

10.

UNDERSTANDING LOGICAL FALLACIES

Learning Objectives

- identify common logical fallacies in arguments
- explain why certain support could be a fallacy
- read arguments critically by playing devil's advocate

“Men become civilized, not in proportion to their willingness to believe, but in their readiness to doubt.”

~ H. L. Mencken

Why Learn Fallacies?

To evaluate arguments effectively and to write your own successful arguments, you need to be aware of some of the common problems or “logical fallacies” that can occur when we argue. These problems are so common that, like grammatical errors, they have names.

Knowing the definitions for certain fallacies is the first step toward identifying and avoiding these problems, but that’s the easy part. To determine whether an argument—your own or someone else’s—is committing a fallacy, you need to read inferentially to identify claims, support, assumptions, and counterarguments, and you need to consider why a skeptical reader might question the support and/or the assumptions the support is based on. Logical fallacies are difficult to detect because they seem like good support: logical, emotional, ethical

appeals, and rebuttals to counterarguments. When we write our own arguments and when we agree with a point someone is making, we might not notice any problems. We're already convinced, so we don't question the support to the extent we should.

Another complication is that fallacies are often implied. When teaching students to understand fallacies, professors present examples, but the examples are usually extreme. In published arguments made by educated people, a fallacy is likely not obvious or blatant. Moreover, one person's logical fallacy might be another person's good support—until you can show that the support is fallacious. Merely labeling something a fallacy, therefore, is never a good idea. In fact, you might commit the “fallacy fallacy” if you accuse a person of committing a fallacy but don't explain *why* it's a fallacy or if you assume the accusation alone weakens the rest of the argument. If you label something a fallacy, you have to explain why the argument is fallacious, in a way that convinces others to see the problem.

Professors often advise students to “play devil's advocate” with their own or other people's arguments. When you play devil's advocate, you imagine how someone with an opposing viewpoint would react to specific evidence or appeals in an argument. That's not easy! Most of us can't imagine why anyone would hold a point of view that differs so radically from our own viewpoints, which is one reason we conduct research—to get a more well-rounded perspective on an issue. Conducting research is not just a matter of gathering evidence; it's also a means of educating ourselves so that we can formulate our own informed perspective on an issue. Another way we can learn to play devil's advocate is by listening to other viewpoints. That's why many professors engage students in discussions during class—so that students can hear various viewpoints. Learning to engage and to understand different viewpoints is a means of avoiding and detecting logical fallacies.

To a great extent, learning fallacies can also help us form a well-reasoned perspective; fallacies give us a lens through which we can view all arguments, including our own, critically. If you present an authority as evidence, for example, you can ask yourself whether you're committing the faulty authority fallacy. Will readers agree that the person you're referencing really is an authority? Do you need to provide more evidence to convince readers to accept the person as an authority? Similarly, when you present cause-effect arguments, you'll consider whether you have a slippery slope or post hoc fallacy. Knowing the terms for common fallacies will make you a more astute thinker as well as a better writer.

The list below is a starting point to learning fallacies. Memorizing the definitions is a good starting point, but if you can't or simply don't want to memorize them, you should make sure you refer to the list often and begin looking for the fallacies in the arguments you read or hear.

An Alphabetical List of Fallacies

Ad Hominem is attacking someone's character rather than attempting to dismiss, accommodate, or refute the person's argument. The phrase “ad hominem” means “to the man (or person),” so any time someone criticizes a person rather than the person's argument, they might be committing the ad hominem fallacy. Like the

straw man fallacy (below), this one deals with counterarguments, but unlike the straw man, ad hominem uses name-calling to discredit an opposing view. Saying that “only fools” believe something or calling anyone who disagrees “unAmerican” are examples of ad hominem attacks. Often, the attacks will be subtle and suggestive rather than blatant name-calling, so you’ll have to read inferentially to identify ad hominem attacks in the arguments you read and in your own arguments.

Bandwagon is arguing that, because many people believe something, it must be true or valid. Popular opinion does win elections, and other decisions about important issues are determined based on what a majority of people believe or think, but not everything can be decided based on majority opinion. You don’t want to argue that coffee is good for us because many people drink coffee; instead, you’d turn to studies by medical experts to determine whether drinking coffee is good for you. If your parents ever warned you or if you’ve ever warned your children that you shouldn’t do something simply because “everyone else is,” the message is not to commit the bandwagon fallacy. Parents want their children to make decisions based on better evidence, not on what others are doing. When someone presents popular opinion as evidence, therefore, ask whether doing so is a band wagon fallacy.

