

## Arguments and Fallacies

*Operational definition.* A group of rhetorical devices which aims to convince the listener of the reasons presented in favor or against the thesis to defend.

The thesis is a complete idea that declares the point to be defended. A good thesis will be expressed in a complete sentence.

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|--|---------------------------|
| <input checked="" type="checkbox"/> The use of sugary drinks   | It's a topic.             |
| <input checked="" type="checkbox"/> Is the use of sugary drinks bad for your health?                         | It's a research question. |
| <input checked="" type="checkbox"/> To explain the way in which the use of sugary drinks damages your health | It's an objective.        |
| <input checked="" type="checkbox"/> The use of sugary drinks damages your health.                            | It's a thesis.            |

### Structure elements

An argument is composed of a thesis, facts, and conclusions. As mentioned before, a thesis is a complete statement and, thus, defensible. A topic, a question, or an objective cannot be defended because their function is not stative. The thesis is defended with facts that work as evidence. To be considered facts, they need to be well contextualized.

THESIS	Sugary drink intake damages your health.
EVIDENCE	According to Cabezas-Zabala, Hernández-Torres and Vargas-Zárate (2016), one in every 100 deaths in the world happens due to sugary drink intake.
CONCLUSION	We must avoid sugary drink intake.

There are many kinds of facts. The table below shows a few of these:

<b>TYPE</b>	<b>ARGUMENT</b>
AUTHORITY	According to Cabezas-Zabala, Hernández-Torres, and Vargas-Zárate (2016), scientific evidence proves that excessive sugary drink intake is associated with obesity, diabetes, hypertension, and death.
EXAMPLE	Sugary drinks include sodas, juices, and energy drinks containing sugar.
FACT	The minimal quantity of glucose the adult brain needs is between 110g/d and 140g/d (4).

DEFINITION	Polysaccharides are made up of more than 10 monosaccharides joined together by glycosidic links.
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*Enthymemes.* Inferences or information that we extract from two facts but that we do not state. In scientific writing, it is important to state inferences or to write the enthymemes that we extract so our conclusion can be stronger.

*Fallacy.* It comes from the Latin verb *fallere*, which means to lie or fail. Fallacies resemble valid arguments, but they are not, either because they do not support the conclusion or because one of the elements is missing.

<b>TYPE</b>	<b>FALLACY</b>	<b>MISTAKE</b>
AD HOMINEM	You cannot believe Juan: He's a <i>Rayado</i> .	Juan's passion for <i>Rayados</i> is not an argument against the truth of what he speaks. It's attacking Juan and not his arguments.
HASTY GENERALIZATION	When it rains the earth gets wet. The earth under the roses is wet, so it rained.	The argument is not considering that someone watered the roses and that's why the earth is damp there. The argument does not support the conclusion.
STRAW MAN	The teacher says plagiarism is bad, so she's assuming I do not do my own assignments and she's wrong.	The thesis cannot be denied nor approved with the information presented: plagiarizing is different from not doing an assignment.
CIRCULAR REASONING	Stealing is a crime because it's evil.	The word 'crime' implies the act is evil. The conclusion and the argument cannot hold the same meaning: stealing is evil because it is evil.
APPEAL TO AUTHORITY	Nine out of every ten dentists prefer our toothpaste.	The argument assumes that we must consider dentists as an authority when speaking about toothpaste and does not consider the possibility that the dentists prefer the flavor and not the benefits it has.
FALSE DILEMMA	It's not fair! The police should fine everyone who parks in the handicapped space or no one at all.	The argument assumes that there are only two results for a situation and does not consider that there might be people with special permissions or tags to park there.

## Summary

- Arguments should always have an objective: to convince the listener.
- Arguments have three parts: a thesis, facts, and conclusions.
- The thesis is a statement and can be defended.
- There are different kinds of facts and they should support the thesis and the conclusion.
- The inferences that arise from facts are called enthymemes, and they support the conclusion.
- Remember to always state your enthymemes in a formal text.
- The conclusion can either confirm or reject the thesis.
- Fallacies are incorrect arguments that cannot be considered valid. Avoid them!

## To learn more

Cabezas-Zabala, C., Hernández-Torres, B.C. y M. Vargas-Zárate (2016). Azúcares adicionados a los alimentos: efectos en la salud y regulación mundial: Revisión de la literatura. *Revista de la Facultad de Medicina*, 64(2), 319-329. DOI: 10.15446/revfacmed.v64n2.52143

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