

Interpreting Statistical Summaries

Nov. 21/2018

A **valid conclusion** is supported by **unbiased** data which has been **interpreted** appropriately.

Data is **reliable** if the results can be duplicated in another study.

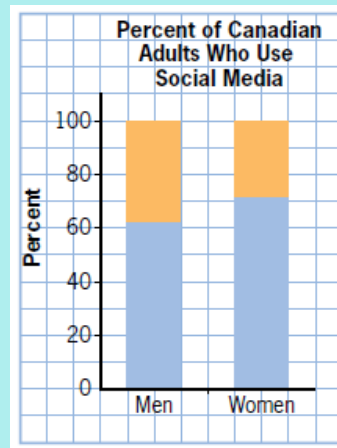
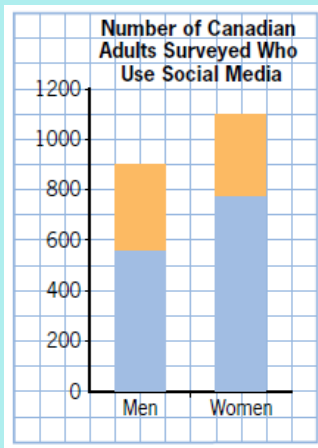
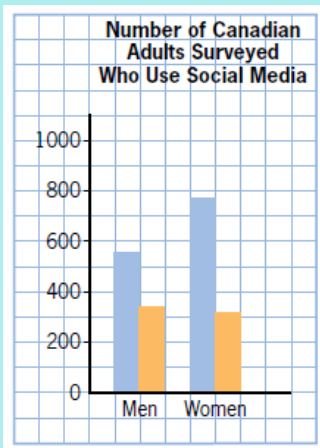
Data is **valid** if the results accurately represent the entire population.

When you assess a conclusion and supporting data:

- There may or may not be a relationship between the data and conclusion.
- Graphs can provide strong evidence for the conclusion.
- Different graph types may be used to represent, or misrepresent, the data.

Nov 21-11:06 AM

Ex. "Significantly more women than men spend time using social media."



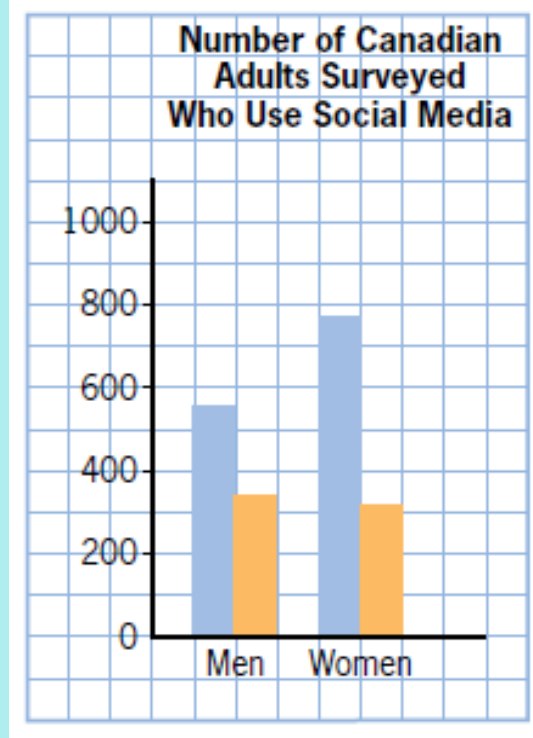
■ Use Social Media

■ Do Not Use Social Media

Nov 21-11:16 AM

Ex. "Significantly more women than men spend time using social media."

