A fallacy is an error in reasoning. A fallacy indicates there is a problem with the logic of deductive or inductive reasoning. This differs from a factual error, which is simply being wrong about the facts. To be more specific, a fallacy is an “argument” in which the premises given for the conclusion do not provide the needed degree of support.

A fallacy is a mistake in the way that the final conclusion of the argument, or any intermediate conclusions, are logically related to their supporting premises. When there is a fallacy in an argument, the argument is said to be unsound or invalid.

The presence of a logical fallacy in an argument does not necessarily imply anything about the argument’s premises or its conclusion. Both may actually be correct, but the argument is still invalid because the conclusion does not follow from the premises using the inference principles of the argument.

Recognizing fallacies is often difficult, and indeed fallacious arguments often persuade their intended audience. Detecting and avoiding fallacious reasoning will at least prevent adoption of some erroneous conclusions.

Types of Fallacies

Fallacies are usually recognized in isolation, but woven into the context of an argument they may pass unnoticed, unless the critical thinker is on guard against them. Some advocates openly use fallacies in order to exploit an unknowing audience, but many times we use fallacies unintentionally. Many fallacies exist. Here is a few of the most common ones used in everyday argumentation.

False Dilemma The False Dilemma fallacy occurs when an argument offers a false range of choices and requires that you pick one of them. Usually, the False Dilemma fallacy takes this form: Either A or B is true. If A is not true, then B is
true. “Either you love me or hate me.” The range is false because there may be other, unstated choices which would only serve to undermine the original argument. If you agree to pick one of those choices, you accept the premise that those choices are indeed the only ones possible. Seeing something as “black and white” is an example of a false dilemma.

**Appeal to Emotion** This fallacy is committed when someone manipulates peoples’ emotions in order to get them to accept a claim. More formally, this sort of “reasoning” involves the substitution of various means of producing strong emotions in place of evidence for a claim. Here the attempt is to transfer a positive emotion you have on one thing to the object or belief that is being argued.

This sort of “reasoning” is very common in politics and it serves as the basis for a large portion of modern advertising. Most political speeches are aimed at generating feelings in people, so that these feelings will get them to vote or act a certain way. How many times will you see pictures of American flags in a political commercial? The flag and other traditional images are aimed at getting the audience emotionally involved. In the case of advertising, the commercials are aimed at evoking emotions that will influence people to buy certain products. Beer commercials frequently include people at parties to get the potential consumers excited about the product. In many cases, such speeches and commercials are notoriously free of real evidence.

**Non-sequitur** The phrase “non-sequitur” is Latin for “it does not follow.” If an inference is made that does not logically follow from the premises of the preceding argument, then the inference is a non-sequitur. For example, “I am wearing my lucky hat today, nothing can go wrong.” Though the term “non-sequitur” can be used broadly as an informal fallacy to describe any unwarranted conclusion, it is most often used when a statement openly contradicts itself and just makes no sense.

**Slippery Slope** This fallacy reduces an argument to absurdity by extending it beyond its reasonable limits. This is an abuse of causal reasoning by trying to link events that normally have very little to do with each other. For example: legalizing marijuana will lead to the legalization of cocaine. If you legalize cocaine, you’ll be able to buy crack and every other drug at your local 7-11. In this argument, it is asserted that the legalization of marijuana will eventually lead to purchasing crack at local 7-11’s. Once one accepts the legalization of marijuana, then one is assumed to be on the slippery slope towards the legalization and availability of every other drug. In a Slippery Slope argument, you suggest that a series of events will occur leading to an undesirable conclusion instead of just one step as in Causal Reasoning.

**Ad Hominem** Translated from Latin to English, “Ad Hominem” means “against the man” or “against the person.” An ad hominem fallacy consists of saying that someone’s argument is wrong purely because of something about the person rather than about the argument itself. You will hear people on the radio and television dismiss comments by people they label as a conservative or a liberal, just because of how they label that person. Merely insulting another person or questioning the credibility of someone does not necessarily constitute an ad hominem fallacy. For this fallacy to exist it must be clear that the purpose of the characterization is to discredit the person offering the argument, in an attempt to invite others to then discount his or her arguments.

The Ad Hominem fallacy was employed by those who wanted to silence 16-year-old Climate Change activist Greta Thunberg. Those who disagreed with her argued that she should be ignored as she is just a child.

**Hasty Generalization** This fallacy occurs when an arguer bases a conclusion on too few examples, that are not
necessarily typical of the conclusion being made. For instance, “My two boyfriends have never shown any concern for my feelings. Therefore, all men are insensitive, selfish, and emotionally uncaring.” Or, “I read about this man who got worms from eating sushi. I always knew that sushi was not good to eat.” Without more examples, these arguments can be considered fallacies.

