One of the worse distractions in graphs involves the misuse of color.

Determine what you want to say

Knowing relationship type

Categorical works with horizontal bars.

* The text labels associated with the bars are long
* There are many bars.

Remember that if you are using bars to encode values, they must start from a value of zero on the quantitative scale, but if you are using lines, points, or a combination of line and points, you may want to narrow the scale.

Avoid placing the scale on the right side of the graph, unless you really need to

Grid lines are uselful when

* Values cannot be interpreted with the necessary degree of accuracy
* Subset of points in multiple related scatter plots must be compared

• Determine your message and identify your data

• Determine if a table, graph, or combination of both is needed to communicate your message

• Determine the best means to encode the values

• Determine where to display each variable

• Determine the best design for the remaining objects

• Determine if particular data should be featured, and if so, how

|  |  |
| --- | --- |
| Nominal Comparison | --Bars (horizontal or vertical)  --Points (if the quantitative scale does not include zero) |
| Time-Series | --Lines to emphasize the overall shape of the data --Bars to emphasize and support comparisons between individual values --Points connected by lines to slightly emphasize individual values while still highlighting the overall shape of the data |
| Ranking | --Bars (horizontal or vertical)  --Points (if the quantitative scale does not include zero) |
| Part-to-Whole | --Bars (horizontal or vertical) Note: Pie charts are commonly used to display part-to-whole relationships, but they don’t work nearly as well as bar graphs because it is much harder to compare the sizes of slices than the length of bars.  --Use stacked bars only when you must display measures of the whole as well as the parts |
| Deviation | time-series relationships together)  --Points connected by lines to slightly emphasize individual data points while also highlighting the overall shape (only when displaying deviation and time-series relationships together) |
| Frequency Distribution | --Bars (vertical only) to emphasize individual values Note: This kind of graph is called a histogram  --Lines to emphasize the overall shape of the data Note: This kind of graph is called a frequency polygon |
| Correlation | --Points and a trend line in the form of a scatter plot |

| Name | Age | Gender |

|-----------------------|---------------|--------------|

| Nominal Comparison | --Bars (horizontal or vertical) | Female |

| Time-Series | 9 | Male |

| Ranking | Age | Gender |

| Part-to-Whole | 8 | Female |

| Deviation | 9 | Male |

| Frequency Distribution| 8 | Female |

| Correlation | 9 | Male |