Yuba College Writing & Language Development Center

Logical Fallacies

Definition: Logical fallacies are errors within an argument. They often use faulty reasoning to reach an incorrect conclusion.

Ad Hominem

This fallacy defines the act of attacking another person's ethos rather than his or her argument. This undermines the other person's character by appealing to prejudices which, in turn, delegitimizes the argument they are presenting.

> **Example:** "How can you argue your case for vegetarianism when you are enjoying that steak?"
>
> **Explanation:** In this example, the person arguing for vegetarianism is being personally targeted; Rather than having to defend their argument, they are forced to defend themselves.

Appeal To Emotion

The "appeal to emotion" fallacy manipulates an audience's emotions to make them feel pity or fear. Because the focus is on arousing emotion, these appeals tend to make sweeping, general assertions and offer little factual evidence, so their underlying claims cannot be easily verified. At the same time, just because an appeal is primarily emotional does not necessarily mean it is bad. For instance, animal rescue groups use vivid images of suffering animals to appeal to pity and elicit compassionate action. This type of appeal is fallacious only when the audience's emotions take the place of their ability to reason, leading to unsound beliefs or actions.

> **Example:** A Red Cross commercial that shows the aftermath of a hurricane just before asking viewers to donate money.
>
> **Explanation:** In this example, the Red Cross attempts to pull on the heartstrings of all the viewers so that they will feel obligated to donate.

Appeal To Authority

"Appeal to authority" fallacies argue that something is true based on evidence provided by someone who is not considered to be an authority figure on the subject.

> **Example:** A cereal company released a commercial claiming that their product is the best way to start the day because athlete Michael Jordan says that it is what he eats every day for breakfast.
>
> **Explanation:** The athlete, Michael Jordan, is no expert on breakfast meals, therefore he is not a reliable source of information. Furthermore, his decision to consume that specific cereal brand doesn't offer any evidence supporting that's the best way to start the day.

Appeal To Ignorance

This fallacy occurs when a person makes an argument based on a lack of knowledge. A person may claim that something is true just because there is no apparent evidence to prove them wrong.

> **Example:** "You can't prove that there aren't Martians living in caves under the surface of Mars, so it is reasonable for me to believe there are."
>
> **Explanation:** This person claims with no supporting evidence. They are convinced that it must be true though because no one has the knowledge to prove them wrong. This is a fallacy because an argument should be based on known knowledge rather than a lack of knowledge.

Bandwagon

A bandwagon fallacy appeals to a common belief among a group of people. This fallacy may try to convince someone to do something for the reason that "everyone else is doing it."

> **Example:** "Everyone is going to buy the new iPhone when it is released, you should too."
>
> **Explanation:** This example tries to convince someone to buy a new iPhone by appealing to their desire to fit in with everyone else.

Circular Argument

This is a fallacy in which the debater states their conclusion and circles back to the beginning of their argument without having proven anything. The arguer states that "A is true because B is true and B is true because A is true."

> **Example:** "Sleeping poorly is bad for you because it is good to sleep well."
>
> **Explanation:** In this example, the argument backs up their initial claim with another claim that doesn't offer any new or sufficient evidence.

Composition

The composition fallacy claims that when something is true of a part it is true for the whole.

> **Example:** "Each brick in that building weighs less than a pound. Therefore, the building weighs less than a pound."
>
> **Explanation:** This argument makes an inference based on an oversimplified understanding of the relationship between a part and a whole. This specific example results in an illogical conclusion because it does not take into account that weight is cumulative.

Division

Opposite to the composition fallacy, this fallacy claims that when something is true of a whole it is true for each part of the whole.

> **Example:** The company Apple is wealthy and successful, therefore, everyone that works for Apple is wealthy and successful.
>
> **Explanation:** This example inaccurately makes an assumption based on a flawed understanding of the relationship between a whole and its parts, similar to the previous fallacy.

Equivocation

This fallacy plays on the definition of words and their double meanings. Listeners may not know which meaning an argument is using because it isn't made clear.

