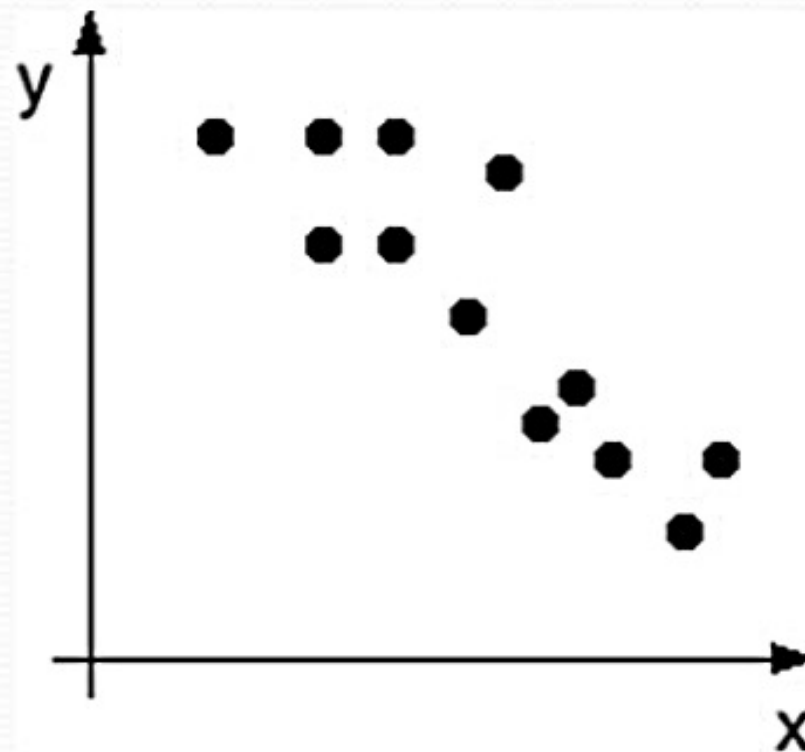


“Correlation does not imply causation”

A phrase used in science and statistics to emphasize that correlation between two variables does not automatically imply that one causes the other.

Numerous statistical studies showed that women who were taking combined hormone replacement therapy (HRT) also had a lower-than-average incidence of coronary heart disease (CHD).



Leading doctors then proposed that HRT was protective against CHD, i.e. HRT caused protection against heart disease.





However, controlled trials showed that HRT caused a small, but statistically significant increase, in risk of CHD.



Statisticians then re-analysed the data from the initial studies. They realised that the socio-economic groups of the women were not considered.

The women who were subjects of the initial study were *generally* of a higher socio-economic group (middle class) ..... and they *generally* had better than average diet and exercise regimes.

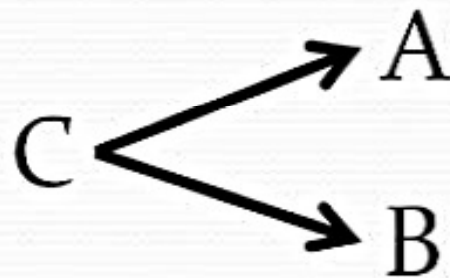
Middle class women are much more likely to use HRT. The decreased incidence of coronary heart disease was a coincidence. It wasn't a case of A causing B ..... i.e. HRT did not cause a reduction in CHD.

It was a case of a third factor, C, causing B and C ..... where C is the higher socio-economic group,  
*i.e. this causes greater use of HRT and a reduced occurrence of CHD.*

# Point?

“Correlation does not imply causation”

However, correlation gives science a starting point to determine through experimentation whether:







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