Solutions for Statistics A Tool for Social Research and Data Analysis 11th Edition by Healey

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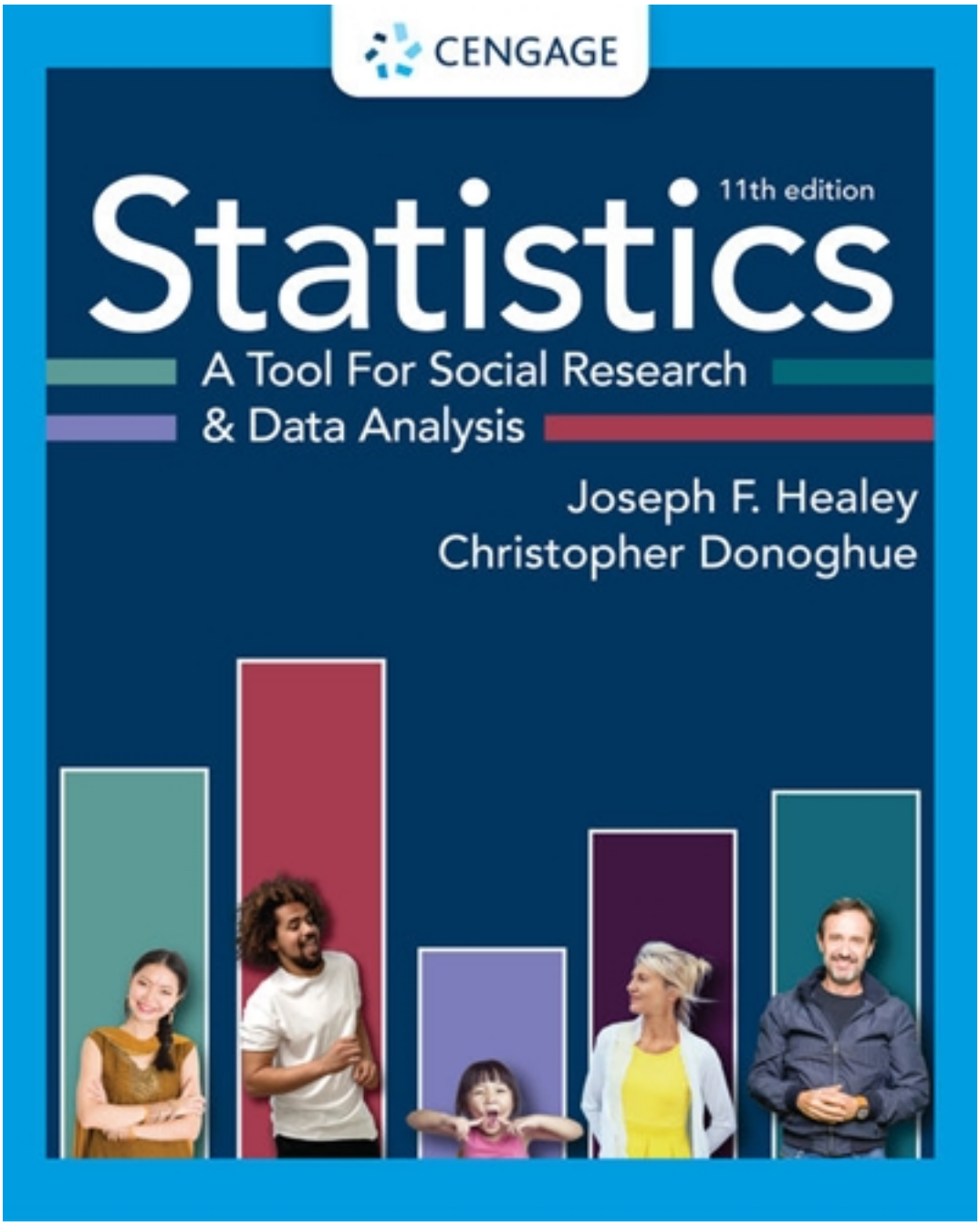

