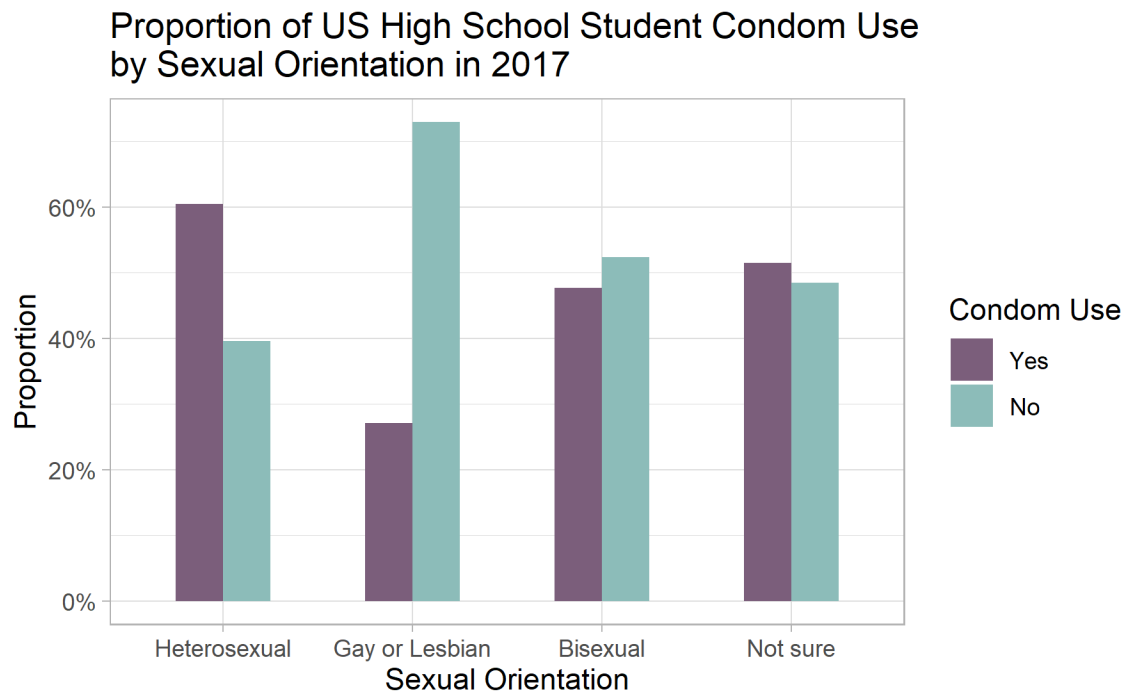


Multi-Set Bar Chart

Also Known as: Grouped Bar Chart or Clustered Bar Chart

Example: Proportion of United States High School Students that Used a Condom During Last Sexual Intercourse by Sexual Orientation in 2017



Data: The data was gathered by the Youth Risk Behavior Surveillance System (YRBSS) created by Centers for Disease Control (CDC) to monitor the health behaviors of high school students including sexual behaviors, alcohol and drug use, tobacco use, dietary behaviors, and physical activity along with other behaviors that may put youth at risk for adverse outcomes. The data can be located at the CDC's website: <https://www.cdc.gov/healthyyouth/data/yrbs/data.htm>.

Representation Description: The multi-set bar chart expands on the standard bar chart. Each data grouping represents a different category with the length of the bar corresponding to the numerical value related to that category. The initial category of the data grouping is then divided into subgroups to allow for displaying two categorical variables at once. The initial categories chosen are then separated by a spacing to allow for differentiation between groupings. The subgroups are defined by different colors to represent the various categories. This type of chart is useful in comparing numerical values of different categories to other groups that have the same categories.

How to Read It & What to Look For: Look at the x-axis to determine the initial grouping of the sets and then look at the legend to determine how each grouping is divided into subgroups. The y-axis displays the numerical values that each group and subgroup take on. The variation in length of the bars between groups allows for comparison of the numerical values between each group and subgroup to determine differences or patterns that may exist.

Presentation Tips:

Annotation: There should be clear labeling of the values of the categories on the x-axis and the numerical scale used for the y-axis. The annotation options also include labeling the bars with the different subgroups instead of using a legend.

Color: Color is an essential tool for distinguishing between the subgroups of the initial set. A different color should be used for each subgroup, but these colors should be consistent across the sets. It is important to have a clear legend or annotation that describes the meaning of each color.

Composition: The bars should be spaced far enough apart that the initial categories are clearly separated. Additionally, the number of subgroups for each initial category should be limited to increase ease of interpretability. The chart becomes more difficult to read with increasing numbers of subgroups.

Variations & Alternatives: A **small multiple bar chart** could be used as an alternative. This type of chart has multiple bar charts next to each other. Additionally, a **stacked bar chart** could be used as well. Instead of the subgroups displayed next to one another, they are stacked on top of each other to display the amount that each group takes on in comparison to one another.