

Causal inference: how to analyse causal scenarios correctly, and repercussions of a wrong analysis

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Contents

1	What to do when there is a common cause	2
2	What to do when there is a common effect	2

Objective

Causal inference is a key element in statistics. It help us reach valuable conclusions about how do variables relate to one another, and help us make decisions in order to maintain our health, combat disease, adjust habits, etc. The problem comes when data is misinterpreted, and correlation is mistaken by causalty. It is very different to say 'ice cream causes cancer' rather than 'in the same season of the year, both ice cream sales and number of melanoma diagnosis increase'. A wrong conclusion can have serious repercussions, that may go from administering a wrong treatment to ruining the ice cream economy. Even if our field of study is not statistics, it is interesting to understand some basic concepts to prevent us from being fooled by sensational news and develop the so called 'critical thinking'. The objective of this project is to show what changes when data is modelled in the wrong way and how to interpret it correctly. The code can be accessed from the GitHub repository [Causalinference - GitHub repository](#) .

1 What to do when there is a common cause

Mi primer documento en L^AT_EX.

2 What to do when there is a common effect

Complex cases and backdoor criteria

Conclusion

References