Solutions

ANSWERS TO EVEN-NUMBERED COMPUTATIONAL PROBLEMS

CHAPTER 1

1.4

a	Nation of birth	Nominal	Discrete
b	Age	I-R	Continuous
c	Years of school	I-R	Continuous
d	Occupation	Nominal	Discrete
e	Class	Ordinal	Discrete
f	GPA	I-R	Continuous
g	Major	Nominal	Discrete
h	Legalized Drugs?	Ordinal	Discrete
i	Astrological sign	Nominal	Discrete
j	Number of siblings	I-R	Continuous

1.6

a	Infant mortality rates	Dependent	I-R	Continuous
	% of adults allowed to vote	Independent	I-R	Continuous
b	Before / after	Independent	Nominal	Discrete
	Traffic volume	Dependent	I-R	Discrete
	Number of accidents	Dependent	I-R	Discrete
	Number of fatalities	Dependent	I-R	Discrete
c	Before / after	Independent	Nominal	Discrete
	Survey	Dependent	I-R	Discrete
d	Frequency of harassment	Dependent	Ordinal	Discrete
	Age	Independent	I-R	Continuous
	Major	Independent	Nominal	Discrete
e	Type of pick up	Independent	Nominal	Discrete
	Number of complaints	Dependent	I-R	Discrete
	Time	Dependent	I-R	Continuous
	Cost	Dependent	I-R	Continuous
f	Race / ethnicity	Independent	Nominal	Discrete
	Tolerance	Dependent	Ordinal	Discrete
g	Budget cuts	Independent	Nominal	Discrete
	Size of homeless population	Dependent	I-R	Discrete
h	Sex	Independent	Nominal	Discrete
	Philosophy	Independent	Nominal	Discrete
	Major	Independent	Nominal	Discrete
	Support / Oppose closing	Dependent	Ordinal	Discrete
	Number of visits	Dependent	I-R	Discrete
	Does porn cause rape?	Dependent	Ordinal	Discrete

1.8

abany	Ordinal	Discrete
abpoor	Ordinal	Discrete
age	I-R	Continuous[1]
attend	Ordinal	Discrete
cantrust	Ordinal	Discrete
cappun	Ordinal	Discrete
childs	I-R (but note high score is "8 or more)	Discrete
class	Ordinal	Discrete
concong	Ordinal	Discrete
degree	Ordinal	Discrete
educ	I-R	Discrete
fear	Ordinal	Discrete
fefam	Ordinal	Discrete
fepol	Ordinal	Discrete
grass	Ordinal	Discrete
gunlaw	Ordinal	Discrete
happy	Ordinal	Discrete
helpblk	Ordinal	Discrete
homosex	Ordinal	Discrete
hrs1	I-R	Continuous[1]

1. Variables that measure time *could be* measured at any level of precision

CHAPTER 2

2.2

a	46.59%
b	0.0983/15
c	83:15 = 5.53
d	56.67%
e	412:315 = 1.31
f	0.34
g	1.79%
h	178:98 = 1.82
i	30:32 = 0.94
j	0.17

2.4

State	1997	2017	% Change
New Jersey	4.20	3.60	-14.28
Iowa	1.82	4.21	131.07
Alabama	10.29	9.02	-12.28
Texas	6.83	5.19	-24.04

Chapter 1
INTRODUCTION

New to this Edition

- Updated Learning Objectives for the chapter
- Updated “Using Statistics” box
- Updated “Statistics in Everyday Life” box on Push Polls
- Updated “The Goals of This Text” section
- Updated “Statistics in Everyday Life” box on Using Descriptive Statistics
- Updated “Statistics in Everyday Life” box on Using Inferential Statistics
- Updated “Statistics in Everyday Life” box on Changes in Socioeconomic Status in the U.S.
- New graph on Percent of Americans Identifying as Lower Class
- Some section titles have been changed for clarity
- Added one problem
- Updated “Reading Statistics” box

Learning Objectives: By the end of this chapter, students will be able to

1. Identify the key stages and terms in social scientific research
2. Distinguish between descriptive and inferential statistics
3. Provide examples of discrete and continuous variables
4. Describe three levels of measurement and cite examples of each.

