Unit 2 – Definitions

Hindsight Bias

= the tendency to believe, after learning an outcome, that one would have foreseen it.

- Also known as the “I knew it all along” phenomenon.

Critical Thinking

= thinking that does not blindly accept arguments and conclusions. Rather, it examines assumptions, discerns hidden values, evaluates evidence, and assesses conclusions.

Theory

= an explanation using an integrated set of principles that organizes observations and predicts behaviors or events.

Hypothesis

= a testable prediction, often implied by a theory.

Operational Definition

= a statement of the procedures (operations) used to define research variables.

- i.e. Human intelligence may be operationally defined as what an intelligence test measures.

Replication

= repeating the essence of a research study, usually with different participants in different situations, to see whether the basic finding extends to other participants and circumstances.

Case Study

= an observation technique in which one person is studied in depth in the hope of revealing universal principles.

Survey

= a technique for ascertaining the self-reported attitudes or behaviors of a particular group, usually by questioning a representative, random sample of the group.

Population

= all the cases in a group being studied, from which samples may be drawn.

- Note: Except for national studies, this does NOT refer to a country's whole population.

Random Sample

= a sample that fairly represents a population because each member has an equal chance of inclusion.

Naturalistic Observation

= observing and recording behavior in naturally occurring situations without trying to manipulate and control the situation.

Correlation

= a measure of the extent to which two factors vary together, and thus of how well either factor predicts the other.

Correlation Coefficient

= a statistical index of the relationship between two things (from -1 to +1).

Scatterplot

= a graphed cluster of dots, each of which represents the values of two variables. The slope of the points suggests the direction of the relationship between the two variables. The amount of scatter suggests the strength of the correlation (little scatter indicates high correlation).

Illusory Correlation

= the perception of a relationship where none exists.

Experiment

= a research method in which an investigator manipulates one or more factors (independent variables) to observe the effect on some behavior or mental process (the dependent variable). By random assignment of participants, the experimenter aims to control other relevant factors.

Random Assigment

= assigning participants to experimental and control groups by chance, thus minimizing preexisting differences between those assigned to the different groups.

Double-Blind Procedure

= an experimental procedure in which both the research participants and the research staff are ignorant (blind) about whether the research participants have received the treatment or the placebo. Commonly used in drug-evaluation studies.

Placebo Effect

= experimental results caused by expectation alone; any effect on behavior caused by the administration of an inert substance or condition, which the recipient assumes is an active agent.

Experimental Group

= in an experiment, the group that is exposed to the treatment, that is, to one version of the independent variable.

Control Group

= in an experiment, the group that is NOT exposed to the treatment; contrasts with the experimental group and serves as a comparison for evaluating the effect of treatment.

Independent Variable

= the experimental factor that is manipulated;
the variable whose effect is being studied.

Confounding Variable

= a factor other than the independent variable that might produce an effect in an experiment.

Dependent Variable

= the outcome factor; the variable that may change in response to manipulations of the independent variable.

Mode

= the most frequently occurring score(s) in a distribution.

Mean

= the arithmetic average of a distribution, obtained by adding the scores and then dividing by the number of scores.

Median

= the middle score in a distribution, half the scores are above it and half are below it.

Range

= the difference between the highest and lowest score in a distribution.

Standard Deviation

= a computed measure of how much scores vary around the mean score.

Normal Curve

= a symmetrical, bell-shaped curve that describes the distribution of many types of data; most scored fall near the mean (68 percent fall within one standard deviation of it) and fewer and fewer near the extremes.

Statistical Significance

= a statistical statement of how likely it is that an obtained result occurred by chance.

Culture

= the enduring behavior, ideas, attitudes, and traditions shared by a group of people and transmitted from one generation to the next.

Informed Consent

= an ethical principle that research participants be told enough to enable them to choose whether they wish to participate.

Debriefing

= the postexperimental explanation of a study, including its purpose and any deceptions, to its participants.