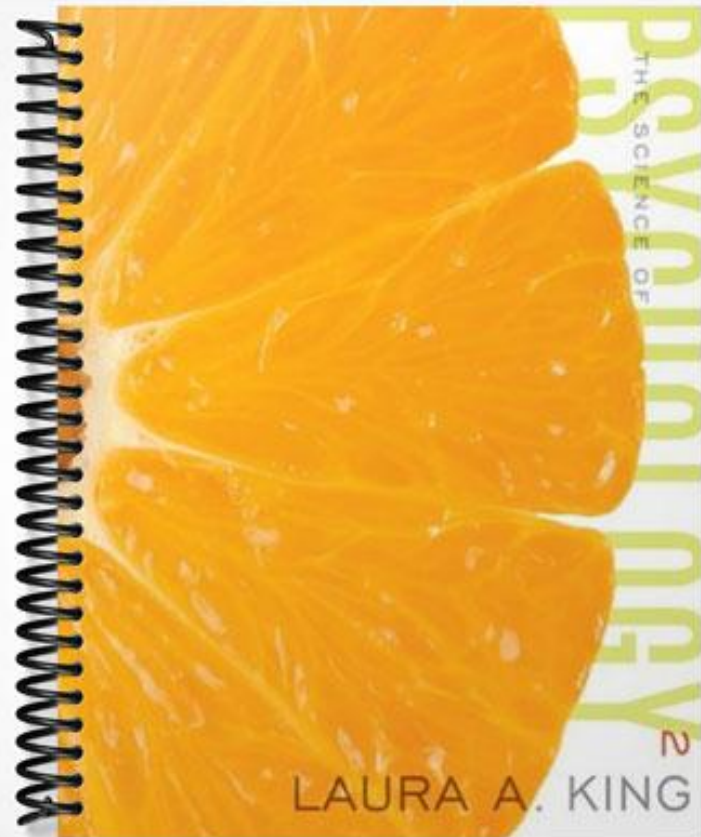


**SOLUTIONS MANUAL**



## **Activity Handout 2.1**

### **Find the Variable and Operationally Define it!**

Read the below abstracts from various journal articles and then state in the space provided what the operational definition is.

1. The present study examined the relationships of masculinity and femininity with concession in an experimental collaborative eyewitness testimony task, using the MORI technique. Participants formed same sex or mixed sex pairs and watched a videotaped event. Their eyewitness memories were assessed three times: immediately after watching, after discussing the event together, and individually one week later. The participants' self-confidence in their recalled memories and percentages of concessions were also examined. The Masculinity-Humanity-Femininity Scale was administered to the participants at the end of the experiment. The results showed that masculinity negatively correlated with concession, and that both masculinity and femininity were associated with inaccuracy in collaborative memory recall.

**OPERATIONAL DEFINITION: score on the Masculinity-Humanity-Femininity scale**

2. The present study examined the extent to which the achievement strategies deployed by adolescents and those used by their peers would predict adolescents' school adjustment, academic achievement, and problem behavior. The participants were 287 fourteen- to fifteen-year-old comprehensive school students (121 boys and 165 girls) from a middle-sized town in central Sweden. The results showed that not only the maladaptive strategies used by adolescents, but also those reported by their peers, predicted adolescents' norm-breaking behavior, low school adjustment, and low level of achievement; high levels of failure expectations and task-avoidance among adolescents' peers were positively associated with adolescents' own norm-breaking behavior, and indirectly via this, also with their maladjustment at school and low grades. These associations were found after controlling for the impact of adolescents' own achievement strategies.

