

Name _____
Date Due _____

Assignment (circle, as instructed):
problems 1 2 3 4 5 6 7 ALL

Confounded Variables Exercise (35 points)

Instruction: For each selection Identify the independent and dependent variable first. Then look for one serious confounded factor that threatens the experiment's internal validity. (Hint: one of the experiments is not confounded). Last, suggest how the confounded factor could be controlled to "clean up" the study.

Selection 1:

Dr. Jane Smith wondered whether the sex of an examiner influenced responses by male participants on the Attitude Toward Women scale. The ATW scale measures whether an individual has liberal or conservative attitudes toward women's rights. She asked Dr. Tatsuhiko Toyota to administer half of the questionnaires so she could compare the ATW score for males tested by a male vs. female examiner. Dr. Smith found that her respondents had much more liberal ATW scores than Dr. Toyota's. She concluded that men "act more liberal to gain approval from women; whereas, they reveal their true 'macho' selves to other men.

Are the researcher's conclusions warranted (yes/no)? _____

Name the independent variable(s):

Name the dependent variable(s):

Name the confounded variable(s):

What is one method to "unconfound" the experiment?

Confounded Variable Exercise (continued)

Selection 2

Fred Rogers wanted to test a new "singalong" method to teach math to fourth graders (e.g. "I Love to Multiply to the tune of God Bless America). He used the singalong method in his first period class. His sixth period students continued solving math problems with the old method. At the end of the term, Mr. Rogers found that the first period class scored significantly lower than the sixth period class on a mathematics achievement test. He concluded that his singalong method was a total failure and attempted suicide.

Are the researcher's conclusions warranted (yes/no)? _____

Name the independent variable(s):

Name the dependent variable(s):

Name the confounded variable(s):

What is one method to "unconfound" the experiment?

Confounded Variables Exercise (continued)

Selection 3

Karsh (1983) designed an experiment on the relationships between early handling and friendliness in cats. She randomly assigned kittens to one of three groups, which differed according to the age of first handling. The first group was handled daily from 3 to 14 weeks of age, the second from 7 to 14 weeks of age, and the third received no handling from birth to age 14 weeks. "Handling" was defined as an experimenter holding a kitten on his or her lap, while petting it for 15 minutes. "Friendliness" was measured by how long each kitten stayed with the experimenter when not restrained, and by how long it took each kitten to reach the experimenter. Karsh found that the kittens handled from 3 to 14 weeks stayed longer with the experimenter and ran more quickly to the experimenter than kittens handled from 7 to 14 weeks. Also, kittens handled from 7 to 14 weeks were more "friendly" than kittens who received no handling at all. Karsh concluded that kittens should be handled as early as possible, to ensure life-long friendliness toward humans.

Are the researcher's conclusions warranted (yes/no)? _____

Name the independent variable(s):

Name the dependent variable(s):

Name the confounded variable(s):

What is one method to "unconfound" the experiment?

Confounded Variable Exercise (continued)

Selection 4

An airport administrator investigated the attention span of air traffic controllers to determine how many incoming flights the average controller could coordinate at the same time. Each randomly selected controller was tested without his or her knowledge by a computer program which fed false flight information to a computer terminal. The controller first "received" information from one plane and by the end of the hour was coordinating the flight pattern of ten planes simultaneously. The administrator analyzed the errors collected by the computer program. The analysis revealed that six was the maximum number of planes a controller could handle without making potentially fatal errors. Also, no errors occurred when only one to three planes were incoming. He concluded that a controller should never coordinate more than six incoming flights.

Are the researcher's conclusions warranted (yes/no)? _____

Name the independent variable(s):

Name the dependent variable(s):

Name the confounded variable(s):

What is one method to "unconfound" the experiment?

Confounded Variable Exercise (continued)

Selection 5

Count Dracula wanted to investigate the effect of removing a specific small part of the brain of a vampire bat to eliminate its insatiable thirst for human blood. He caught ten bats and randomly assigned them to one of two groups. The groups were anesthetized and had holes surgically drilled into their skull. The Count then destroyed an area in the hypothalamus of the experimental bats' brain using a one-half-inch drill bit and allowed them to recover. The control group bats' brains were left intact. Two weeks later, Dracula offered both groups some fresh human blood. His prediction was confirmed: The experimental bats refused to even taste the blood; whereas, the control bats slurped it up as greedily as before. An unexpected side effect was that the experimental bats no longer hibernated during the day; in fact they seemed driven to "soak up rays" while the control bats slept. Dracula was elated and he concluded his operation was a success. Then he arranged for a Transylvanian doctor to perform the same procedure confident that he could be "cured" as a vampire and could return to his "former" self (George Hamilton).

Are the researcher's conclusions warranted (yes/no)? _____

Name the independent variable(s):

Name the dependent variable(s):

Name the confounded variable(s):

What is one method to "unconfound" the experiment?

Confounded Variables Exercise (continued)

Selection 6

A drug company developed a new medication to control the manic phase of manic-depression. The firm hired a hospital psychiatrist to test the effectiveness of the drug. He identified a group of manic-phase patients and randomly assigned them to a drug or placebo group. Nurse Ratchet was told to administer the drug, while Nurse Johnson was told to administer the placebo. Each made daily observations of their patients during treatment. A month later the observations were compared: In general, patients in the drug group had behaved more "normally" than patients in the placebo group. The drug company publicized the effectiveness of the product and received a million orders for the new drug in the next few weeks.

Are the researcher's conclusions warranted (yes/no)? _____

Name the independent variable(s):

Name the dependent variable(s):

Name the confounded variable(s):

What is one method to "unconfound" the experiment?

Confounded Variable Exercise (continued)

Selection 7

Dr. Goodrich wanted to demonstrate that his tires were better than those of his competitor Dr. Goodyear. From car registration and leasing records, he found 40 salesmen who drove the same model of automobile approximately the same number of miles per week. Anonymously, Dr. Goodrich hired an independent research assistant, who was unaware of the purpose of the study, to randomly assign 20 of the salesmen a new set of unmarked Goodrich radials, and the other 20, a new set of unmarked Goodyear radials of the same price and quality. After six months and an average of 15,000 miles traveled by both groups the assistant arranged for the salesmen to exchange tires. After another six months, and similar mileage, the assistant measured the amount of tread wear and reported the Goodrich tires had actually worn more than the Goodyear tires. Accordingly, Dr. Goodrich was forced to drop his commercials claiming to have better tires than the "other guy."

Are the researcher's conclusions warranted (yes/no)? _____

Name the independent variable(s):

Name the dependent variable(s):

Name the confounded variable(s):

What is one method to "unconfound" the experiment?