

PSY 470

Psychology Capstone

Unit 2

Question #1

Deductive reasoning describes the process of ideas being tested against the empirical world.

An example of deductive reasoning is that All flowers need sun; geraniums are a flower; therefore, geraniums need sun.

The inductive reasoning process turns it in the opposite direction. Inductive reasoning uses empirical observations to devise broad generalizations. The difference between the two is that with inductive reasoning, the conclusion may or may not be correct, regardless of the observations found. An example might be that I have blond hair and am Irish. Therefore, all people with blond hair are Irish. Another example is that my black lab has lots of energy and loves the water; therefore, all black labs have lots of energy and love the water.

Question #2

Animal experiments must be reviewed by an Institutional Animal Care and Use Committee before using an animal in experiments. This committee consists of scientists, veterinarians, and community members. The IACUC is responsible for any experimental proposals using humane treatment of the animals during their research. No animal research project can move forward without the IACUC's approval. In addition, animal labs and facilities are inspected semi-annually to be sure all safety protocols are followed.

Most importantly, researchers must ensure when designing their experiments to minimize any pain or distress to the animals in the research. I agree with the safeguards. If it were up to me, I

wouldn't use any animal, but I know it is essential for research, so I agree with the safeguards. I feel it is vital that even the lab mice are treated compassionately.

#### Question #3

There is a relationship between taking and using recreational drugs, and the two variables increase as they occur together. Maybe it might be because taking multivitamins causes an increase in drug use or that the drug use causes an increase in taking multivitamins. There could be a third variable underlying both effects. Multiple cause-and-effect relationships between the two may be possible, but I don't feel they are correlational.

#### Question #4

A hypothesis is a tentative and testable statement about the relationship between two or more variables. It is a testable prediction of how the world will comply if our idea is correct. A hypothesis is usually worded as an if-then statement. A theory is a well-developed set of ideas that explain an observed phenomenon. Theories are repeatedly checked against the world. The problem with theories is that they can be too complex to be tested simultaneously, so researchers will develop a hypothesis to test specific aspects of the theory. Some famous theories would be the Big Bang theory, the theory of Evolution, and the Quantum theory.

A few examples of a hypothesis are if I drink coffee after dinner, then I'll probably be up all night; if the kids stay up late, they become fussy and then sleep the whole day.

#### Question #6

A population is a whole group the researcher is interested in and wants to make conclusions about and study. The sample is a selection of individuals from the population who will participate in the study. An example is the population is 300,000 undergraduate students in Ireland. Since it is not easy to collect the data from all the students, my sample would be to use 300 undergraduate students from 3 different universities in Ireland who meet the criteria. Another example is getting opinions from the student population of Alliance University about the cafeteria food; I would survey 100 students instead of the whole school, which would be time-consuming and not practical.

#### Question #7

Correlation research is a relationship between two or more variables, but the relationship doesn't need to imply cause and effect.

A positive correlation means that the variables move in the same direction. So, when one variable increases, the other variables do the same when they decrease. The variables follow each other in the same order. In a negative correlation, the variables move in the opposite direction.

When two variables are negatively correlated, a decrease happens in one variable and an increase in another reversely.

Examples of positive correlation are that the more coffee someone drinks, the longer they stay awake during the day. The more exercise you do, the more muscles you will have.

Examples of negative correlation are the more time I spend at work, the less time I spend with my puppy. The more I pay on my credit cards, the less interest I will pay.

#### Question #16

When a person participates in a study, some deception is used for the integrity of the study.

When deception is used, participants must receive a full debriefing when the study is finished.

The debriefing is essential. It is truthful information about the experiment and the reasons for the study. In addition, the debriefing tells how the data was collected and how it will be used.

Most importantly, the individual is given the reasons why the deception was needed and provided any additional information about the study. I think debriefing is essential for the individual and the experimenter. They both have the opportunity to collaborate, gain more insight, and contribute to the study. Another reason a person should be debriefed is solely out of respect for the individual and possibly their mental health concerns. Finally, it gives the individual a choice to participate in other studies. The last reason is that it's the right thing to do.

#### Question #18

The strength of a case study is its intensive in-depth study of the individual. The study details the patient's life over a long period. This is beneficial for the individual's diagnosis and treatment.

Case studies can also be used in both clinical and medical settings. Additional strengths in a case studies procedure are their strong, diverse, complex perspectives and personal individuality. This is important because it provides the therapist with inconsistencies and consistencies in the person's behaviors. This gives the therapist greater insight into how the client's characteristic experiences are organized. The last strength of the case study method is its accidental findings.

These unexpected findings can lead to new hypotheses and research for the improved acceptable theory. The other side of case studies is that they also have their weaknesses. The difficulty with

a case study is that it addresses specific information and detailed patient characteristics. This makes it challenging for data to apply to other people in general. Also, the case study needs to be stronger because it requires more systematic control, which makes causal inferences impossible.

#### The video: Causation vs. Correlation

The danger of publicizing positive correlations as causations deceive people into believing in false news. Knowing that there is a correlation between the two variables is not causation and leads people to believe in erroneous studies. This is dangerous because people go out and purchase products that are not needed or go to their physician's office because they hear on the news that the drink they are consuming daily causes heart disease or cancer. This causes fear in people and a crowded waiting room. It is also irresponsible in reporting.

The ethical limitations in controlled studies are social, legal, and economic risks. There is also a risk that a person's information may be revealed. Therefore, ethical principles in research are essential to follow. These principles protect the individual and keep them from any harm. They include voluntary participation, informed consent, anonymity, confidentiality, and debriefing in communicating the results to the individual.

Using random and matched samples is essential because both groups are compatible. They are on even playing ground. The only difference is that the groups will differ in the treatment or program they are assigned. The reason for not revealing to the people which group they are in is that it increases the study's internal validity. It also helps with the outcomes being based on the independent variable.

## Video: Ethics

I am indifferent about my medical records being a part of a databank that may or may not be safe. I also feel uneasy about how this information will be used. It's tough enough today to get good health insurance. If our information gets out to the HMOs without our knowledge, how do we know it may not be used against us? I would love to be a part of research with a contract being put in place for the protection of our rights in case something goes wrong.

I think studying human behavior is so important. As we evolve so many things change as do we. I believe it is vital we continue to learn about the human condition. I feel it is essential in improving our lives, especially for people with mental illnesses and behavioral problems.