

Exam 1 Psychology Review Sheet

Chapter 1

What are the six types of characteristics of scientific/critical thinking?

1. Ruling Out Rival Hypotheses
 - a. How Might We Use It?
 - i. You are reading the newspaper and come across the headline: "Study shows depressed people who receive a new medication improve more than equally depressed people who receive nothing."
 - b. How Do We Use It?
 - i. The results of the study could be due to the fact that people who received the medication expected to improve.
2. Correlation vs. Causation
 - a. How Might We Use It?
 - i. A researcher finds that people eat more ice cream on days when crimes are committed than when they aren't, and concludes that eating ice cream causes crime.
 - b. How Do We Use It?
 - i. Eating ice cream (A) might not cause crime. (B) Both could be due to a third factor, (C) such as higher temperatures.
3. Falsifiability
 - a. How Might We Use It?
 - i. A self-help book claims that all human beings have an invisible energy fields surrounding them that influences their moods and well-being.
 - b. How Do We Use It?
 - i. We can't design a study to disprove this claim.
4. Replicability
 - a. How Might We Use It?
 - i. A magazine article highlights a study that shows people who practice meditation score 50 points higher on an intelligence test than those who don't.
 - b. How Do We Use It?
 - i. We should be skeptical if no other scientific studies have reported the same findings.
5. Extraordinary Claims
 - a. How Might We Use It?
 - i. You come across a website that claims that monster, like Bigfoot, has been living in the American Northwest for decades without being discovered by researchers.
 - b. How Do We Use It?
 - i. This extraordinary claim requires more rigorous evidence than a less remarkable claim, such as the assertion that people remember more words from the beginning than from the end of a list.
6. Occam's Razor
 - a. How Might We Use It?

- i. Your friend, who has poor vision claims that he spotted a UFO while attending a Frisbee tournament.
- b. How Do We Use It?
 - i. Is it more likely that your friend's report is due to a simpler explanation—his mistaking a Frisbee for a UFO—than to alien visitation?

What is the difference between Pop psychology and scientific psychology?

Popular Psychology-

- (Pop is short for popular Psychology) It is used to describe various types of mental strategies that may or may not be scientifically proven, but are purportedly designed to improve one's psychological well-being and promote a healthier life. It includes a wide and ever changing set of theoretical practices popularized by the general public acceptance. Popular Psychology is seen on T.V., radio, self-help books, and seminars, and even among licensed counselors routinely ruins marriages.

Scientific Psychology-

- Psychology that uses the principles of science to understand human behavior instead of methods like introspection that used to be used by early psychologists. Science always has evidence to back up their hypotheses.

Chapter 2

1. Naturalistic Observation-

- You go out among people or animals, and record and describe behaviors you are interested in
- You observe your subjects in their natural habit and try to interfere as little as possible
- It is usually an early step in the research process because you can only describe recorded behaviors, but it is impossible to be sure what is causing a behavior
- If people or animals notice their being watched, they will often change their behavior in response
- Often used to generate hypothesis you will test more rigorously later.

2. Case Studies-

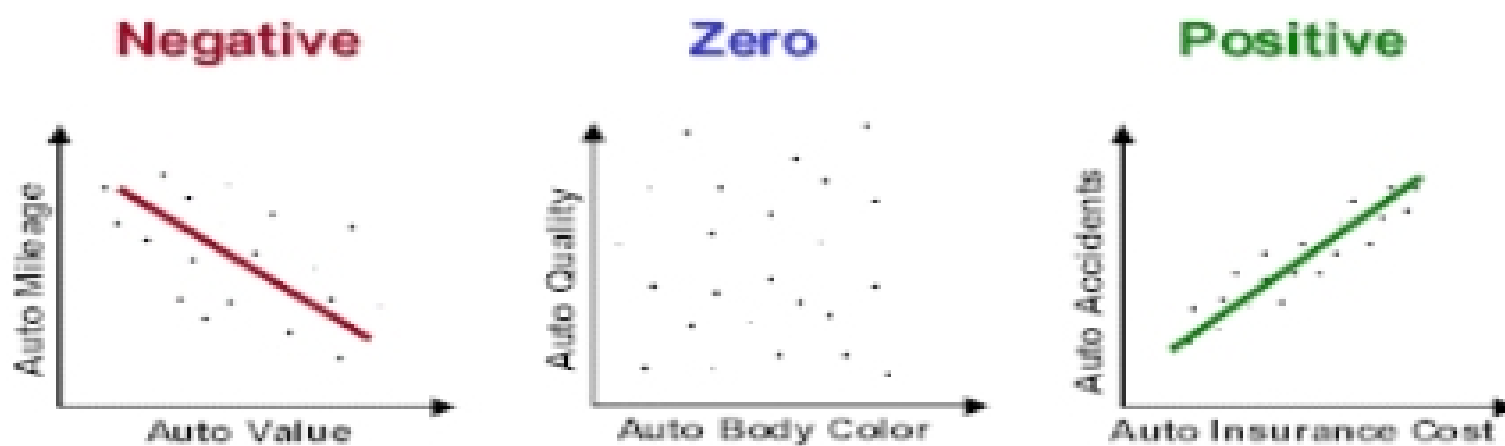
- Used in psychiatry and clinical psychology
- Some disorders and brain injuries are rare. In order to understand them, you have to study patients when you get them.
- Usually case studies can involve at least one of the components below:
 1. The patient preforms a battery of cognitive tests
 2. The patient's symptoms are described in detail
 3. The patient's treatment is described in detail
 4. The patient's progress is tracked overtime
- Since case studies only involve one person, you have to be careful not to overgeneralize findings

3. Correlational Studies-

- A correlation is a relationship between two variables.
- A variable is something that can be measured
- Examples of variables are height, weight, test scores, temperatures, scores on questionnaires, basketball scores, number of libraries in a city, number of dogs you own. Essentially, you can find out if any two things that are measurable are related.

Correlation

Relationship Between Two Quantities Such That When One Changes, the Other Does



What is Correlation coefficient? If I say the correlation between brushing your teeth and number of cavities can be qualified as $r = -.62$, what does that mean?

- A correlation coefficient is a numerical representation of a correlation, it can have a value between -1 and +1
 - The correlation between brushing your teeth and the number of cavities can be qualified as $r = -.62$, this means that the rate between the two will increase if you don't brush your teeth and it will decrease if you brush your teeth because you are less likely to get cavities. So the more you brush your teeth the less likely you will get a cavity and if you do not brush your teeth you are more likely to get a cavity. Rate will increase if you don't brush your teeth and decrease if you do brush your teeth.
 - Two variables can be correlated without one causing the other. For example, the average global temperature has risen over the last 100 years. So has the proportion of college graduates who are female. So women going to college causes global warming! Actually, it's a coincidence.
 - Correlation is necessary to determine if two variables have a causal relationship. But it's not sufficient.
4. Experimental Designs-
- You do an experiment if you think one variable causes another. It is easier to give an example of an experiment than it is to describe what an experiment is in the abstract. So, imagine researchers find that the number of pushups people do every day correlates with how much weight they can lift. They think pushups may cause strength increases. How can they test this idea?

Experiments: Terms