

# **Ecological fallacy**

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An error in explanation in which empirical data about associations found among large-scale units of analysis are greatly overgeneralized and treated as evidence for statements about relationships among much smaller units.

- The ecological fallacy arises from a mismatch of units of analysis.
- It refers to a poor fit between the units for which we have empirical evidence and the units for which we want to make general statements.

- Ultimately, it comes down to imprecise reasoning and generalizing well beyond what the evidence warrants.
- Ecological fallacy occurs when we gather data at a *higher* or an *aggregated* unit of analysis but want to say something about a *lower* or *disaggregated* unit.
- It is a fallacy because what happens in one unit of analysis does not always hold for a different unit of analysis.

Thus, when we gather data for large aggregates (e.g., organizations, entire countries) and draw conclusions about the behaviour of individuals from those data, we are creating an ecological fallacy.

- To avoid this error, we must ensure that the unit of analysis we use in an explanation is the same as or very close to the unit on which we collect data.

