Logical Fallacies

Inquire: What’s a Fallacy?

Overview

We often hear people talk about fallacies, but are you completely sure what they are? You might hear someone accuse another person of making a straw man attack, or more likely, you’ll see someone claim a logical fallacy on the Internet. But, do you really know what a fallacy is? Or what the different kinds of fallacies look like? In this lesson, you’ll learn both what a fallacy is and a few of the most common types of fallacies.

Big Question: What are logical fallacies, and how can I identify them?

Watch: Fallacies: What’s the Big Deal?

Imagine you’re in a heated debate with a friend as a group of friends looks on. You’re discussing whether you should tip 15% or 20% at a restaurant for good service. You’re in favor of tipping 15% as a standard practice and reserving a 20% tip for truly excellent service. Your friend says that tipping 20% is the only way to go. As the argument increases in intensity, your friend turns to the group around you and says: “If we all start tipping 15% as a standard, the next thing you know, it will be easier to tip 10%, and eventually, we’ll be tipping nothing at all and walking out on checks!”

You’ll likely stand there, stunned. The logic of this statement just isn’t present. That’s because your friend has committed a logical fallacy. If you’re aware of the fallacy, you might be able to calmly point out that your friend has presented a slippery slope argument and not really dealt with the matter at hand.

Fallacies are things that we often hear people talk about, but are maybe not sure what they are. You might hear someone accuse another person of making a straw man attack, or more likely, you’ll see someone claim a logical fallacy on the Internet. But, do you really know what a fallacy is? Or what the different kinds of fallacies look like?

Fallacies can be errors or they can be tricks. Fallacies can fairly be called errors if they are committed by accident, but deceitful writers and speakers can sometimes use fallacies to intentionally misguide their audiences. In this case, fallacies are used as tricks. Though fallacies are often categorized as appeals to ethos, pathos, and logos, it’s important to note that these are not effective rhetorical tools. Fallacies are viewed as attempts to intentionally misguide an audience, which should not be the intention of any written or spoken argument. In fact, the speaker of a text has a responsibility to represent fairly the issue at hand, so as not to mislead a group of people.
Can you think of any times someone has used a logical fallacy in an argument with you? Did you know what it was?

Read: Types of Logical Fallacies

Overview

Fallacies are errors or tricks of reasoning. We call a fallacy an error of reasoning if it occurs accidentally; we call it a trick of reasoning if a speaker or writer uses it in order to deceive or manipulate his audience. Fallacies can be either formal or informal.

Whether a fallacy is an error or a trick, whether it is formal or informal, its use undercuts the validity and soundness of any argument. At the same time, fallacious reasoning can damage the credibility of the speaker/writer and improperly manipulate the emotions of the audience/reader.

Both formal and informal fallacies are errors of reasoning, and if a speaker or writer relies on such fallacies, even unintentionally, she undercuts her argument. For example, if someone defines a key term in her argument in an ambiguous, vague, or circular way, her argument will appear weak to an astute audience.

In addition, when listeners or readers spot questionable reasoning or unfair attempts at audience manipulation, more than their evaluation of the author’s argument (logos) may be compromised. Their evaluation of the credibility of the speaker (ethos), and perhaps their ability to connect with that speaker on the level of shared values (pathos), also may be compromised. At the very least, the presence of fallacies will suggest to an audience that the speaker or writer lacks argumentative skill.

Formal Fallacies

Most formal fallacies are errors of logic: the conclusion doesn’t really “follow from” (is not supported by) the premises. Either the premises are untrue or the argument is invalid. Below is an example of an invalid deductive argument.

Premise: All black bears are omnivores.
Premise: All raccoons are omnivores.
Conclusion: All raccoons are black bears.

Bears are a subset of omnivores. Raccoons also are a subset of omnivores. But, these two subsets do not overlap, and that fact makes the conclusion illogical. The argument is invalid — that is, the relationship between the premises doesn’t support the conclusion.

Recognizing Formal Fallacies

“Raccoons are black bears” is instantaneously recognizable as fallacious and may seem too silly to be worth bothering about. However, that and other forms of poor logic play out on a daily basis, and they have real world consequences. Below is an example of a fallacious argument:

Premise: All Arabs are Muslims.
Premise: All Iranians are Muslims.
Conclusion: All Iranians are Arabs.
This argument fails on two levels. First, the premises are untrue because although many Arabs and Iranians are Muslim, not all are. Second, the two ethnic groups are sets that do not overlap; nevertheless, the two groups are confounded because they (largely) share one quality in common. One only has to look at comments on the web to realize that the confusion is widespread and that it influences attitudes and opinions about U.S. foreign policy.

Informal Fallacies

Informal fallacies take many forms and are widespread in everyday discourse. Very often, they involve bringing irrelevant information into an argument or they are based on assumptions that, when examined, prove to be incorrect. Formal fallacies are created when the relationship between premises and conclusion does not hold up or when premises are unsound; informal fallacies are more dependent on the misuse of language and of evidence.

