

Problems with Samples

Problem	Description	Example
Representation of entire population	A sample may be chosen in which participants share a common characteristic, not representative of the whole population.	
Self-selection	Responses by only people who choose to respond may be unreliable.	
Sample size	Samples that are too small are not reliably representative of the whole population.	
Undue influence	A question may be asked in a way that influences the participant.	
Non-response	An unwilling participant may leave questions blank, or complete the survey without reading the questions.	
Causality	A relationship between two variables does not mean that one causes the other to occur. They could be related through a third variable.	
Self-interest	A study performed by an organization to support its own claim may be biased.	
Misleading use of data	Improperly displayed graphs, incomplete data, or lack of context presents results inaccurately.	
Confounding variable	Sometimes the effects of multiple factors on a response cannot be separated, hence valid conclusions cannot be drawn	