**OPERATIONAL DEFINITION: grades in school**

3. The ability to match faces with corresponding names was studied under various conditions involving encoding and retrieval. Twenty photographs of undergraduates were randomly paired with twenty common names. Experiment 1 presented the photographs for ten each, followed by either presentation of the names alone with the instruction to write facial characteristics from memory or presentation of the photographs again with instructions to write from memory the names and anything unusual about the names themselves. Later retrieval was best for the former condition and was interpreted as showing that names could prime image representations of faces. Experiment 2 was a partial replication of Experiment 1 with retrieval measured over seven weeks. These results showed that memories for face-name matches lasted several weeks. Also, consistent with Experiment 1, the number of reported initial face characteristics was highly predictive of matches between faces and names. These studies show the importance for later retrieval of forming and maintaining vivid images of faces even when the faces have no outstanding characteristics.

**OPERATIONAL DEFINITION: name retrieval**

4. This study examined whether certain personality characteristics are associated with susceptibility to false memories. Participants first answered questions from the Myers-Briggs Type Indicator in order to measure various personality characteristics. They then watched a video excerpt, the simulated eyewitness event. They were next encouraged to lie about the videotaped event during an interview. A week later, some participants recognized confabulated events as being from the video. Two personality characteristics in particular--the introversion/extroversion and thinking/feeling dimensions--were associated with susceptibility to false memories.

**OPERATIONAL DEFINITION: MBTI scores**

5. In the present study, three alternative causal models concerning the relationships between implicit theories of intelligence, perceived academic competence, and school achievement were tested. The direction of changes in implicit theories and perceived competence during early adolescence was also examined. A total of 187 fifth and sixth graders were tested and retested a year later, when they were sixth and seventh graders, respectively. Cross-lagged regression analyses indicated that school achievement determined the adoption of a particular implicit theory through the mediation of perceived competence. Implicit theories were found to change toward the adoption of more incremental beliefs and perceived academic competence declined; however, high achievers, as compared with their low- and middle-level classmates, adopted more incremental beliefs and had significantly higher perceived competence.

**OPERATIONAL DEFINITION: implicit theories of intelligence operationalized as incremental beliefs; other operationalizations not clear but presumably academic achievement was operationalized as grades or GPA.**

## **Activity Handout 2.2**

### **What Type of Variable is It? What Type of Group is It?**

Read the statements below and then identify what the independent and dependent variable is and then identify who the experimental group is and who the control group is.

1. Participants taking part in a sleep study to determine whether the number of hours of sleep a person gets determines how well they will do on an exam were randomly assigned to either the group that was woken up at various times throughout the night or the group that was allowed to sleep throughout the night.

**Independent Variable: hours of sleep**

**Dependent Variable: exam performance**

**Experimental Group: group that was woken up**

**Control Group: group that was allowed to sleep through the night**

2. Participants took part in a study to determine the number of consumed beers it would take to affect their ability to walk in a straight line.

**Independent Variable: beers**

**Dependent Variable: walking**

**Experimental Group: group given beers**

**Control Group: sober**

3. Pharmaceutical Company X conducted an experiment to determine if the new migraine headache pill would alleviate migraine headaches.

**Independent Variable: migraine medication**

**Dependent Variable: headaches**

**Experimental Group: group given real medication**

**Control Group: group given placebo pill**

4. College X conducted an experiment to determine if freshmen that had their schedules made for them did better in their freshman year than freshmen that made their own schedules.

**Independent Variable: schedules**

**Dependent Variable: school performance**

**Experimental Group: group that had schedules made for them**

**Control Group: group that made their own schedules**

## ***Activity Handout 2.3***

### ***Population and Samples***

Read the statements below. In the space provided, identify who the population is and who the sample could be. (None of the examples are factual.)

1. It is hypothesized that there is a higher rate of teenage pregnancy in single-parent households than in two-parent households.

**Population: all female teenagers**

**Sample: random sample of females between thirteen and nineteen**

2. It is hypothesized that there is more school violence in inner-city schools than in suburban schools.

**Population: all inner-city and suburban schools**

**Sample: random sample of inner-city and suburban schools**

3. It is hypothesized that infants born prematurely get better grades in high school than those infants not born prematurely.

