

Types of logical fallacies

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Fallacies of Faulty Reasoning

Fallacies of faulty reasoning occur when arguers make errors in their inferences. Four types of faulty reasoning are discussed: false analogy, hasty $\neg$ generalization, false cause, and slippery slope.

False Analogy

A false analogy compares two things that are not alike in significant respects or have critical points of difference.

- The success of the forty-hour work week in making the corporation successful and productive suggests that we should use it on farms as well.

Hasty Generalization

A hasty generalization draws a conclusion about a class based on too few or atypical examples.

- I owned two MGs-a midget and an MGB- and they gave me nothing but trouble. The choke and the batteries froze up on the "B", and the clutches went out on both cars. They were always in the shop. MGs are poorly constructed, and I think they should be avoided.

False Cause

False-cause fallacies occur when the arguer offers a cause for a consequence that is not directly related to the consequence. Examples of false causes are post hoc, single-cause, and slippery slope fallacies.

Post Hoc

Post hoc fallacies mistake temporal succession for causal sequence.

- JK committed his crime after seeing violent acts on TV. Therefore, violence on TV must have influenced his behaviour.

Single Cause

Single-cause fallacies occur when an advocate attributes only one cause to a complex problem.

- Low interest rates are the reason for increased housing purchases.

Slippery Slope

The slippery slope fallacy assumes, without evidence, that a given event is the first in a series of steps that will lead inevitably to some outcome.

- Student: “I was really struggling with Biology 101 and I needed to drop it. I’m sorry because I know college is expensive, but I just wasn’t getting it and I was concerned about my grade point average. I went in and I spoke to the prof. She seemed to think that dropping it was a good idea because I am so far behind.”

Parent: “I don’t care about the money as much as I care that you have dropped a class in your very first semester in college. It seems to me that once the going gets rough you’re just going to quit. Is it going to be a pattern with you? Next time, will you drop the first class that is tough? I’m afraid that you might, and if you keep this up you may never finish your degree.”

Fallacies of Evidence

Fallacies of evidence are the result of arguments that use either poor evidence or no evidence whatsoever. Instead, poorly grounded arguments tend to confuse reasoning or claims with evidence. Two such fallacies are: begging the question and non sequitur.

Begging the Question

The fallacy of begging the question assumes as a premise or as evidence for an argument the very claim or point that is in question.

- The soul is immortal because it lives forever.
- We must accept the traditions of men of old time who affirm themselves to be the offspring of the gods_ that is what they say_ and they must surely have known their own ancestors. How can we doubt the word of the children of the gods?

Non Sequitur

The non sequitur fallacy contains a claim that is irrelevant to or unsupported by the evidence or premises purportedly supporting it.

- The United States is the only industrialised country in the world where teenage pregnancy is increasing. The Guttmacher study found that the US pregnancy rate is twice that of Canada, England, or France, and seven times that of the Netherlands.

Fallacies Related to the Audience

Fallacies related to the audience occur when arguers present arguments to direct a recipient's attention away from the central argument toward some other irrelevant argument... Four types of audience-related fallacies are: ad hominem, ad populum, appeal to tradition, and straw arguments.

Ad Hominem

Ad hominem fallacies launch an irrelevant attack on the person or source originating an argument instead of responding to substantial issues raised in the argument.

- Parent: "I am really concerned about your grades this past semester. You were always such a good student in high school and now you have slipped to straight Cs. I think you need to study more and forget about seeing so much of your friends."

Student: "Why are you always on my back for not studying? Your grades in college were nothing to write home about!"

Ad Populum

Ad populum fallacies occur when the substance of an argument is avoided, and the advocate appeals instead to popular opinion as a justification for the claim.

- Most new parents buy Dr. Spock's Baby and Child Care book to learn about the care and feeding of newborn infants. So, it seems obvious that Dr. Spock has the best book available.

Appeal to Tradition

Appeal to tradition fallacies occur when someone claims that we should continue to do things the way we have always done them simply because we have always done them that way.

- Professor Smith: "We should change the college grading scale to include plus and minus grading distinctions... Further defining the range of grades gives more precise information about a student's performance in the course."

Professor Jones: "Why should we change? We've had simple letter grades without plus or minus distinctions in this college for over ten years and it's worked fine."

Straw Arguments

The straw argument fallacy attacks a weakened form of an opponent's argument —or an argument the opponent did not advance.

- Mary: "I think it's time for this university to computerize all its functions. Just think, if all the secretaries and all the professors were linked together by computer, access to student records would save time and get better-quality advising."

Derrick: "Yeah, but if we computerized everything, it would take forever to teach the secretaries and professors to use the system, which would end up wasting more time than it saves."

Fallacies of Language Use

Language is the medium in which arguments are communicated, and it has an in—evitable impact on the way in which they are perceived and interpreted. Three different fallacies related to language are: equivocation, amphiboly, and emotive language.

Equivocation

The fallacy of equivocation exploits the fact that a word has more than one meaning so as to lead to a false conclusion.

- Someone might say “You shouldn’t take that course in reasoning that is supposed to improve your ability to argue; you argue too much with your friends now.”

Amphiboly

The fallacy of amphiboly exploits ambiguity in grammatical structure to lead to a false or questionable conclusion.

- New, improved product X is unquestionably more effective.
Our product is new and improved.

Emotive Language

The fallacy of emotive language manipulates the connotative meaning of words to establish a claim without proof.

- Once in a generation there’s a breakthrough so revolutionary it can change forever the way people tan.