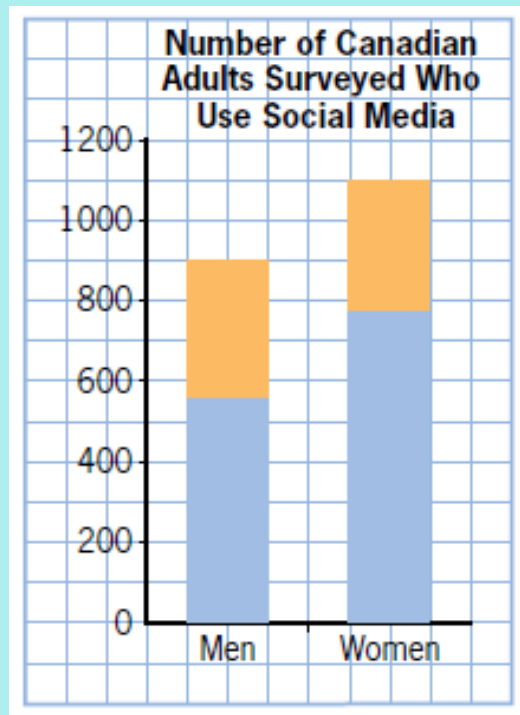
In a **multiple bar graph**, different quantities are represented by different colours and lengths of bars are placed side by side.



Nov 21-11:16 AM

Ex. "Significantly more women than men spend time using social media."

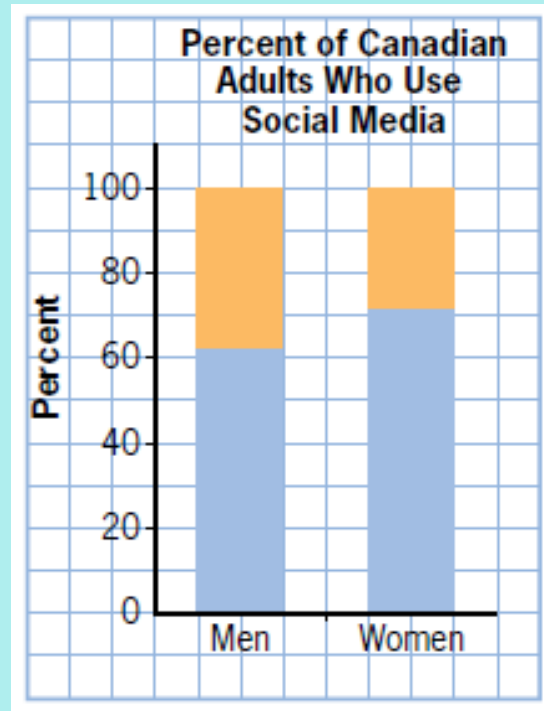
In a **split bar graph**, different quantities are represented by different colours and the lengths of bars are stacked one on top of another.



Nov 21-11:16 AM

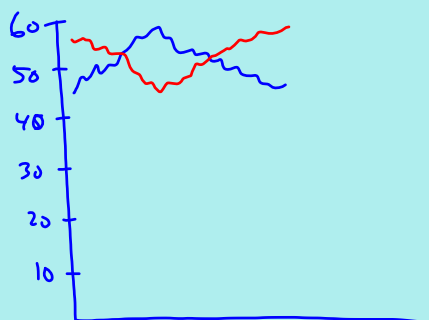
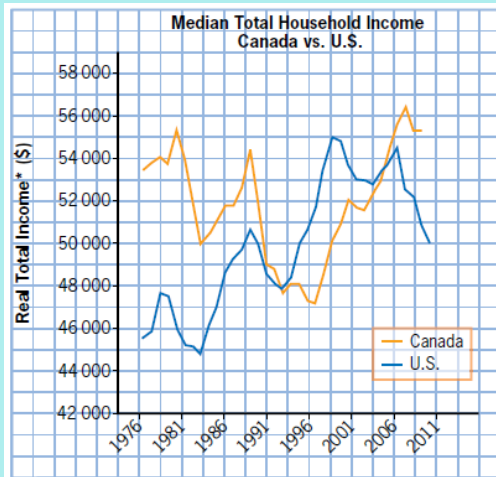
Ex. "Significantly more women than men spend time using social media."

In a **relative split bar graph**, differing percentages totaling 100% are represented by different colours and stacked one on top of another.



Nov 21-11:16 AM

Ex. "Americans significantly wealthier than Canadians."



Nov 21-11:22 AM

Ex. Consider and comment on the following infographic:



$\geq 3$  (2,3) (1,2) (0.5,1)  $< 0.5$  never

Nov 21-11:23 AM

p.298 # 3, 4, 6 - 9, 11

Nov 21-11:13 AM