Begging the Question is failing to offer support for a sub-claim. When a statement is presented as if it’s an established fact or an accepted truth when it’s not, readers are going to question it; thus, such a statement “begs the question,” and the question is “where’s the proof?” Sometimes, a statement could beg the question because the statement is an unshared assumption. As you’ve learned, assumptions can work as good support if the audience agrees with the assumptions, but when the argument presents an assumption that not everyone agrees with, the assumption becomes a claim in need of support.

If you argue someone is “begging the question,” you’d need to explain which specific statement needs support and why the audience wouldn’t simply accept that statement. Don’t simply state that the argument lacks support for certain statements or that the author doesn’t provide evidence. You need to think of the specific evidence or support the argument needs. In your own writing, you need to be aware of and offer support for any claim that readers won’t readily accept.

Card-stacking is cherry picking only those evidence that supports a claim or a generalization. Card-stacking ignores legitimate evidence that brings the claim into question. If you purchase a book, you’re likely to see reviews of the book, called “blurbs” in the publishing business, on the cover. None of the blurbs will be negative, even if several scathing reviews exist. The goal of the blurbs is to get you to read the book, so the publishers cherry-pick positive statements to include. That’s fine for a book jacket, but when someone presents examples as evidence of a claim and fails to acknowledge legitimate counterexamples, a discerning reader will be hesitant to accept the claim. When reading arguments and in your own arguments, always try to identify examples that call the claim or generalization into question.

Circular Reasoning is supporting the claim by restating it in different words, as if those words constituted support. For example, “Lowering the voting age to 16 won’t be good for America because it will create problems for our country” is circular reasoning: creating problems for our country and not being good for America are the same thing. Published arguments most likely do NOT simply repeat a claim using different

words; however circular reasoning is common when we begin trying to develop our own arguments. Since we don't often know *why* we believe what we believe, we tend to repeat the belief, using different words and phrases, instead of developing support for the belief. Or we don't recognize that a statement needs support; we may think it's a shared assumption or established fact, but our readers may not. Once again, making a good argument requires recognizing when a statement is a claim so that you can offer specific support—fact, statistics, examples, analogies and comparisons, expert testimony, and other data. It's difficult to recognize the need to back up what we say. We believe what we believe so strongly that we can't imagine someone questioning our statements. To write well, though, you must look critically at your ideas as well as at how you're expressing those ideas.

Double-Standard or Special Pleading is applying two different sets of criteria or different standards to two similar situations or items to make one seem better. The double-standard occurs when someone attempts to “make excuses” for judging two situations or items differently. Sometimes, judging similar situations or items differently is warranted. At the end of a semester, for example, professors are likely to judge someone who bombs their final exam differently than they judged that same student at the beginning of the semester—and they'll grade them accordingly. Applying one standard or one set of criteria at the beginning of the semester and another at the end makes sense; it's not a double-standard.

In other instances, though, using different standards or criteria to judge similar things is clearly unfair. If a professor decided to use one set of criteria to grade the females in class and another for the males, that would be a double standard because the professor would have no valid reasons for the different standards. Similarly, if you beg a professor to excuse you from submitting an assignment that every other students had to submit, you could be asking the professor to apply a double-standard. When evaluating, criteria need to be applied consistently.

Either/Or (False Dilemma) is suggesting that only two possibilities or options exist. Either/or phrases or statements with the word “only” should be examined to make sure the statements aren't oversimplifying or discounting other possibilities. For example, a popular bumper sticker in the 1960s stated, “America: Love it or Leave it.” The message was aimed at those who opposed the Vietnam War, and the sentiment expressed a fallacy because these two options limit the scope of how we can view our country. We might not completely love America all of the time, but that doesn't mean our only alternative is to leave. We can also work to make it better. When you or someone argues that only two options exist, ask whether alternatives are possible. If they are, the argument is presenting a false dilemma.

Equivocation or Ambiguity is altering a word's meaning (equivocation) or keeping the meaning vague (ambiguity) so that the audience is more likely to accept the argument. For example, a politician might claim to support family values, but the phrase “family values” is extremely ambiguous. Who *doesn't* support the general concept of family values? The problem is, the politician's definition may be very different from yours. By keeping the definition vague, the politician creates an unfair emotional appeal. Look for this fallacy whenever someone offers a definition or uses vague language, and keep the fallacy in mind when you use terms that can be interpreted in different ways.

