

For each of the following studies, specify:

- 1) the independent variable(s), their levels and whether they are manipulated or non manipulated variables;
- 2) the dependent variable(s), including the scale of measurement and type of data for each;
- 3) the operational definitions for both the independent and dependent variables
- 4) the control variables, and any that should be there (i.e., potential confounding variables)
- 5) a reasonable hypothesis for the study

1. In an experiment concerned with reading comprehension, second grade children and seventh grade children read stories that were printed on blue, gray, or white paper. After reading each of three different stories, the children answered questions about them.
2. In a study of the effects of cocaine on specific regions of the brain, microscopic amounts of the drug are delivered to specific regions of the brain, using the latest technology. The subjects are laboratory rats and they are randomly assigned to four groups, each group to receive the drug in only one region of the brain. The effects of the drug on arousal are measured by seeing how long a tired animal will remain awake after an injection of the drug.
3. Investigators are interested in the effects of caffeine on Premenstrual Syndrome (PMS). Patients are randomly assigned to one of two conditions. Group 1 will be allowed to consume unlimited amounts of caffeine during a one-month period. Group 2 requires that patients will agree not to consume any caffeine products as specified in a written contract. At the end of the month-long study, severity of PMS symptoms will be assessed.
4. Investigators are interested in the effect of positive self-statements on the self-esteem of physically and mentally abused women diagnosed with Battered Women's Syndrome. All participants will be randomly assigned to conditions. Group 1 will be given a self-esteem inventory prior to treatment. Participants will then be instructed to use positive self-statements twice each day at a determined time. The program will continue for four weeks. At the end of the four-week program, each participant's self-esteem will be assessed using the same self-esteem inventory previously administered. Group 2 will also be given the self-esteem inventory to establish a baseline measure. Participants in this condition will receive NO treatment. After four weeks, they will be reassessed on the same self-esteem inventory. Group 3 will receive positive self-statement training for four weeks followed by self-esteem assessment (with the same inventory as other groups). Group 4 will only be administered the self-esteem inventory at the end of the four week experimental period. The groups will be compared on self-esteem assessed at the final measure.
5. A researcher investigated the effect of a child's hair length on judgments of personality and intelligence. Teachers were shown photographs of children to obtain their first impressions of the children. Each teacher was shown a boy or girl whose hair was either very short, shoulder length, or very long. Teachers rated the friendliness of the child and estimated the child's intelligence level.
6. An investigator was interested in the effects of various treatments on reduction of fear in phobic participants. He suspected that the type of phobia may interact with therapeutic treatments; specifically, that the types of treatments for agoraphobics (fear of open spaces) and claustrophobics (fear of closed spaces) might be different. He divided participants into two groups based upon type of fear and then assigned members of each group to treatment groups: desensitization, insight, and implosive therapies. After three months of treatment, participants' anxiety in the feared situation was measured.