**Identifying Research, Hypotheses, and Variables of Interest**

For eachstudy described below:

1. Identify whether the research is nonexperimental or experimental.
   1. If the research is nonexperimental, further identify whether the research is descriptive, correlational, or quasi-experimental.
2. State the hypothesis, if there is one. Phrase the hypothesis as a statement (not a question) about the results that are predicted. Hypotheses can be directional or non-directional.
3. Identify and label the variables of interest.
4. A researcher is interested in the potential relation between people’s caffeine consumption and their level of stress. She has participants keep a diary for one month. During this month, participants count the number of cups of coffee, tea, and soft-drinks they consume, as well as any other substance that includes caffeine as a key ingredient. In addition, participants make note of any stressful events they experienced during the month.
   1. Nonexperimental – Correlational research
   2. There is a relationship between caffeine consumption and level of stress (non-directional hypothesis).
   3. Predictor (caffeine consumption) and criterion (stress level); however, we cannot say with 100% certainty which one is the predictor and which one is the criterion variable.
5. A researcher is interested in exploring the smoking behavior of fast-food employees. The researcher sits in the designated employee-smoking area of several restaurants and records how many smokers are present every 15 minutes starting at 8am and ending at 12pm.
   1. Nonexperimental – Descriptive research
   2. No clear hypothesis
   3. Variable (number of smokers during each 15-minute period)
6. A psychologist is investigating whether low lighting in classrooms negatively influences learning ability. The psychologist also thinks that high temperatures might negatively influence learning. When participants come to the laboratory, the psychologist flips a coin to determine which participants will be assigned to low-light environment or to a normal-light environment. The psychologist then flips a coin again to determine which participants in each of the previously mentioned groups will be assigned to a room set at 70 degrees or a room set at 85 degrees. After being given a brief lesson on the history of Scotland, all students are given a test of the material discussed during the lesson.
   1. Experimental research
   2. Hypothesis 1: People in the low-lighting environment will learn less in comparison to people in the normal-light environment. Hypothesis 2: People will learn less under hot conditions compared to normal conditions. Hypothesis 3: Interaction between the two, such that participants in a low-lighting, hot room will have the poorest performance in comparison to the other conditions.
   3. Independent variable: Lightly (levels: low-light vs. normal-light); Independent variable: Temperature (levels: 70 vs. 85); Dependent variable: Performance on the psychology test
7. Researchers are examining the potential association between self-esteem and aggression. First, researchers ask participants to complete a questionnaire assessing their self-esteem. Two months later, participants return to complete a questionnaire assessing the frequency in which they engage in various aggressive acts (such as fighting, screaming, etc.).
   1. Nonexperimental – Correlational research
   2. There is a relationship between self-esteem and aggression. This is a non-directional hypothesis.
   3. The predictor would probably be self-esteem and the criterion would be aggression. Because there is a time lag between the two measures, I would label the first one as the predictor variable and the second one as the criterion variable.
8. City workers are interested in finding out how often people disobey traffic laws. Researchers sit on the corner of a busy intersection and record the number of people who fail to use their seatbelts, run red lights, or fail to use their turning signals.
   1. Nonexperimental – Descriptive research
   2. Frequency with which people disobey traffic laws (no hypothesis)
   3. Variables (seat-belt use, running red lights, use of turning signals)
9. A researcher who studies health behaviors believes that the personality characteristic of conscientiousness is positively related to engagement in preventative care (e.g., checking prostate, cholesterol screening) among men. The researcher collects survey responses from 50 men regarding their level of conscientiousness and the number of times they have sought preventive care over the last year.
   1. Nonexperimental – Correlational research
   2. Conscientious is positively correlated with engagement in preventative care among men.
   3. Predictor (conscientiousness) and criterion (number of time engaged in preventative care in the last year); however, we cannot say with 100% certainty which one is the predictor and which one is the criterion variable.
10. Researchers believe that a provocation will make people more physiologically upset. In addition, they predict that the degree to which men feel physiologically upset is related to where they grew up. In particular, they predict that because of a strong sense of “honor” Southern men will be more physiological upset after an insult than Northern men. Researchers randomly assign Southerners and Northerners to receive either no insult or an insult. Participants’ cortisol levels (i.e., indication of stress) are measured after the insult manipulation.
    1. Quasi-experimental research
    2. People who have been provoked will have higher cortisol levels than those who have not been provoked. Southerners who receive an insult will have higher cortisol levels than Northerners who receive an insult.
    3. Quasi-independent (subject) variable: Region (South vs. North); Independent variable: Provocation (no insult vs. insult); Dependent Variable: Stress or cortisol levels