Faulty Authority is basing a conclusion on an expert whose credentials are questionable. When politicians ask celebrities to endorse them, for example, they may be committing the faulty authority fallacy. If the celebrity happens to have specific experiences or qualifications that make him or her knowledgeable about some issue, the audience might consider the celebrity a decent authority, but usually, celebrities are more famous than they are experts on who should be elected to office. We shouldn't confuse someone's fame with his or her authority on an issue.

When an argument references an expert, an organization, or a study, you need to consider the credentials of the expert, the biases of the organization, and the qualifications of who conducted the study. Newspapers, magazines, and TED Talks, unlike scholarly journals, do not use formal citations when they reference an expert or previous research or a study. Instead, they may mention a study and tell who conducted it, or they may include an expert's credentials when they introduce the expert. If you suspect the faulty authority fallacy, you may need to find out more about the authority so you can explain why readers might question the authority's credentials. Keep in mind, too, that someone can be an authority in one area but not in others.

In your own arguments, you will need to make sure you're referencing good authoritative sources to support your claims. Often, a student's argument is weakened simply because the student doesn't include an expert's credentials when citing a source or—even worse—doesn't cite the source. Failing to cite a source is plagiarism, which results in a failing grade, but failing to cite a source also weakens an argument. That's because citing sources is not only a means of giving credit where credit is due, it's also a way to establish ethos. You cite sources so that your readers can see that you have consulted the best experts in the field to arrive at your conclusion. You present what the experts say *and* you establish that they are truly good authorities to consult. Citing the sources shows you are honest, ethical, and well informed.

Guilt by Association is attacking a person's ideas or arguments because the person is or has been involved with a group or organization that others find objectionable. If a teacher or parent ever judged you a certain way because of your friends, you may have been the victim of guilt by association, and you probably resented being grouped with people who are like you in some ways but not like you in other, significant ways. Sometimes, of course, being part of an association can indicate a belief or tendency. Few people under the age of 50 are members of the American Association of Retired People (AARP), so it's fair to assume a card-carrying member of the AARP is at least 50 years old. But you can't assume that any position the AARP takes on an issue is the same position every member holds. While we often judge people by looking at their friends and family or considering their affiliations, it's a fallacy to use association as evidence that someone holds a specific belief or would behave in a certain way.

Hasty Generalization is unfairly assuming that a few examples represent a general tendency. We come to conclusions all of the time by noting specific examples. This is known as **inductive reasoning**. We reason inductively when we add up specific examples and generalize. Some inductive reasoning is valid because the examples offered in support of the generalization are relevant, sufficient, and representative. For example, if you have seen and loved all of the movies in the Marvel Cinematic Universe, when a new one comes out, you probably conclude—even before seeing it—that you're going to like it. You may end up not liking it, but your

inductive reasoning makes sense: you have enough examples (32 and counting!) to conclude that you're likely going to enjoy this latest one as well. The generalization is not hasty.

If a generalization is based on too few examples, though, it is questionable. Similarly, if the examples seem to be flukes—in other words, not representative of the group and/or unusual events—then the generalization is questionable. Finally, if an argument is based on cherry-picked examples and other, relevant examples are ignored, the generalization is faulty. When too few examples are used, we say the writer is making a hasty generalization. When the writer doesn't choose a range of examples or representative examples, we say he or she is guilty of card stacking or the Texas sharp-shooter fallacy.

Stereotypes are examples of hasty generalizations. Humans are hardwired to stereotype, but we have to think critically when we make, read, or hear a generalization. "Sixteen-year-olds are too immature to vote" is a hasty generalization because sixteen-year-olds mature at different rates, and maturity is based on many factors other than age. A qualifier, such as "many," might make the statement less of a hasty generalization, but even a statement such as "many sixteen-year-olds are too immature to vote" would likely need support; otherwise, it would be an unsupported claim or a begging the question fallacy.

When you encounter or make a generalization as part of a larger argument, you need to ask questions. How many examples would be enough examples to convince readers? Why wouldn't readers expect more examples? Are the examples representative (i.e., not fluky, one-off examples)? If you think an argument makes a hasty generalization, you need to justify your position by presenting other examples—ones from your own experiences or observations or from research—that make the generalization questionable. If, on the other hand, you think someone has presented enough representative examples, you could point out additional examples and/or explain why readers are likely to see that the examples are sufficient. Examples are crucial to any argument, but they need to be sufficient and representative.

