# **Terminology: Research**

### Research

- abstract: the hypothesis that there is no treatment effect
- bias: any factor that could influence a study's results
- *blind study:* a study in which investigators know what treatment is received, but participants do not
- *case control:* retrospectively; participants with a particular condition are identified and matched with controls who do not have the condition
- *clinical significance:* a difference in outcome that is meaningful to clinical practice, as opposed to one that is statistically significant but has no impact on care
- *cohort study:* two or more groups are studied based on their exposure to a particular agent and followed to see how many in each group develop a particular disease or other outcome
- *conflict of interest:* when professional judgment about patients or research may be (or may be perceived as being) influenced by a secondary interest, such as financial gain
- *confidence interval:* a range around a measurement that conveys how precise it is; often reported with survey results
- *confounding variable:* an unforeseen variable that jeopardizes the reliability or validity of an experiment's outcome
- *control group:* A group of subjects that are not exposed to the intervention, but for which data are collected
- *crossover study:* a type of randomized controlled trial in which participants are their own controls
- dependent variable: Any factor that changes as a result of changes to the independent variable
- *disclosure:* a statement that details any financial relationships of the authors or editors with sponsors or others related to the study research
- discussion: presents the data from the study but does not draw conclusions
- *double-blind study:* a study in which participants and investigators are unaware of what, if any, treatment has been given



- *extraneous variable:* Any variable that influences the outcome of a study, although it is not one of the variables of interest
- false negative: when a test incorrectly gives a positive result
- false positive: when a test incorrectly gives a negative result
- *Hawthorne effect:* A tendency for study participants to respond differently than they would if they were not being observed, due to wanting to cooperate and feeling anxious about being evaluated
- *historical study:* a study that looks back at events and relationships that happened decades ago
- hypothesis: a hunch; a statement that is based on facts, but has yet to be proven
- *independent variable: any factor that is manipulated by the investigator; same as an intervention*
- interrater reliability: compares measures done by two or more investigators
- *intervention:* what is done (e.g., if mothers in one group are given a multivitamin, the multivitamin is the intervention)
- intervention group: also known as the experimental group
- *IRB:* approves proposals for studies involving human subjects; sometimes called Independent Ethics Committee or Human Subjects Committee
- *Likert scale:* a rating scale that translates participants' attitudes or reactions into numbers, either when the participants give their responses or during data analysis
- *literature review:* a summary of previously published research studies about the same or a similar problem, often included in an introductory part of a journal article
- longitudinal study: studies a group over time, perhaps over a few years
- *mean:* the result found by dividing the sum of a set of numbers by the number of items in the set, often casually referred to as the average
- *median:* the middle number in an ordered set of data with an odd number of items; in a set with an even number of items, the average of the two middle numbers
- *methods:* outlines how the researchers conducted the study, allowing readers to consider if it was appropriate

#### **Research (continued)**

mode: the numbers (or items) that occur most often in a set of data

- *non-experimental:* example might be a that a study that does not involve a manipulation of the situation, circumstances, or experience of the participants
- null hypothesis: the hypothesis that there is no treatment effect
- *open study:* a study in which both the investigator and the participant know the full details of the treatment
- operational definition: a definition as specified for the study
  - Example: Breastfeeding can be defined as being exclusive, supplemented, scheduled, on-demand, etc.
- *placebo effect:* the inclination of study participants who know they have had a treatment to say they feel better, regardless of an intervention's actual effectiveness
- *population:* the entire set of persons that are of interest to the researcher, from which a sample is selected
- *primary source:* a first-level data source; in journals, a paper written by a study's original investigator
- primary variable: the variable that is most important for the stated objective
- *prospective study:* a longitudinal study that follows similar individuals who differ with respect to certain factors under study
- qualitative approach: non-generalizable, uses subjective data, words and inductive reasoning
- *qualitative study:* a study relying on word-oriented means of evaluation to gain a deep understanding, often done when there are few or no existing studies on a topic examples of methods: focus groups, interviews, observation *quantitative approach:* generalizable; uses numbers, objective data, and deductive reasoning
- *quantitative study:* a study relying on number-oriented means of evaluation, focused on the numeric relationships among variables examples of methods: surveys, incidence counts, clinical measures



#### **Research (continued)**

- *random sampling:* only in experimental studies, the assigning of subjects so that each subject has an equal chance of being in any of the groups
- *randomized controlled trial:* a study involving participants randomly assigned to either receive treatment or to the control group (no treatment or the current standard treatment) for purposes of comparison
- *reliability:* A research instrument's ability to consistently measure what it is intended to measure, over time
- *relative risk (RR):* the likelihood of something occurring in a population exposed to a substance or event compared to the risk of it occurring in an unexposed population
- results: summary and interpretation of study findings
- retrospective study: a study that looks back over time, typically over the past few years
- *Rosenthal effect:* when investigators provide unconscious cues to participants about the results that are expected from them
- *sample population:* a subset of cases or participants in a study, selected to be representative of the group(s) of people to whom results will be generalized

secondary source: a reporting of data by someone other than the initial investigator

- *significance:* what the differences mean, which can be reported as statistical significance, clinical significance or both
- standard deviation: a measure of the variation of the distribution of data around the mean
- *statistical power:* based on the sample size, this reflects the study's ability to detect a significant difference between experimental and control groups for a population; larger samples have more power
- *statistical significance:* a number that expresses the probability that the study result could have occurred due to chance
- *subject:* a study participant
- *tertiary source:* a third-level source that includes data collected and organized for other purposes; consideration should be given to issues of bias and validity

## **Research (continued)**

*true experiment:* researcher randomly divides the sample; one groups gets one-to-one counseling, the other attend group classes

validity: a research instrument's ability to measure what it is said to measure