> **Example:** "Taxes are a true headache. Pain killers will make a headache go away. Therefore, pain killers will make taxes go away."
>
> **Explanation:** This example of equivocation plays on the meaning of the word "headache." The first sentence refers to headache as a figure of speech to mean tiresome or annoying. The second and third sentences use headache in its literal meaning: a physical symptom curable by medication. This confusion leads to an illogical conclusion. Pain killers *cannot* make taxes go away.

False Dilemma

"False dilemma," otherwise referred to as "either-or," defines a fallacy in which an argument forces audiences to choose between only two sides. This fallacy often uses the phrase "either" and "or."

> **Example:** "You are either with me or against me."
>
> **Explanation:** This famous sang is an example of "false dilemma" because it presents only two options. It states that a person can be either with them or they can be against them. This is an oversimplification of the options a person may have, however, this fallacy attempts to convince the audience that no other options exist.

Hasty Generalization

This fallacy occurs when someone makes a presumptuous claim concerning a larger group based on just a small amount of evidence.

> **Example:** "A redhead ignored me the other day when I said 'Hi'. All redheads must be rude people."
>
> **Explanation:** In this example, the speaker makes a generalized assumption concerning all redheads based on this one experience.

Post Hoc

"Post hoc" is a logical fallacy referring to the illogical conclusion that a second event is the result of a first event happening earlier. The only evidence is the correlation that it had happened earlier.

> **Example:** "The rooster crows immediately before sunrise; therefore the rooster causes the sun to rise."
>
> **Explanation:** This is a common example used to show "post hoc." Correlation does not equal causation; this statement is completely illogical and offers no real supporting evidence.

Red Herring

The “red herring” fallacy attempts to redirect an argument from discussing the real issue by responding with only mildly relevant information. This is also referred to as a “fallacy of misdirection.”

> **Example:** Macy yelled, “I can’t believe you took my money!” Chloe replied, “Sure I borrowed your money without your permission, but look at this really cute outfit I bought. Don’t you love fashion?”
>
> **Explanation:** This example shows a person confronting their friend Chloe who had stolen their money. Instead of apologizing or acknowledging their complaints, Chloe decides to respond with a “red herring” fallacy. In other words, they avoided the topic and redirected the conversation to fashion (something completely irrelevant).

Slippery Slope

“Slippery slope” refers to a series of events a person uses to “logically” lead up to one big dramatic event, almost like a chain reaction. However, the progression is often not supported by a reasonable amount of evidence.

> **Example:** “Today late for ten minutes, tomorrow late for an hour, and then someday you will simply cease to show up.”
>
> **Explanation:** This example over-blows just a small mistake by assuming it will lead to a huge chain reaction.

Straw Man

The “straw man” fallacy is when someone falsely restates another person’s argument. They often misconstrue or exaggerate points in order to weaken it.

> **Example:** Mom: “Too much screen time is bad for your eyesight.” Son: “You are saying that I should spend less time with my friends!”
>
> **Explanation:** This is an example of a “straw man” argument because the son misrepresents and exaggerates his mother’s statement. He jumps to a far conclusion about his relationship with his friends even when his mother never spoke about them.

Sunk Costs

“Sunk costs” refers to specific reasoning one might use to justify doing something. This argument believes that if you invest so much time or effort into a pursuit, you might as well follow through, even if it is no longer beneficial.

> **Example:** A person dieting eats something small that’s unhealthy, then, proceeds to eat poorly the rest of the day since they’ve already broken their diet.
>
> **Explanation:** This is an example of sunk costs because the dieting person stuck with a poor decision, not to their benefit, but, for the sole purpose they had already taken a small step.

Tu Quoque

This fallacy is a type of “ad hominem” argument that specifically works with hypocritical arguments. These are errors in rhetoric because the debater's own hypocrisy weakens the validity of their argument.

Example: Mom: “Stop smoking. It will ruin your lungs!” Son: “Why should I? You smoke too.”

Explanation: This is an example of “tu quoque” because the mother tries to convince her son to stop smoking when she hasn’t stopped herself. As evident in the son’s response, the mother’s hypocrisy makes her argument less receptive.