Non Sequitur is Latin for "does not follow," and that's exactly what it means: the premises do not add up to the conclusion. If you've ever heard a toddler trying to make a joke, you've heard a non-sequitur. Before they understand the logic of jokes, three- and four-year-olds can mimic the structure of a joke but the content won't make any sense; the punch line is typically a non-sequitur.

Sometimes, non-sequitur seems to explain all fallacies because all fallacies weaken the argument and therefore seem to be out of place or not relevant. A non-sequitur, though, suggests a problem with **deductive reasoning**. When we reason deductively, we take two or more statements or "premises" into account and reach a conclusion. The classic example is "People are mortal. I'm a person; therefore, I'm mortal." The two statements, "people are mortal" and "I'm a person" are both sound premises (they're true) and they lead inevitably to the conclusion, "I'm mortal." That's an example of good deductive reasoning.

Other premises taken together, though, don't lead to the conclusion. For example, "Dogs make people happy. Pete doesn't own a dog. Pete is unhappy." This would be a non-sequitur because the two premises don't add up to the conclusion. If the first premise changed to *only* dogs made people happy—nothing else—then the conclusion would follow, but no one would accept the first premise as true or valid. If you think you or an argument you're reading has committed the non-sequitur fallacy, you have to identify the premises in the

argument, some of which might be unstated. You're not likely to find a lot of non-sequitur fallacies in what you read, but you'll want to make sure your logic is sound when making your own arguments, so consider whether your statements "add up" to the conclusion you present.

Post Hoc, Ergo Proctor Hoc (Doubtful Cause) is identifying a circumstance or event as a cause merely because it occurs before the effect. This Latin phrase means "After that, therefore because of that," and it explains why we believe superstitions, such as crossing our fingers for good luck: we tend to confuse correlation with causation. Correlation means two things are somehow related, chronologically or in other ways, but the relationship might not be a cause-effect relationship. You may have heard the rhyme, "Find a penny/pick it up/and all the day/you'll have good luck." If you found a penny and ended up having good luck all day, you might believe the penny caused the good luck. But other than chronology (first you found then penny, then you had good luck) is there evidence for a causal relationship? Couldn't other factors be at play that would better explain your good luck? If penny-finding really created good luck, everyone would experience good luck every time they found a penny.

Some cause-effect relationships are well established and are not fallacies. For example, failing to submit your final paper in a college class will almost always result in a bad final grade in the class. No one needs evidence to be convinced of this cause-effect relationship. Similarly, doctors prescribed the pain medication Oxycontin for many years before overwhelming evidence demonstrated that Oxycontin is highly addictive. Saying that Oxycontin is dangerous, therefore, is not post hoc reasoning; it's an established cause-effect relationship.

Between well-established cause-effect statements and superstitions are many cause-effect relationships that can be debated: Why do so many people still smoke, despite the evidence? What causes depression? Why is enrollment down? What factors contributed most to the 2008 recession? When you see a cause-effect relationship, therefore, consider whether evidence other than chronology is needed to establish a strong causal relationship. In your own arguments, make sure you don't confuse correlation with causation.

Questionable Analogy or Comparison is comparing two items whose differences outweigh their similarities or whose differences are significant enough to weaken the comparison. Whenever you see the words "is like," you know you have an analogy or comparison, and all comparisons are suspect because no two things are exactly alike. An analogy compares something unfamiliar to something familiar, and the comparison is meant to be instructive. Not all comparisons, though, are analogies. Sometimes, an argument will present a comparison of two similar events or items as support. In addition, some analogies or comparisons are not meant to be taken literally. A figure of speech such as a metaphor or simile can be presented for stylistic reasons or to help us appreciate how two things are alike in some imaginative way, even though they are very different. Even though they aren't all analogies, all comparisons, even figures of speech, can be questioned if they seem too extreme.

A comparison is too extreme if the differences seem really significant and/or if more differences than similarities are apparent. When analyzing a comparison in someone's argument, you have to explain why readers would see the comparison as problematic or why the comparison works. In your own arguments, you need to consider how your readers will react to a comparison.

Red Herring is a means of detracting from the issue by introducing another unrelated or only partially related issue. A red herring is a type of fish that gives off a strong odor, strong enough to distract a dog who is on the trail of another animal. Someone who wants to keep a dog from hunting whatever he is hunting could drag a red herring across the dog's path, and he'll follow the red herring's scent instead of the scent of whichever animal he was hunting. A red herring fallacy is a metaphor for this real-life situation. Whenever someone brings up unrelated information with the intent of distracting the audience, that person has committed the red herring fallacy.

