental illness and the likelihood of committing a crime (Table 3).
	3. The logistic regression analysis indicates a relationship between mental illness and the likelihood of committing a crime (see Table 3).
4. A reader’s interpretation of tables, graphs, and figures is aided by specific reference to columns and numbers on the item in the text when those numbers are regarded crucial to your interpretation. This technique links text and appendix. Statistics for control variables are seen as optional.
5. Some experimental studies do not include tables when the results are simple. The numbers are included in the text, either as part of the sentence or parenthetically, and the statistic is named specifically. (This practice is most common in psychology.)

# Ways to Create A Table

There are multiple ways to create an APA table as long as the final product looks correct. The use of any particular tool does not override the need to get the appearance of the table correct, so regardless of the choice of pathways, editing must be done. The most common are the following:

1. Manually copy the numbers from output into a Word document. You can use an inserted table from the Word table tool. I personally prefer this approach because it gives me complete control over the appearance of the table.
2. Copy output into Excel and edit in Excel. SPSS allows the copying of output into Excel.
3. Use output from the statistical package. This normally requires editing, and the arrangement of items on the page is often not efficient.

The tables in this document were created in Word not using an inserted table with tabs used for column alignments. This approach may actually be the best way to reach the correct format, but it creates problems for editors, and so it is no longer regarded as desirable.

# Table Layouts

1. Font types and sizes should be the same as the body of the paper. The preferred font is Times New Roman 12. (You will have to reset your font in most versions of Microsoft Word, where the default is Calibri 11.) In practice, the font size sometimes is shrunk to fit all information on one page—this is the only exception to this rule. Never increase the size of the font.
2. APA tables are sometimes called “three-line tables” because three lines (“column spanners”) extend across the entire page. At the top of the table are two lines, between which column headings are placed. The third line is placed at the bottom of the table between the cells of the table and the footnotes.
3. Before the first line is the title, which uses two lines.
	1. The first part of the title is the type of item and its number. This is in the paper’s regular font, not emboldened or italicized. A number is included only if there is more than one item of that type (e.g., Table 1).
	2. The second line is a title reflecting the contents of the table. This part of the title is italicized.
	3. The first and second lines are separated by a space.
	4. Title rules do not apply if the item is part of an Appendix, in which case rules for headings apply.
4. Footnotes and a key to table symbols (such as the meaning of asterisks for statistical significance), information about sources, and other notes are placed below the third line.
5. Any comments from APA on the contents of the body of the table (between the second and third line) are advisory—the ultimate decision rests with what the researcher wants to communicate. Use a common sense approach to making this part of the table look nice:
	1. Row labels go on the left and should be left justified.
	2. Columns of numbers should be aligned by the decimal point. (Professor’s note: I should be able to take a ruler and draw a straight line through the alignment point. Sometimes I really do this.)
	3. Tabs may be used for column alignments.
	4. Use significant digits in tables.
		1. Your computer output often contains more digits than needed. For example, saying that percent living below the poverty level in any county might be 4.556729%--round this number to either 4.5% or 5%.
		2. Significant digits should reflect the units in which an item is measured. For example, if the data is set up in single digits and decimals make no sense, descriptive statistics should also be in single digits.
		3. If decimal points are used, zeroes should be used a place holders for consistency. For example, if you are rounding to one decimal point, then the number 36 should be expressed as 36.0 and zero as 0.0. If two decimals points, then 36 should be 36.00 and zero 0.00.
		4. An awkward situation may occur when descriptive statistics are not in the same unit when moving from one row to the next. Normally, the alignment rule is kept in place, but the use of significant digits may vary in this case. (There is no good resolution to this situation.)
	5. Be sensitive to situations in which professor or editors may prefer to have tabs and alignments removed. If these situations arise, spacing has to occur manually.
6. Use totals and percent totals for columns or rows as is sensible. This technique helps the reader understand the layout of the table.
7. When percentages are used, sample counts are sometimes included next to or below the percentage in parentheses.
8. Include the total number of observations somewhere on the table when sensible. This technique helps the reader understand the number of people in the study.
	1. In many tables, the column or row totals are sufficient.
	2. When the number is not on the table, the number can be included parenthetically in the title, e.g., one will see at the end of the title (N=1,514) if there were 1,514 people in the study. (The technique is not consistently used or required, but it helpful.)
	3. Some journals use N to refer to the entire sample and n for subsets of the sample.
9. You may use an Excel spreadsheet to organize your data and then paste it into the table. Visually, these numbers must still follow the alignment rules. The grid lines should be turned off.
10. Tables may be presented in landscape form.
11. Column heads may include headings and subheadings with a line separating the two, but the line should not extend the full length of the page as do the “three lines” denoting the table.
12. In practice, the rules on font size and double spacing are frequently broken to fit all information on one page.
13. For published work, the journal’s style sheet and editor’s preferences always override APA rules.
14. If you are using tools like SPSS, Excel, or Word tables to create tables, grid lines and shading should be turned off. Normally the only lines should be the column spanners.

