

Fallacies of Assumption:

Fallacies of Assumption present a problem of insufficient evidence and make it impossible to determine a legitimate degree of probability. Specific fallacies of assumption include:

1. Overgeneralization (also known as False Generalization or Hasty Generalization)

An overgeneralization occurs when one makes a general claim about something without having the proper information to do so or when it is impossible to do so.

Example: I recently visited the country of X for 2 days. All the citizens of X are very impolite.

From visiting a country for a few days, it is not probable that there is enough of a sample set in the evidence to make this conclusion. All generalization carries this risk. Stereotyping is a common form of hasty generalization. Both stereotyping and the example above illustrate the danger of generalization based on insufficient evidence since it is not likely that all possible cases/people have been observed. One observation that differs can negate the credibility of the conclusion.

Some generalizations can be used effectively when conclusions are drawn from evidence that includes knowledge of the entire sample group. For instance, it is fairly safe to make generalizations of a family when one has met all the family members. And it may also be fairly safe when the sample group does not contain all but properly reflects the entire population discussed. For instance, polls on who will vote for whom where in which the sample group represents the overall population in terms of age, gender, religion, etc. Another generalization that can be fairly safe is a generalization about something that is part of the essence of the thing. For instance, all humans can use language.

2. Card stacking

Card Stacking is a fallacy that occurs when one changes evidence or even does not disclose evidence that negatively affects one's case. This would partly relate to the idea of not considering opposing viewpoints and counterexamples. An example of this might be the realtor that rushes you through a closing without revealing a termite infestation in the house.

3. *Ad ignorantium* (also known as Appeal to Ignorance or Arguments from Ignorance)

Appeal to ignorance demonstrates faulty reasoning by claiming that if something is unknown, unproven, or not yet agreed upon, then it is implied that it is also unknowable or improvable or false. Just because something has not yet been proven true does not imply it is false.

Example: No one has ever produced an extra terrestrial being, therefore aliens do not exist.

Arguments from ignorance are not about whether the person making the argument is knowledgeable on the topic they are addressing, but rather when an argument from ignorance tries to prove something from a lack of evidence as in the above example.

4. *Post hoc ergo propter hoc* (also known as False Causation)

A *post hoc* fallacy claims one thing causes another when there is some sort of correlation. However, these conclusions are normally drawn after the fact and the two things may have occurred sequentially, but are not in a relation of causation.

Example: Every time I eat cereal in the morning, the Cubs win. Therefore, if I eat cereal this morning, the Cubs will win.

Notice: This example claims that cereal-eating causes the Cubs to win. The two are correlated (when one happens, the other does as well), but is there a relation of causation?

The above example is fallacious because there is *no relevance* between cereal eating and the Cubs winning. *Irrelevance* is one of five variations of the fallacy of false causation that we will look at. The other four include:

1. Reverse Causation – The claim is that x causes y and really y causes x.

Example: Every time I sneeze, I get a cold

2. Omission of External Cause – The claim is that x causes y, but really both x and y are caused by a third thing z.

Example: Mr. X is handsome because he is smart. (Mr. X's genes caused both.)

3. Omission of Intermediate Cause – The claim is that x causes z not realizing that between x and z lays another cause y.

Example: If a person surfs the internet, it causes the computer to shut off. (The intervening third cause is that the battery of the lap top runs out.)

4. Omission of Timing/Extent of cause – The claim is that x causes y, but one cannot project beyond this case.

Example: When it rains, flowers grow. Therefore, the more rain the better the flowers are.... (But if it rains too much of course the flowers will be flooded and washed away.)