

Beers and Diapers

Correlation vs. Causation

- Does skipping breakfast cause obesity?

<http://www.webmd.com/diet/news/20080303/eating-breakfast-may-beat-teen-obesity>

- Alternative explanations:
 - Physical activity
 - Lack of sleep

What Establishes Causality?

- Change in marketing mix produces change in sales
 - Increasing Advertising \$ \longrightarrow Increased Sales
- No sales increase when there is no change in the marketing mix
 - No Increase in Advertising \$ \longrightarrow Same Sales
- Time Sequence
 - Increased advertising \$ today leads to higher sales tomorrow.
- No other external factor
 - When advertising was increased, one of the competitors left the market. So sales increased because of lesser competition, not because of increased advertising.