**Population: all children**

**Sample: random sample of high school students**

4. It is hypothesized that college freshman drink more alcoholic beverages than college seniors.

**Population: all college students**

**Sample: random sample of freshmen and seniors**

5. It is hypothesized that students who started their education at a community college are more likely to graduate than students that started their education at a four-year college.

**Population: all college students**

**Sample: random sample of community college and four-year college students**

## **Activity Handout 2.4**

### **The Mean, the Median, and the Mode**

Determine what the mean, the median, and the mode are in the following examples.

1. 21 17 5 6 10 16 10 21 8 10 19 25  
12 5 15 22

**Mean: 13.875**

**Median: 13.5**

**Mode: 10**

2. 2 3 4 5 6 7 8 9 10 1 2 3  
4 5 6 7 8 9 1 3 6 9 1 10  
1 2 5

**Mean: 5.07**

**Median: 5**

**Mode: 1**

3. 20 40 60 80 100 30 60 90 40 80 20 21  
22 30 20 25 80 20 33 47 30 45 65 81  
100

**Mean: 57.78**

**Median: 60**

**Mode: 40**

## Activity Handout 2.5

### Ethics

Read the following scenarios and answer the reflection questions that follow.

1. Jennifer and Bethany have both recently declared psychology as their majors. One evening as they are looking over their required courses, they start talking.

*Jennifer:* "I don't see why we have to learn statistics and research methods! I am never going to use them anyway. I want to be a counselor and I am just going to deal with each person as an individual. Science treats everyone as if they are interchangeable and totally predictable. In fact, I think people would be better counselors and teachers and social workers if they didn't take research classes at all, because then they would treat everyone as individuals, not clones."

*Bethany:* "People are a lot more predictable than you think. Psychologists have learned so much about human behavior in the last hundred years or so using the scientific method. I really believe that if you can figure out all of the factors that are affecting someone's behavior, you can be pretty accurate in figuring out what they are going to do. I've decided that I want to be a researcher because I think I can help more people in the long run than you will as a therapist. As a researcher, I can develop programs that will help a lot of people who suffer from the same problem. A therapist can only help one person at a time, and sometimes it takes years for a person to get better."

Reflection Questions:

- a. How do Jennifer and Bethany differ in their understanding of what people are like? Who do you agree with more and why?

**Jennifer does not understand that psychology is a science and requires the application of the scientific method.**

- b. What is ethically troubling about taking Jennifer's position to the extreme? What would happen if therapists received no training in the scientific study of human behavior?

**By not understanding the research on the treatment methods that are most effective, Jennifer could use the wrong treatments.**

- c. What is ethically troubling about taking Bethany's position to the extreme? What is the problem with assuming that if you can figure out all the variables (genes, environment, etc.) that you can perfectly predict people's behavior?

**Psychological research must eventually be taken back to the individual to ensure that it makes sense and is feasible. A researcher has control over many variables whereas a counselor does not.**

2. Dr. Franklin designed a treatment for panic attacks, tried it with all of her clients who suffered from panic attacks, and had great success. Over a ten-year period, Dr. Franklin

treated over one hundred clients, and the technique significantly reduced panic in all of her clients. The treatment consisted of the therapist (Dr. Franklin) leading the patient through a series of relaxation exercises in her office. Dr. Franklin was so excited about the success of this treatment that she decided to market it to therapists nationwide. For thirty-three dollars (which is pretty reasonable for a psychological measure or technique), she sent the therapist a script of everything she said to the patient during the relaxation exercises. A lot of therapists purchased the treatment because they were very impressed with the success rate that Dr. Franklin reported. However, six months later, Dr. Franklin started to receive calls, letters and emails from therapists all over the country, who complained that the treatment was completely useless for their clients.

Reflection Questions:

- a. How would you explain the fact that Dr. Franklin had so much success and the other therapists experienced such failure? How would reliability analyses have helped this problem?

