Research Assignment

This assignment is required of each person in class. It is equal in weight to one test (300 points), but unlike a test score, it may not be dropped. It is due no later than in class, Friday, April 27. Points will be subtracted for late assignments. Thirty points will be deducted for each day late (including weekends). (Note also: Papers turned in by class time on Friday, April 18 will be given 10 extra credit points.) Please remember that all assignments must be typed, double-spaced. I give 40 points for your writing quality in this assignment, so be sure to write carefully and proofread your paper. Also be sure, as usual, that all work is your own.

NOTE: There are TWO different parts to this assignment:

Part I:

Pick any ONE OF THE FOLLOWING HYPOTHESES:

1. Listening to heavy metal music while studying leads to better memory for the material studied.
2. The lighting in a room affects a person’s anxiety.
3. Practice running leads to better running performance.
4. Being told a test is extremely difficult affects test performance.
5. Eating calcium supplements before solving a puzzle leads to better puzzle-solving ability.

For your chosen hypothesis, answer the following 5 questions (worth 110 points of the 300 for this assignment) in complete sentences. An example of Part I follows the instructions for Part II (on p. 16).

1. Tell me which hypothesis you chose (you do NOT need to change the words of the hypothesis here; in fact, I’d rather you write it exactly as stated above).
2. Propose how you would test the hypothesis. Describe exactly what you would do to test the hypothesis. Include any specific stimulus material if appropriate. You are NOT to conduct the study – JUST DESIGN IT. Make sure it is clear enough that if someone wanted to, they could replicate your study. Ideally, you will not include any confounding variables. [It should be written in future tense, since you are proposing what you will/would do]. (30 points)
3. Identify your independent variable. Remember that it must be a VARIABLE, not a constant. Specify the 2 (or more) conditions of it, in general (how the independent variable varies). (10 points)
   a. Describe how each condition of your independent variable would be operationally defined. (20 points)
4. Identify your dependent variable (again, make sure it’s a VARIABLE, and not the results) (10 points)
   a. How will your dependent variable be operationally defined? (20 points)
5. Describe any ethical issues that your study needs to address. Be sure to include how you would address ethical issues all studies must address, as well as any specific issues that might be more relevant to your proposed study. (20 points)
Part II

The following contains a brief description of a hypothetical research study in psychology. Read the description and respond to the questions that are posed (for 150 points out of the 300 for this assignment).

A psychologist interested in the acquisition of foreign language skills performed an experiment to assess the effectiveness of new computer software designed to teach Marathi vocabulary and grammar to high school students. (Marathi is a language spoken mainly in India.) From the total of 74 students signed up to take the Freshman Marathi course at Trafalger High School, thirty were randomly selected for inclusion in the research study. The thirty students were randomly assigned to one of two classes: Class C and Class E. The Head of the Foreign Language Department, Ms. Eccle, taught the fifteen students assigned to Class E and this class met Monday through Friday from 9:00 - 9:50 a.m. In addition, Ms. Eccle’s class was required to meet in the language lab from 3:00 - 3:50 p.m. on Tuesdays and Thursdays to work with the computer software, the effectiveness of which was the focus of the study. A brand new teacher of Marathi, Ms. Corbin, taught the fifteen students assigned to Class C and this class met Monday through Friday from 1:00 - 1:50 p.m. No additional instruction was given to Ms. Corbin’s class, and the students were never exposed to the computer software. At the end of the semester the experimenter administered a standard test of Marathi vocabulary and grammar to each class. The average percentage score for Class E (Ms. Eccle’s class) was 84%, with a high of 99% and a low of 72%. The average for Class C (Ms. Corbin’s class) was 75%, with a high of 87% and a low of 56%. This result led the investigator to conclude that the computer software was extremely effective and reported this to the software manufacturer. The manufacturer decided to immediately mount an advertising campaign directed at public schools, using the results of this research to tout the effectiveness of its software.

1. Identify the independent variable in this experiment and tell me the 2 conditions of it. (20 points)
2. Identify the dependent variable in this experiment and tell me how it is measured. (20 points) [Note this is NOT asking you to identify the results]
3. In a paragraph or two, describe why the researcher randomly assigned the foreign language students to the C and E classes, rather than the researcher assigning them any other way. Be specific in what the random assignment does for this particular experiment (what specific relevant biases it avoids). [Note: Merely saying it avoids biases will not earn credit] Discuss what reasonably might happen to confound the experiment if random assignment was NOT used (so the overall benefit and why/how the specific confounding variables are avoided by random assignment. (30 points)
4. Write a paragraph or two describing two separate confounding variables and alternative explanations to the conclusion of the experimenter based on these confounding variables. Describe the alternative explanations they present, and why the explanation is possible/reasonable. Be sure to use (and point out) evidence given in the paragraph above for the confounding variables. (40 points)
5. Also, write a paragraph or two describing specifically how you would change the experiment so as to rule out each of the confounding variables/alternative explanations that you provided in #4 above. In other words, redesign the study. (40 points)
Example of Part I:

1. Example Hypothesis (this is not one from the list you have available):
Watching comedies will improve the sense of social support among inpatients diagnosed with schizophrenia. *

2. Description of design:
Fifty people with schizophrenia living in institutions will be randomly assigned, by flipping a coin, to watch either comedies or a mixed set of movies with no comedies (dramas, romance, action). Each patient will watch movies individually, in his or her own room. A different film will be shown in the morning, each of five days a week, for a month. The films will be shown in a different, random order to each participant. At the end of the month, each patient will be asked questions about the social support he or she feels from staff and the social support felt from their families.

3. Independent Variable:
The independent variable is: Type of films watched. There will be 2 conditions of the independent variable: The experimental condition will be comedies and the control condition will be mixed, noncomedy films (dramas, romance & action).

a. Participants in the comedies condition will watch the following 20 films:
   
   The Holiday, Borat, Stranger than Fiction, Little Miss Sunshine, The Devil Wears Prada, Talladega Nights, The Break-Up, Click, Failure to Launch, Rumor Has it, The Family Stone, Fun with Dick and Jane, In Her Shoes, Wedding Crashers, Must Love Dogs, Monster-In-Law, Sideways, Spanglish, Napoleon Dynamite, & The Terminal.

b. Participants in the mixed, non-comedies condition will watch each of the following 20 films:


4. Dependent variable:

The dependent variable is: Perceived social support

a. Operational definition of dependent variable: Perceived social support will be measured by asking participants to fill out a questionnaire on the Monday following the final movie watched. The questionnaire will be 10 items long. Questions will ask about the number of family members perceived as supportive, the number of staff members perceived as supportive, and ask for ratings of the perceived supportiveness (on a 1 – 7 scale) of different staff and family members. Higher numbers on the questionnaire (of people perceived to provide support and rankings of supportiveness) indicate more perceived social support.

5. Ethics:

Participants will all need to sign consent forms, informing them about the number and type of movies they might watch. No names of participants will be used. Participants must be told that they are free to withdraw from the study at any time, or not watch a movie if they do not feel comfortable doing so. Everyone will be debriefed afterwards and told the true purpose of the experiment. Participants who are upset about any of the movies will be provided with counseling.

*Based on a revision of the following:


[NOTE: Your paper does not need reference like this, since it will be a proposal for an original study – one YOU designed/conceived of]