**Identifying Variables in Experiments**

Below are descriptions of experimental studies. For each of the descriptions, identify the independent variable(s), the levels for each of the independent variables, the conditions, and the dependent variable(s).

1. An organizational psychologist is interested in whether lowering the temperature in a factory will increase productivity (i.e., number of products assembled). At the factory, there are three rooms in which products are assembled. Each room is set at one of the following temperatures: 60 degrees, 70 degrees, or 80 degrees.

One independent variable – temperature in the room

Three levels/conditions (60, 70, vs. 80 degrees)

Dependent variable – productivity (number of products assembled)

1. A psychologist is studying the effects of steroids on the aggressive behavior of male rats. Thirty rats receive twice-daily injections of a placebo, whereas another set of 30 rats receive twice-daily injections of a steroid. For one hour a day, the rats are placed in a cage together and all aggressive behaviors are recorded. For one week, lab assistants count the number of aggressive behaviors recorded to determine whether or not there is difference between the two groups of rats.

One independent variable – substance in injections

Two levels/conditions (placebo vs. steroid)

Dependent variable –frequency aggressive behaviors

1. A psychologist is examining the effects of alcohol on people’s driving ability under different lighting situations. The psychologist randomly assigns participants to drink 2.5 ounces of a non-alcoholic beverage, drink 2.5 ounces of an alcoholic beverage, or 5 ounces of an alcoholic beverage. These participants are then randomly assigned to bright-light group or a low-light group. Participants play a simulated driving game. The simulator is set up for daylight driving in the bright-light group and set up for night driving in the low light condition. While playing the simulator the number of incomplete stops and number of obstacles hit are calculated.

Two independent variables

First independent variable – amount of alcohol consumed

Three levels (2.5 of non-alcoholic, 2.5 of alcoholic, vs. 5 alcoholic ounces)

Second Independent variable – lighting conditions

Two levels (daylight/bright-light vs. nighttime/low-light)

Six conditions

Dependent variables – number of incomplete stops and number of obstacles hit in the driving simulator

1. Many businesses have incentive programs to encourage their employees to exercise. In the area of economics, researchers know that framing influences people’s behaviors. That is, people tend to be more concerned with a loss than with a gain. An organizational psychologist, who is working with a software company, enrolls 100 employees into a new Get Fit program. Fifty of the employees are given $50 upfront and told that they must exercise at least three times a week for a month. If they fail to meet this requirement, they lose the money. The other 50 employees are told that they must exercise at least three times a week for a month in order to earn $50 at the end of the month. Researchers measure they frequency of employee exercise.

One independent variable – framing

Two levels/conditions (loss/money first vs. gain/money second)

Dependent variable – frequency of employee exercise

1. Researchers were interested in examining the effectiveness of a new behavioral theory for children who have been diagnosed with ADHD. Sixty participants volunteered for the study. Participants were randomly assigned to receive either 5 weeks of the behavioral theory or they were placed on a wait list. After 5 weeks, all participants were observed for changes in their hyperactivity and impulsivity.

One independent variable – type of therapy

Two levels/conditions (behavioral therapy vs. no therapy/waitlist)

Dependent variable – hyperactivity and impulsivity

1. A researcher assigned 20 college students to take a short course in speed-reading or an English-review course. The researcher was curious if a monetary incentive would influence the effectiveness of the course on participants’ performance on a reading test taken at the end of the semester. Half the students were offered $5 for obtaining a certain level of performance on the test, and the other half were not offered any money.

Two independent variables

First independent variable – type of reading course

Two levels (speed-reading course vs. an English-review course)

Second Independent variable – amount of money

Two levels ($0 vs. $5)

Four conditions

Dependent variable – performance on a reading test

1. A psychologist who studies interpersonal relationships is examining what information people use to guide their impressions of potential dating partners. Female participants who are single come to the laboratory and view a profile. Some participants see an attractive photo in the profile, some see an unattractive photo in the profile, and other see no profile photo. In addition, the socioeconomic status of the individual is manipulated in the profile such that some participants believe the individual is of high status and other participants believe the individual is of low status. After viewing the profile, participants indicate whether or not they would go on a date with this person.

Two independent variables

First independent variable – photo in profile

Three levels (attractive, unattractive vs. no photo)

Second Independent variable – status of individual in profile

Two levels (low status vs. high status)

Six conditions

Dependent variable – whether or not participants would go on a date with this person