# Graphs and Figures

1. Title rules are the same as tables.
2. Graphs and figures are commonly submitted with only one line under the title.
3. Label graphs in a way so that its interpretation is intelligible to the read.
4. Axes should be clearly labeled. Years sometimes are intuitive, but all others should be labeled appropriately.
5. Grid lines or data values listed with points, bars, or pie slices help the reader interpret the data.
6. Significant digits should be consistent within a variable.
7. As with tables, having a reference to the total number of observations is helpful.
8. Use of Powerpoint or graphs from statistics packages is acceptable, but the display of information must be consistent with the rules regardless the source.
9. Title and notes should be in the format of the paper, but fonts in the graph and figure are less controllable and may vary from the text. However, when the option is available, try to make text within graph and figures consistent with the rest of the paper.
10. Rules for graphs and figures are more ambiguous than tables because of the large variety of ways in which items can be presented. Use common sense to make sure that the graph or figure makes sense in what is communicated and how it is interpreted.

 See examples that follow.

Table 1

**An example using interval-ratio data**

*Descriptive Statistics*

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 N Mean SD Median IQR Min Max Skewness Kurtosis

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Violent Crime Rate 51 369.33 175.22 332.00 199.00 123.00 1,202.00 2.22 8.98

Log of Violent Crime Rate 51 5.82 0.43 5.81 0.59 4.81 7.09 0.15 0.64

Population Density 51 401.66 1,478.28 104.90 188.90 1.30 10,588.80 6.81 47.67

Log of Population Density 51 4.61 1.53 4.65 1.68 0.26 9.27 0.01 1.50

% Poverty 51 15.26 3.30 15.00 6.10 8.80 22.60 0.11 -0.86

There is no set requirement about what numeric statistics should be included. At a bare minimum, the mean and standard deviation should be present because they are the foundation for more complex statistics for quantitative data. Other statistics matter only if you use them, and if used only occasionally (like might be the case with skewness) can be simply reported in the Methods section. If the same N is used for all statistics, it would also be reported in the Methods section with the discussion of the sample size. It can also be placed parenthetically in the title: *Descriptive Statistics* (N=51)or placed in the notes.

Region

 Northeast 51 0.18 0.39

 Midwest 51 0.24 0.43

 South 51 0.35 0.48

 West 51 0.24 0.43

-----------------------------------------------------------------------------------------------------------------------------------------------------------------

If binary variables are reported as numeric statistics, only the mean and standard deviation are necessary. Other numeric statistics do not make sense because the variables are not continuous. If a single variable is disaggregated into a block of dummy variables, as is the case here with Region, then a slight indentation can be used to indicate presence of a variable within the block.

