CHAPTER 2
SOME RESEARCH DEFINITIONS

LEARNING OBJECTIVES

1. Learn important terms used in advertising and public relations research
2. Define key terms and understand their usage in research
3. Understand the relationship between various terms used in research

CHAPTER OUTLINE

I. Who or what is a subject?
   a. A research subject is any person, object, practice, or process that is observed for research purposes.
   b. Using human subjects should ensure they are protected (IRB)

II. What is an operational definition?
   a. An operational definition involves defining a word in terms of the specific process or application at hand (in other words, for the specific purpose of the research).

III. What is a variable?
   a. A variable is a phenomenon or event that can be measured or manipulated in research; e.g., "gender" is a variable that can assume two values—male or female
   b. Sometimes variables can have more than one value; e.g., "your favorite program" is a variable that can hold multiple values

IV. What are the different types of variables?
   Variables can be classified as following:
   - Independent variable
   - Dependent variable
   - Intervening variable
   - Continuous variable
   - Discrete variable

   a. Independent variable—variable that is manipulated by the researcher; also called exogenous variable
   b. Dependent variable—variables that are observed and their values measure the effect of the independent variable; also called endogenous variable; for example, IV—humor in an ad and DV—attitude toward Ad
   c. An intervening variable is a dependent variable to the original independent variable; in turn, the intervening variable becomes a new independent variable to the eventual dependent variable.
   d. Intervening variables operate between independent and dependent variables.
   e. Continuous variables can take any value within a specified range; e.g., height, time spent watching TV, scales measuring attitudes
   f. Discrete variables include only a finite set of values; e.g., gender, family size

V. Control

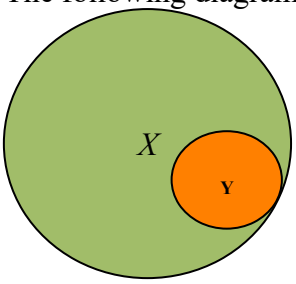
Control in advertising and public relations research means to hold something constant while manipulating the independent variable. The difference in the measure of dependent variable for both conditions is assumed to be due to independent variable, all things being equal.

VI. Hypotheses *versus* Research Questions

a. A hypothesis is what you expect to happen in a research.
b. A research question indicates what the researcher wants to know most in a particular study.
c. Both hypotheses and research questions are tentative generalizations regarding relationship between two or more variables
d. While hypotheses predict an outcome, research questions do not.
e. A null hypothesis is the hypothesis of no difference. It asserts that the relationship under analysis is due to chance or random error.

VII. Universe or Population *versus* Sample

a. A universe or population in research terminology refers to a well-defined group of individuals or things that the researcher is interested in studying.
b. A sample is a group selected from the population.
c. Parameters are used to describe populations (Greek letters, μ= mean) whereas a statistic is used to describe samples (English alphabet; M = mean, SD = Standard Deviation)
d. The following diagram depicts a sample (Y) and population (X)



DISCUSSION QUESTIONS AND LEARNING ACTIVITIES

1. List the terms learned in this chapter and ask students to pick one randomly and define it.

   If you wish to make it a fun exercise, you could model this activity after the quiz show Jeopardy. Divide the class into groups and have them compete.

2. Describe a research problem and ask the students to come up with research questions and hypotheses.

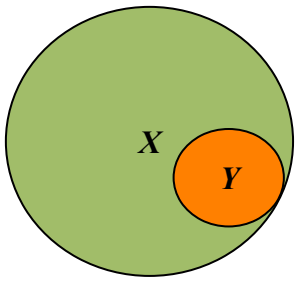
   For example, a researchers wishes to study the effectiveness of brand placements in video games. What research questions and/or hypotheses should he or she be proposing?

3. Bring a pack of M&Ms to class and illustrate the different between sample and population. You can also demonstrate distributions, measures of central tendency and other concepts by takign advantage of the different colors in which M&Ms come in. The students will really understand the concept of bell curve if you illustrate by picking different colors of M&Ms and plotting the numbers on the white board.

MULTIPLE-CHOICE QUESTIONS

In the figure alongside, *X* represents?

a. Sample
b. Population
c. Universe
d. Both (b) and (c) (answer)



In the figure alongside, *Y* represents?

a. Sample (answer)
b. Population
c. Universe
d. Both (b) and (c)

Which of the following does the researcher systematically vary?

a. Independent variables (answer)
b. Dependent variables
c. Control variables
d. Internal variables

Height is an example of _____ variable

a. discrete
b. continuous (answer)
c. intervening
d. dependent

The _____ asserts that the statistical differences (or relationship) being analyzed are due to chance or random error.

a. Alternate hypothesis
b. Substantive hypothesis
c. Null hypothesis (answer)
d. Type I hypothesis

Greek letters are used to describe _____ parameters

a. Sample
b. Population (answer)
c. Control group
d. Treatment group

A _____ is used to describe a sample

a. parameter
b. statistic (answer)
c. population
d. hypothesis

The group of people who actually are measured by the survey is called a _____.

a. Public
b. Audience
c. Sample (answer)
d. Population

In an experiment the group for which things are held constant or unchanged is called

a. independent
b. treatment
c. control (answer)
d. dependent

Variables that are observed or measured in an experiment are referred to as _____.

a. Independent variables
b. Dependent variables (answer)
c. Control variables
d. Internal variables

Variables that that operate between independent and dependent variables are called _____.

a. Independent variables
b. Dependent variables
c. Control variables
d. Intervening variable (answer)

TRUE OR FALSE

Variables measured at nominal level are always discrete variables.

a. True (answer)
b. False

The difference between a hypothesis and a research question is that hypotheses predict an outcome whereas research questions cannot

a. True (answer)
b. False

Greek letters are used to describe population parameters

a. True (answer)
b. False

The group of people who are actually measured in a research study is called a population

a. True

b. False (answer)

The experimental group where things are held constant or unchanged in called the control group.
a. True (answer)
b. False

In research terminology, universe and population are two different concepts.
a. True
b. False (answer)

Gender is an example of a continuous variable.
a. True
b. False (answer)

An independent variable is manipulated by the researcher in an experiment.
a. True (answer)
b. False

Height is an example of discrete variable.
a. True
b. False (answer)

English letters are used to describe population parameters
a. True
b. False (answer)

SHORT ANSWER AND ESSAY-TYPE QUESTIONS

What is the difference between a hypothesis and a research question?

Give an example of a continuous variable and a discrete variable.

Illustrate the difference between a population and a sample.