

Correlation and Causation

Correlation

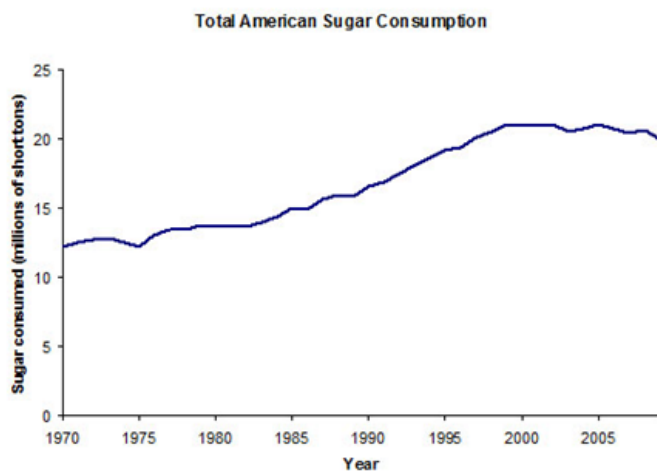
- **Correlation** is the mutual relationship between two or more things.
- If they all go in the same direction (e.g. one increases, the other increases), then it is **positive correlation**
- If they go in opposite directions (e.g. one increases, the other decreases), then it is **negative correlation**

Study Tip

Think of correlation as working together, where both will face the same consequences. Think of causation as a push, where one person produces an effect on another.

Causation

- **Causation** refers to when one thing produces the effect on the other. There needs to be a **mechanism** for one thing to change the other. For example, rising greenhouse gas levels increase the trapped heat, which increase global temperatures
- Correlation does not mean there must be causation. For example, sugar consumption and global temperatures have been rising. This is correlation, but one does not affect the other, so it is not causation



Rising sugar consumption and global temperatures

Concept Check

- What is positive and negative correlation?
- What is causation?
- What is the difference between correlation and causation?