

Bias

Bias is a personal or social view of a situation that can affect how people act or think. It causes people to be subjective and insert their opinions and feelings into a situation, rather than objectively determining what to do. This can cause problems in scientific experiments.

There are a few examples of bias that are commonly seen in science. Scientists can have conflicts of interest due to funding, where they feel responsible to reach conclusions that help those who funded the experiment. They can also allow personal prejudices to affect the conclusions they reach, due to feeling positive or negative about part of the experiment. If scientists are strongly opinionated about the hypothesis, they might look for the data that supports their opinion rather than the truth. Finally, if scientists are surprised by the findings of the experiment, they may alter future experiments to investigate only those findings rather than objectively choosing the subject for experimentation.



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Bias is a personal or social perspective

Scientists with Personal Perspectives around Bias-Bass Experiment

People who are biased often have their own view of a situation based on their thoughts or personal feelings. Bias can also exist because of social pressure or situation.

Bias affects the way people view a situation

Biased scientists view Bass Experiment Differently

Bias can affect the way people view situations by causing them to become more subjective rather than objective. Bias can cause people to feel positively or negatively about an experiment, when ideally people should be neutral to have the most objective results.

Examples of Bias

Conflict of interest or funding bias

Man trying to buy experiment

Most scientific experiments cost money, and scientists are often funded from external sources, like businesses or the government. This can create a conflict of interest or funding bias because the scientists may feel that they need to report what others want them to report, rather than what actually occurred. For example, a business polluting the environment may attempt to buy a scientific study to hide their negative impact on the environment.

Personal Prejudices

Snake is prejudiced against mice

Scientists sometimes allow their personal prejudices to affect the experiment. They may allow how they feel to determine what experiments they conduct or the conclusions they reach. For example, a scientist who is prejudiced against environmental conservation groups might hide the results of an environmental experiment because of his or her personal bias.

Strong opinions about the hypothesis

Animal Rights Scientist against Experimentation

Scientists who have strong opinions about the hypothesis can often search for data that only supports their hypothesis. Even if 10% of the data supports the hypothesis, the other 90% may conclude against it. This is another example of how bias can negatively impact an experiment.

Surprised by findings

Scientist surprised to find big mice are cute

If a scientist is surprised by the findings of the experiment, it may influence how they view the experiment and results. For example, a scientist may be surprised to find that a car rolling off a steep hill moves faster than a car rolling off a less steep hill. This surprise and excitement may lead them to alter future experiments around the surprising findings rather than objectively choosing what to study.