In this table, both untransformed and transformed variables are reported for violent crime rate and population density. This kind of redundancy is optional. Whether to report a skewed variable as untransformed or transformed is a judgment call. Readers might be more familiar with the untransformed values than the transformed ones, even though the transformed ones would be used in higher order statistics. If a transformation is used in a study, it should be clearly indicated in the Methods section.

Table 2

**An example using categorical data**

*Frequency Distribution Region*

-------------------------------------------------------------------

 N %

-------------------------------------------------------------------

Northeast 9 18

Midwest 12 24

South 18 35

West 12 24

Total 51 100

-------------------------------------------------------------------

*Note.* Column % does not equal 100 due to rounding error.

**An example putting multiple frequency**

**tables in the same table.**

|  |  |  |
| --- | --- | --- |
| Table 3 |  |  |
| *Frequency Distribution of Categorical* |
|  | # | % |
| *Region* |  |  |
| Northeast |  143 | 6.3 |
| Midwest |  674 | 29.9 |
| South |  1,088 | 48.2 |
| West |  351 | 15.6 |
| Total |  2,256 | 100.0 |
|  |  |  |
| *Frontier Status* |   |   |
| Frontier |  446 | 19.8 |
| Not Frontier |  1,810 | 80.2 |
| Total |  2,256 | 100.0 |
|  |

Table 4. *Descriptive Statistics for Study Variables*

This is an alternative format for titling a table. Many editors prefer this style because it uses less space than APA format. In this case, this table was accepted for publication in this format. The copy editor put “Table 3” in bold face and removed the italics.

**An example combining categorical and interval-ratio variables in the same table.**

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Variable N % Variable Mean SD
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Race/ethnicity Sources of Stress

 Black 235 29.7 Personal interaction 42.6 20.5

 White 530 66.9 Department culture 62.8 19.0

 Other 27 3.4 Critical incidents 43.3 19.7

 Total 792 100.0 Manifest Stress

Gender Burnout 40.5 18.8
 Male 700 88.4 PTSD 27.9 36.9
 Female 92 11.6 Symptoms 18.2 15.3
 Total 792 100.0 Perceived Stress 25.4 16.7

Age in years

 Less than 40 520 65.7 # children at home 1.2 1.2

 40-49 172 21.7

 50 or more 100 12.6

 Total 792 100.0

Military Experience

Here multiple tables are combined into one. The left side contains multiple frequency tables merged together, and the right side has summary statistics for quantitative variables. An editor normally would like a table like this because it saves lots of space and is easy for readers to understand.

 Yes 284 35.9

 No 508 64.1

 Total 792 100.0

Department Rank

 Officer 501 63.3

 Special designation 160 20.2

 Supervisor 131 16.5

 Total 792 100.0
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Table 5

**An example combining categorical and interval-ratio variables in the same table. In this case, the mean rate for each region is communicated.**

*Frequency Distribution and Mean Violent Crime Rate by Region*

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Two tables are combined into one here. In this case, the violent crime rate by region is an interesting set of facts that the reader may want to know. This information can be easily combined with the frequency table, which saves space.

 Violent Crime

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 N % Rate Log of Rate

------------------------------------------------------------------------------------------------------------

Northeast 9 18 273 5.52

Midwest 12 24 315 5.72

Notice that the % sign is not used with individual numbers in the column. E.g., the column says 18, not 18%. The percent sign with a number is not necessary because of the column heading.

South 18 35 476 6.08

West 12 24 335 5.75

Total 51 100 369 5.82

------------------------------------------------------------------------------------------------------------

*Note.* Column % does not equal 100 due to rounding error.

The percent column actually totals to 101% because of rounding error. The presence of rounding error should be acknowledged through a note below the third line of the table. The acknowledgement is essential because occasionally there is a savvy reader who adds up the column numbers and might question your competency if the totals do not add up correctly.