**Multiple therapists should administer the treatment before drawing conclusions.**

- b. From an ethical point of view, why should Dr. Franklin have done reliability analyses before marketing her treatment program?

**Conclusions were potentially misleading.**

- c. Keeping in mind that she never gave any false information to anyone who purchased her treatment program, do you think Dr. Franklin should give them a refund of their money? Why or why not?

3. Karen has been working with Dr. Turner on a research study for the past two years. They have collected data on flavor preferences in rats and found some very impressive results. They presented their research at a conference and have a paper about the project to an academic journal. When the reviews of their manuscript come back from the journal, the reviewers have several questions about the data. Dr. Turner asks Karen to look over the data and the SPSS output from the study and double check that they did everything correctly. When Karen reviews the data, she realizes that she made a mistake in entering the data. Inadvertently, she had repeated some of the same data values twice in the data file, so it appeared there were 270 observations when there were actually 240.

Reflection Questions:

- a. Why might Karen decide not to tell Dr. Turner about the error?

**Karen is afraid, or the results don't change.**

- b. What are some possible negative consequences that might result if Karen tells Dr. Turner and they both report it to the journal editors?

**The paper might not be published.**

- c. What are some possible negative consequences that might result if Karen tells Dr. Turner but they agree not to report the mistake to the journal editor?

**The conclusions drawn from the data could be misleading and even false.**



4. Beverly really wants to go to graduate school in psychology, and she has the grades to get in, but she knows that she needs to get some research experience. She begins working with Dr. Miserendino on a project in which she is observing white rats and measuring the amount of time it takes them to learn to navigate through a maze depending on whether the animal has been given a drug or a placebo. Beverly is supposed to collect data every day for six days in a row (Monday through Saturday) to see what happens as the drug gradually wears off. She collects the data Monday through Friday, but on Saturday she isn't able to get to campus because of a family emergency. She knows from talking to Dr. Miserendino about the study that it is too expensive to repeat, because both the rats themselves and the drugs are very costly. She also knows that if she tells Dr. Miserendino that she missed a day of data collection, Dr. Miserendino will be really upset. She considers making up the data just for Saturday based on the data she collected the rest of the week. She knows that Dr. Miserendino would never have to find out what happened.
- Reflection Questions:

- a. Assuming Dr. Miserendino never does find out about the made-up data, what are some possible negative ethical consequences of Beverly's decision to falsify the data?

**Incorrect conclusions will be drawn from the data thereby compromising the scientific process.**

- b. Why is it risky for Beverly to make-up the data?

**Incorrect conclusions will be drawn from the data thereby compromising the scientific process.**

- c. What would you choose to do if you were in Beverly's place? Explain.

**The only correct answer is to admit to the researcher your error.**

5. As part of their class requirements, the students in Dr. Taylor's Research Design and Analysis class are sent over to Trumbull Mall to observe interactions between mothers and their toddler-aged children. They are told not to interact with the moms at all, but just record certain behaviors, like the number of times they speak harshly to their child and the number of times the child whines or cries.

One of the mothers notices that the students are watching people, and she complains to mall security. The manager of the mall asks the students where they are from, then writes a letter of complaint to Dr. Taylor. Here is an excerpt:

"I am requesting that you do not engage in any more observational research at Trumbull Mall. I don't think it is right to allow students to observe people's behavior without getting their permission first. It is a violation of privacy and it's wrong even if they don't realize they are being watched. People come to the mall to shop, not to be watched."

Reflection Questions:

- a. What are some good reasons for the manager's concerns? Explain.

**Participants did not give informed consent.**

- b. What are some good reasons why the students should be able to do this type of research? Explain.

**Participants were in public; participants' routine was not altered by the students; there were no risks.**

- c. If you were in Dr. Taylor's position, how would you handle the situation?

**Researchers should seek permission from an owner/manager when they wish to collect data in public.**