Often, the distracting information is something that will cause an emotional reaction. Maybe at some point, you tried convincing a teacher to take an assignment late by telling the teacher something unfortunate that happened to you and that caused you to turn the assignment in late. Your teacher might have responded with "I'm sorry, but that's not relevant." The teacher doesn't see the emotional event as evidence that you couldn't get the assignment in on time and therefore might think your excuse is simply a red herring.

When reading arguments, ask whether someone's evidence does more than simply create an emotional reaction. Does the evidence clearly relate to the claim? Does it introduce another topic that's only partially related? Is it possible that one could have an emotional reaction but still not buy the evidence? If so, it could be a red herring fallacy. Also, DO NOT just say an argument creates an emotional appeal or is an example of pathos. Be specific: what emotion does the argument create? How? Which words contribute to the emotional effect? What values does the readers have that cause them to respond emotionally? Then evaluate: Are the emotional appeals relevant to the issue? Why or why not?

Slippery Slope is predicting that an action or movement in a certain direction will inevitably lead only to negative consequences. A slippery slope is similar to the post hoc fallacy, but slippery slope unfairly predicts *effects* whereas post hoc deals with *causes*. If someone makes an extreme prediction, they might be guilty of a slippery slope. For example, if you tried arguing that not submitting a final paper in a college class will result in a life of failure and misery, you would be committing a slippery slope fallacy. Yes, late work can hurt your grade in a class, but it's not likely to lead to a life of misery! When people predict dire consequences or overly optimistic results ("lose 10 pounds in one week"), ask whether they are making a slippery slope argument. Is there any reason to believe that the predictions will come true? In your own arguments, be careful about predictions. Use qualifiers and provide evidence to show your readers your predictions are sound.

Straw Man is attacking a position that is similar to but significantly different from the opposing viewpoint. A straw man presents a skewed version of an argument, as if someone really believed that argument when, in fact, no one does. The term "straw man" is a metaphor: just as it's much easier to knock down a straw man than it is to knock down a real person, it's easier to knock down a weak counterargument than it is to address legitimate counterarguments.

A straw man argument often occurs when the counterargument is stated in an overly emotional way. Any time someone making an argument presents a counterargument that would frighten or upset the audience, you should question whether the counterargument is legitimate. In some cases, the straw man fallacy results from a genuine misunderstanding of what people with different opinions think. Instead of trying to understand

the complicated reasons for different views, it's much easier to believe they're simplistic and wrong-headed. Sometimes, though, straw man fallacies are intentional deceptions. An advertisement for a political candidate, for example, may intentionally exaggerate or misrepresent the opposing candidate's views in hopes of getting people's vote.

Another problem that sometimes occurs with counterarguments is that the author fails to provide a legitimate counterargument. Failing to present a counterargument isn't a straw man fallacy, but obviously, that's a problem. If you think the author fails to present a counterargument, you need to explain

- the specific counterargument(s) that's missing
- who might make that argument
- why it should have been addressed

When counterarguments address a question or concern that the audience might have and present legitimate evidence that refutes the counterargument, without name calling, we say the argument effectively addresses counterarguments. Sometimes, an argument accommodates (concedes) a counterargument but shows why it's not as important as other evidence in support of the claim. This approach, too, is an effective means of addressing a counterargument. In your own essays, you'll need to be aware of and truly understand your audience's legitimate questions and concerns about the support you're offering, and that requires extensive research and more "playing devil's advocate."

Taking Something Out of Context is quoting or paraphrasing a source in a way that distorts or unfairly characterizes the author's intent. This fallacy is more likely to occur in one of your essays than in the arguments you'll study for classes, and it's usually the result of not reading carefully. Say you're reading an article about the death penalty, and the author states, "Some may argue that the death penalty is an important deterrent to crime, but study after study shows that this is not the case." You want to argue that the death penalty can deter crime, and you know that the article's author is an expert, so you write, *According to one expert, "the death penalty is an important deterrent to crime" (23).* You have taken the quote out of context by removing crucial words that change the meaning of what the author said. Changing the author's meaning is a type of fallacy.

Sometimes, an argument may take something out of context by not providing enough details about and/or by over-emphasizing information from a source. When an author references another source or study, therefore, it's always a good idea to find out as much as you can about that source and to determine whether the author's interpretation of the source or study is widely shared.

- Fallacies aren't easy to recognize, especially when we agree with an argument
- Merely calling something a fallacy does not undermine an argument; you always need to explain why something is a fallacy
- Understanding fallacies can help strengthen your own arguments