**An example combining reported unweighted and weighted numbers in the same table.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 6 |  |  |  |  |  |
| *Frequency Distribution of Gun Ownership* |
|  | Unweighted |  | Weighted |
|  |  # |  % |  | # |  % |
| Owns gun |  15,659 | 40.0 |  |  15,672 | 40.0 |
| Does not own gun |  23,511 | 60.0 |  |  23,498 | 60.0 |
| Total |  39,170 | 100.0 |  |  29,170 | 100.0 |
| Source: General Social Survey cumulative file |

A header can have multiple tiers, as is the case here. Note the use of subspanners within the header to separate the tiers. The underline was made using the Word border tool, and the space between subspanners was made by inserting a blank column in the table.

**An example of a correlation matrix**

If there is a transform, only use the transformed variable in the correlation matrix.

Binary variables have a mean and standard deviation, so they can be included in a correlation matrix if they are used as numeric variables in highher order analyses.

Table 7

*Correlation Matrix*

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 Log of Pop. %

 Density Poverty Northeast Midwest South West

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Log of Violent Crime Rate .30\* .41\*\* -.32\* -.13 .46\*\* -.10

Log of Population Density .03 .36 -.15 .24t -.45\*\*

% Poverty -.40\*\* -.16 .50\*\* -.04

Northeast -.26t -.34\* -.26t

Midwest -.41\*\* -.31\*

South -.41\*\*

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*Note:* t p<.10 \* p<,05 \*\* p<.01

The lower left-hand corner (or the upper right-hand corner) can be left blank because a correlation matrix is symmetrical.

Table 8

**An example of OLS regression with both unadjusted and adjusted coefficients reported**

*Standardized Beta Coefficients from Regression Analysis for Log of Violent Crime Rate*

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 Pop. Density Poverty Region Adjusted

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Log of Population Density .30\* .39\*

% Poverty .41\*\*\* .18

Use asterisks to highlight statistical significance, and put a key below as a note.

Region (ref=Northeast)

 Midwest .20 .33t

When space permits, note the reference category for the block of dummy variables.

 South .63\*\* .58\*\*

 West .22 .42\*

The extra line highlights that the bottom two rows are not part of the parameter estimates.

Adjusted R2 .07\* .15\*\* .20\*\* .31\*\*

N 51 51 51 51

This row is optional in this case. It becomes more important in moderation analysis and other analyses where regressions might be run on groups of different sizes.

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*Note:* t p<.10 \* p<.05 \*\* p<.01

Each column is its own equation. Because standardized beta coefficients are reported, there is no constant term. The first three numeric columns are simple OLS regressions. The column header “Adjusted” means that the coefficients are adjusted for the effects of the other variables in the model.

Note the simplicity of this format. In SPSS, this information is spread across three tables. Here parameter estimates, a goodness of fit statistic, and the p-value of the F-statistic are combined into a single column.

Table 9

**The same regression from the previous page presented in a different way. This is more succinct than the previous page but has less detail. The choice of one over the other depends on whether one wants to report goodness-of-fit statistics for unadjusted results.**

*Standardized Beta Coefficients from Regression Analysis for Log of Violent Crime Rate*

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 Unadjusted Adjusted

-------------------------------------------------------------------------------------

Log of Population Density .30\* .39\*

% Poverty .41\*\*\* .18

Region (ref=Northeast)

 Midwest .20 .33t

 South .63\*\* .58\*\*

 West .22 .42\*

Adjusted R2 .31\*\*

N 51 51

-------------------------------------------------------------------------------------

*Note:* t p<.10 \* p<.05 \*\* p<.01

Each column is its own equation. Because standardized beta coefficients are reported, there is no constant term. The first three numeric columns are simple OLS regressions. The column header “Adjusted” means that the coefficients are adjusted for the effects of the other variables in the model.

Note the simplicity of this format. In SPSS, this information is spread across three tables. Here parameter estimates, a goodness of fit statistic, and the p-value of the F-statistic are combined into a single column.

Figure 1

*Townships with Revival by Year (n=515)*

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Source: *Revivals in New York and Ohio, 1825-1835*