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Testnaam: PhoEng:Sc 2015-2016 Helmet Therapy and Manipulationism

Datum: 11/17/2015

Totaalaantal vragen: 4

Vraag met de meeste juiste antwoorden: #0

Vraag met de minste juiste antwoorden: #0

1. It has been observed that in many cases skull deformation gets better after wearing a helmet. Does the manipulationist criterion for determining whether there is a causal relationship between "wearing the helmet" (A) and "curing deformation of the skull" (B) apply? (Choose One answer).

28/57	A	No, because we do not understand what the cause really is.
13/57	B	Yes, because there is an intervention (wearing the helmet) and an effect (the deformation of the skull gets better).
7/57	C	None of the above

2. It has been observed that in many cases headaches get better after taking an aspirin. Does the manipulationist criterion for determining whether there is a causal relationship between "taking an aspirin" (A) and "curing headaches" (B) apply? (Choose One answer).

23/57	A	No, because we do not understand what the cause really is.
20/57	B	Yes, because there is an intervention (taking an aspirin) and an effect (headache gets better).
3/57	C	None of the above

3. It has been observed that in many cases people get lung cancer when long-life smokers. Does the manipulationist criterion for determining whether there is a causal relationship between "smoking" (A) and "lung cancer" (B) apply? (Choose One answer).

24/57	A	No, because we do not understand what the cause really is.
25/57	B	Yes, because there is an intervention (smoking) and an effect (lung cancer).
6/57	C	None of the above

4. What method would you propose for distinguishing between correlations (accidentally true generalizations) and causal relationships?

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A correlation happens when there are various variables that can alter B, not only A. Only when A has been singled out it can said there is a causal relationship.

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experimental data

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You can never be sure whether a relation is causal or there is just a (strong) correlation. But often you don't need to be sure to get something useful.

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Further specifying in which cases it does and does not show correlations. To clearly define the relationship. Then change certain variables to see what happens?

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also test what happens if no helmet/aspirine/sigarete is used, will the effect be the same, or different?

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Determine with a "plasebo" with mutiple groups to check if there is a causal relationship. If yes, research why there is a causal relationship.

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There is none, there always is a chance that your law happens to be a accidental generalization

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Zooming in. Investigating on the 'mechanisms' of the predicted causal relation

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If everything except two factors is held constant then these two factors must have a causal relation if a correlation is observed

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For example, have a group take the medicins and an other group not. If the group with medicins performs significantly enough better than the control group, than the medicine works.

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reproduce observable facts as practical experiments - try to replicate the answers in general cases

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When doing an experiment, gather all the necessary information that fully describes the problem in order to get reliable results.

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Bayes theorem

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"correlations: b can happen without a

causal: b occurs only when a occured"

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In causal relationship the the cause and effect are fully correlated, with correlation they are not.

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Observarion of the cause, understanding it

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only by studying all the dominating factors we can decide.

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Testing if the intervention does or does not have an effect

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Maybe some explanations on why people think there is a causal relationship would help to dinstinguish, but never fully

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"To show a causal relationship:

- you have to minimize external factors,

- have a reference (control group),

- have a hypothesis explaining the causal relationship,

- have an clear majority of positive cases"

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Take the test with a placebo and do nothing. get a control group to verify the results

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Causal relationship is what you know what cause the result, not the other way around, that you see result than think something cause that.

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Making a testgroup, keep all other conditions constant and test on both groups

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There has to be an justification for causal relationships. Correlations have a certain randomnes that is not (yet) justified.

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If there is only one variable responsible for causing an effect that variable has a causel relationship. The trouble however is distilling the variable....

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"To distinguish between correlations and causal relationships all experiments should be conducted in the presence of a control group.

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Try to identify other possible causes and devise experiments to (dis)prove those."

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I don't make the distinction. With a strong correlation and a baseline measurement to validate a large number of cases I will use the correlation, regardless of the unknown truth. But accepting the risk if being wrong

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sticking to correlation != causation

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If everything else can be held constant there should be a causal relationship

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There seem to be correlation when there is a relation btw 2 events and causal relationship only if we have a proven cause, which is tricky.

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There is no known cause yet for cancer, smoking could be a mediator however. but saying that smoking causes cancer is saying that my legs cause walking, it is not the explanation we are looking for. you want to know the underlying reason for cancer (or headache for that matter),

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In causal relationships we Really know the cause that a particular situation has been raised because of doing this specific thing.

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You will have to investigate if there are other causes for the observed mechanism. If there are other possible causes, it is impossible to speak of a direct causal relationship without further investigation

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If you have enough persons where you check on, you can say if the chance is bigger that you get long cancer if you smoke. But you only see one possible reason and you see the result. This doesn't mean it comes from that reason.

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"First, correlation and causation both need an independent and dependent variable. An independent variable is a condition or piece of data in an experiment that can be controlled or changed. A dependent variable is a condition or piece of data in an experiment that is controlled or influenced by an outside factor, most often the independent variable.

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If there is a correlation, then sometimes we can assume that the dependent variable changes solely because the independent variables change. This is where the debate between correlation and causation occurs. However, there is a difference between cause and effect (causation) and relationship (correlation). Sometimes these areas can be confused and muddled when analyzing data."

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In all cases a sufficiently large control group would prove or disprove that the previous conclusion was a causal relationship

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Working with probabilities (chance that a certain situation is caused by an event with respect to when the event has not occured).