**Circular Reasoning** The fallacy of circular reasoning is the assertion or repeated assertion of a conclusion, without giving reasons in its support. In other words, supporting a premise with a premise, instead of a conclusion. It may imply that the conclusion is self-evident or rephrase the conclusion to sound like a reason. Circular reasoning creates an illusion of support by simply asserting its conclusion as though it were a reason, or by reasserting the same claim in different words. For example, “Kerosene is combustible; therefore, it burns.” Or, “George Clooney is the best actor we have ever had, because he is the greatest actor of all time.”

**Appeal to Ignorance** In this fallacy, the arguer claims that something is valid only because it hasn’t been proven false. This fallacy errs by trying to make this argument in a context in which the burden of proof falls on the arguer to show that his or her position is actually accurate, not just that it has not yet been shown false. The argument mistakes lack of evidence for evidence to the contrary. In effect, the argument says, “No one knows it is accurate. Therefore, it is false.” For example, “There is no proof that hand gun legislation will reduce crime. Therefore, outlawing handguns would be a futile gesture.” Or, “We have no evidence that God doesn’t exist, therefore, God must exist.” Ignorance about something says nothing about its existence or non-existence.

**Plato and a Platypus Walk into a Bar**

7.4.1: "Cover of Plato and a Platypus Walk Into a Bar" (Fair Use; Paul Buckley & Penguin Group via [Wikimedia Commons](https://commons.wikimedia.org/wiki/File:Plato_and_a_Platypus_Walk_into_a_Bar.jpg))

In their book authors Thomas Cathcart and Daniel Klein illustrate logical principles and fallacies using classic jokes. For example, to illustrate the fallacy of post hoc ergo propter hoc, they use the following:
“In general, we’re deceived by post hoc ergo propter hoc because we fail to notice that there’s another cause at work.

A New York boy is being led through the swamps of Louisiana by his cousin. ‘Is it true that an alligator won’t attack you if you carry a flashlight?’ asks the city boy.

His cousin replies, ‘Depends on how fast you carry the flashlight.’

The city boy saw the flashlight as a propter when it was only a prop.” ¹

**Bandwagon** The name “bandwagon fallacy” comes from the phrase “jump on the bandwagon” or “climb on the bandwagon” a bandwagon being a wagon big enough to hold a band of musicians. In past political campaigns, candidates would ride a bandwagon through town, and people would show support for the candidate by climbing aboard the wagon. The phrase has come to refer to joining a cause because of its popularity. For example, trying to convince you that you should do something because everyone else is doing it, is a bandwagon fallacy. "Everybody is buying a Tesla car, so should you.”

**Post hoc ergo propter hoc** The post hoc ergo propter hoc, "after this, therefore because of this,” fallacy is based upon the mistaken notion that simply because one thing happens after another, the first event was a cause of the second event. Post hoc reasoning is the basis for many superstitions and erroneous beliefs. For example, California earthquakes always happen after unusual weather patterns. Or, Allison always scores a goal when she wears her red and white soccer shoes. Or, I wore my Packers shirt and my Packers team won. I now wear my Packers shirt for every game. These are all, post hoc ergo propter hoc fallacies

**Appeal to Pity** With this fallacy, the arguer tries to get people to agree with his or her conclusion by evoking pity and sympathy either with the situation or with the situation of some third party. By appealing to people's ability to sympathize with others, a powerful emotive force can be created. Unfortunately, however serious another person's problems are, that does not automatically make their claims any more logical. My sympathy for that situation does not create a reasonable basis for believing his or her claims. For example, "I really need this job since my grandmother is sick” or "I should receive an 'A' in this class. After all, if I don't get an 'A' I won't get the scholarship that I need." These appeals evoke emotions, but are not necessarily logical.

**Straw-Man Fallacy** The arguer attacks an argument that is different from, and usually weaker than, the opposition’s best argument. To distort or misrepresent an argument one is trying to refute is called the straw man fallacy. In a straw man fallacy, the opponents argument is distorted, misquoted, exaggerated, misrepresented or simply made up. This makes the argument easier to defeat, and can also be used to make opponents look like ignorant extremists. The refutation may appear to be a good one to someone unfamiliar with the original argument.

Logical fallacies are errors of reasoning, errors which may be recognized and corrected by critical thinkers. Fallacies may be created unintentionally, or they may be created intentionally in order to deceive other people. The vast majority of the commonly identified fallacies involve arguments, although some involve explanations, or definitions, or other products of reasoning. Sometimes the term fallacy is used even more broadly to indicate any false belief or cause of a false belief. A fallacy is an argument that sometimes fools human reasoning, but is not logically valid.

In his book, PERSUASION: THEORY AND PRACTICE, Kenneth Anderson writes,
“Logical appeals are powerful forces in persuasion. However, logic alone is rarely sufficient to yield persuasion. Desires and needs of receivers affect and determine what they will accept as logical demonstration. Thus, it is possible for one person to report that he or she is convinced by the logic used while another person remains horrified at the lack of logic presented.”

You can have high quality evidence, but lead to incorrect conclusions because your argument has poor reasoning. You always want to create the “soundest” or most logical argument possible. And you also want to examine the logic of others presentations to determine what fallacies might be evident.

Reference