It is easy to find fairly well-accepted lists of informal fallacies, but that does not mean that it is always easy to spot them. Some moves are always fallacious; others represent ways of thinking that are sometimes valid and reasonable but which can also be misused in ways that make them fallacies.

Identifying Fallacies

Classifying fallacies as fallacies of ethos, logos, or pathos will help you both to understand their nature and to recognize them when you encounter them. Please keep in mind, however, that the list of fallacies presented in the next section is by no means exhaustive and that some fallacies may fit into multiple categories.

Fallacies of ethos relate to credibility. These fallacies may unfairly build up the credibility of the author (or his allies) or unfairly attack the credibility of the author’s opponent (or her allies). Some fallacies give an unfair advantage to the claims of the speaker or writer or an unfair disadvantage to the opponent’s claims. These are fallacies of logos. Fallacies of pathos rely excessively upon emotional appeals, attaching positive associations to the author’s argument and negative ones to the opponent’s position.

Reflect Poll: Everyday Fallacies

Which fallacy do you see most frequently in your everyday life?

- Hasty generalization
- Ad hominem
- Straw man
- False dichotomy

Expand: Types of Fallacies

Overview

There are exhaustive lists of the different, specific kinds of fallacies that exist. Below are some of the most frequently used types of fallacies and brief definitions. Please remember that many other types of fallacies exist, and these same ones exist under different names.
Hasty Generalization

**Hasty generalizations** occur when the sample is simply too small to be a reliable basis for claims about the target population. The smaller the sample, the more likely that results will be skewed by atypical results.

Think, for example, about what a student’s class average would look like after an initial quiz if he happened to fail it. If you were that student, you would not want your instructor to draw any conclusions based on that one quiz! By the end of the semester, however, an instructor will have more ‘data points’ so it will be apparent whether a particular quiz was an outlier. The sample size will be large enough to swallow up an atypical result so that the instructor can arrive at a realistic assessment of the student’s performance.

Slippery Slope

**Slippery slope** arguments make an unsupported or inadequately supported claim that one thing inevitably leads to another. This may be considered a fallacy of logos, but it is largely a fallacy of pathos because it often is used to evoke the emotion of fear.

Ad Hominem

**Ad hominem** attacks are when you attack the person making the argument rather than attacking the argument itself. This is an ethos-related fallacy.

Red Herring

A red herring fallacy diverts the attention of the audience from the real issue. It often is considered a logos-related fallacy because it involves the introduction of an irrelevant topic into an argument, but some ethos and pathos-related fallacies may also be classified as red herrings, too, because they operate by introducing elements that distract the audience from the actual issues.

The red herring fallacy is mentioned separately here because it may be treated as a category with other fallacies listed under it. Fallacies that bring up irrelevant topics or issues and so may be considered red-herring fallacies include the smoke screen fallacy, but may also include the guilt by association and straw man fallacies, and the appeal to popularity (bandwagon) fallacy and other fallacies that appeal to emotion.

Straw Man

**Straw man** fallacies pretend to criticize an opponent’s position but actually misrepresent his or her view as simpler and/or more extreme than it is, making it therefore easier to refute than the original or actual position. Straw man fallacies unfairly undermine credibility of a claim if not the source of a claim.

Example: “Senator Smith says we should cut back the Defense budget. His position is that we should let down our defenses and just trust our enemies not to attack us!”
False Dichotomy

A **false dichotomy** is a premise that offers a choice between only two alternatives when more exist. Here, for example, is a fallacious premise: Either we allocate the requested amount for the program or we do not fund the program at all.

The premise ignores the fact that the program or some aspects could be partially funded or that funding could be phased in over a period of time. In the context of a budget debate, an argument based on such a premise could be manipulative — an attempt to pressure a vote in favor of funding by suggesting that the only alternative would be a complete shutdown of the program.

Lesson Toolbox

Additional Resources and Readings

A fairly extensive list of types of fallacies


More information exploring the concept of fallacies in great depth

- Link to resource: https://writingcenter.unc.edu/tips-and-tools/fallacies/

A site providing examples of fallacies from media

- Link to resource: http://www.fallacyfiles.org/

Lesson Glossary

**fallacy**: an error or trick of reasoning

**hasty generalizations**: occur when the sample is simply too small to be a reliable basis for claims about the target population

**slippery slope**: arguments that make an unsupported or inadequately supported claim that one thing inevitably leads to another

**ad hominem**: attacking the person making the argument rather than attacking the argument itself

**red herring**: diverts the attention of the audience from the real issue

**straw man**: a fallacy that pretends to criticize an opponent’s position but actually misrepresents his or her view as simpler and/or more extreme than it is

**false dichotomy**: a premise that offers a choice between only two alternatives when more exist

Check Your Knowledge

1. A _____________ is a premise that offers a choice between only two alternatives when more exist.
   - a. straw man
   - b. red herring
   - c. slippery slope
   - d. false dichotomy

2. There are very few kinds of fallacies to watch out for.
   - a. True
   - b. False
3. What kinds of fallacies exist? (Choose all that apply)
   a. ethos
   b. pathos
   c. purpose
   d. logos

Answer Key:
1. D  2. B  3. A, B, D

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