

# APA Figure Guidelines — Quick Reference

## PSY 410 Handout | Session 15

This is a practical reference for formatting figures when you need them to look publication-ready — for papers, posters, or reports. APA 7th edition provides guidelines, but journals vary in how strictly they enforce them. The conventions below are the ones that actually matter most.

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### The Basics

- **Figure number and title are required.** The figure number (e.g., *Figure 1*) goes on its own line above the title. The title goes on the next line, in italics, in sentence case (only capitalize the first word and proper nouns).
  - **Caption goes below the figure.** The caption (starting with *Note.* in italics) provides additional context — what abbreviations mean, how the data were derived, statistical details, etc. A caption is not the same as a title.
  - **Black and white is the default assumption.** Not all journals print in color, and not all readers can perceive color differences. Design your figure so it's readable in grayscale. Use shape, pattern, or line style as a backup to color.
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### Size and Layout

Element	Guideline
Single-column figure width	~3.25 inches
Full-page figure width	~6.5 inches
Height	Varies — use what the content needs. Avoid very tall, narrow figures.
Resolution	300 DPI for print; 150 DPI is acceptable for online-only

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In `ggplot2`, set width and height in `ggsave()`:

```
ggsave("my_figure.png", width = 6.5, height = 4, dpi = 300)
```

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### Typography

- Use a sans-serif font (e.g., Arial, Calibri) at **8–12 pt** for axis labels and tick marks.
- Axis labels should be in plain text (not bold), unless the journal style requires otherwise.
- Titles and legends should be legible at the printed size — don't assume people will zoom in.

In `ggplot2`, adjust font sizes with `theme()`:

```
theme(  
  axis.text = element_text(size = 9),  
  axis.title = element_text(size = 10),
```

```
legend.text = element_text(size = 9)
)
```

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## What to Include and What to Remove

**Keep:** - Axis labels (always — every axis needs a label) - A legend, if you have more than one group (but see below) - Gridlines only if they aid readability — horizontal lines only, light gray

**Remove:** - The default ggplot2 gray background - Unnecessary gridlines (especially vertical ones) - A legend when there is only one group - Tick marks that don't correspond to meaningful values - Borders/boxes around the plot area (unless your journal requires them)

A good starting point in ggplot2 is `theme_classic()` or `theme_minimal()`, then tweak from there.

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## Color and Accessibility

- If using color to distinguish groups, choose a colorblind-friendly palette. `viridis` (the ggplot2 default for continuous) is fine. For categorical data, consider `ggthemes::scale_color_colorblind()` or manually set colors.
  - Label groups directly on or near the data when possible, rather than relying on a legend. This reduces the reader's cognitive load.
  - Avoid using red and green together as the only distinguishing colors.
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## Error Bars

- **Always state what the error bars represent.** Options: standard error (SE), standard deviation (SD), or 95% confidence interval (CI). Put this in the figure caption or note.
  - Error bars should be simple vertical lines with caps (horizontal end marks). Avoid fancy styles.
  - If you are showing means + error bars for a between-subjects comparison, SE is common in psychology. For within-subjects designs, confidence intervals require adjustment (see Morey, 2008).
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## Common Mistakes

Mistake	Fix
No axis labels	Always label both axes with the variable name and units (if applicable)
Legend says “group1”, “group2”	Use meaningful labels
Y-axis doesn't start at zero	Usually fine for continuous DVs — just don't truncate to exaggerate an effect
Too many categories in a single plot	Split into panels with <code>facet_wrap()</code> or use a different plot type
Pie chart with more than ~5 slices	Switch to a bar chart

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Mistake	Fix
Figure is too small to read	Check your <code>ggsave()</code> dimensions and DPI

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### Putting It Together — Checklist

Before submitting a figure for a paper or poster, run through this:

- Figure number and title (title in italics, sentence case)
- Both axes labeled
- Legend present only if needed, with meaningful labels
- Error bars labeled in caption or note (if present)
- Readable in grayscale
- Font sizes are at least 8 pt at final printed size
- No unnecessary visual clutter
- Resolution is appropriate (300 DPI for print)
- Caption/note explains anything non-obvious

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*Note: APA 7th edition guidelines are in Chapter 7 of the APA Publication Manual. Different journals will have their own figure preparation guidelines — always check the journal’s author instructions before formatting.*