Chapter Summary

The text begins by explaining the role of statistics in the research process. The discussion is guided by the "Wheel of Science" as conceptualized by Walter Wallace (Figure 1.1). The text always presents statistics in the context of the research enterprise. That is, statistics are presented as useful tools for answering sociological questions and testing social science theories, never as ends in themselves.

The chapter also distinguishes between descriptive and inferential statistics and univariate, bivariate, and multivariate statistics. The distinction between discrete and continuous variables and the concept of level of measurement is presented in this chapter and the latter is stressed throughout the text as an organizational device and as a major criterion for selecting statistics appropriately. Exercises are provided at the end of the chapter for reviewing the characteristics of the three levels of measurement used in this text.

Chapter 2
BASIC DESCRIPTIVE STATISTICS:
Tables, Percentages, Ratios and Rates, and Graphs

New to this Edition

- Updated Learning Objectives for this chapter.
- Updated "Using Statistics" box at beginning of chapter
- Edited Tables 2.2 and 2.3 on Religious Affiliations
- Updated Table 2.4 on Religious Affiliations
- Updated Table 2.5 and Table 2.6 on Declared Major Fields of Two College Campuses
- Added Figure 2.1 on Percentages of People Living in Poverty by State
- Updated Table 2.7and 2.8 – Support for Birth Control on University Campuses
- Updated Table 2.9 and 2.10 – Ages of Students in a College Class
- Updated Table 2.11 – Finding Midpoints
- Updated "One Step at a Time: Finding Midpoints" box
- Updated Table 2.12 – Real Class Limits
- Updated Table 2.13 and 2.14 – Age of Students in a College Class
- Updated Table 2.15 – Distribution of Income by Household, United States, 2017
- DELETED "Applying Statistics 2.3: Frequency Distributions"
- Added Social Research and Data Analysis 2.3: Frequency Distributions
- Updated Using SPSS: Frequency Distributions" box
- DELETED "Applying Statistics 2.4: Ratios"
- Added "Social Research and Data Analysis 2.4: Ratios" box
- DELETED "Applying Statistics 2.5: Rates"
- Added "Social Research and Data Analysis 2.5: Rates" box
- DELETED "Applying Statistics 2.6: Percentage Change"
- Updated Table 2.16 – Projected Population Growth for Six Nations, 2018-2050
- Added new information to the Projected Population sections
- Added Table 2.17: Self-Described Religious Affiliation of Adult Americans, 2018
- Added Figure 2.2: Self-Describe Religious Identification of Adult Americans, 2018
- Added Figure 2.3: Self-Described Religious Identification of Adult Americans, 2018
- DELETED Figures 2.4 to 2.3 – homicide rates
- Added Figure 2.4: Suicide Rates for Males and Females by Age Group, 2017
- DELETED Figures 2.5 to 2.4 and changed example to age of US population
- Added Figure 2.5: Unemployment Rate and Earnings by Educational Attainment, 2018
- Added Figure 2.6: Age Distribution of the United States, 2017
- Added Figure 2.7: Age Distribution of the Population of the United States by Gender, 2017
- Updated "Using SPSS: Graphs" box with 2 figures (pie chart and histogram)
- Added Table 2.18: U.S. Households by Type, 2018
- Updated sections on Martial Status
- Updated Table 2.19 on Martial Status for Selected Years
- Added Figure 2.8: Rates of Marriage and Divorce, 1950-2017
- Updated 4 Problems and 4 tables
- Updated "You Are the Researcher: Is There a "Culture War" section and 4 Step boxes
- Some sections were updated for clarity

Learning Objectives: By the end of this chapter, students will be able to

1. Explain how descriptive statistics can be used to make your data understandable
2. Construct frequency distributions for variables at each of the three levels of measurement
3. Compute percentages, proportions, rations, rates, and percentage change for numerical data
4. Analyze pie and bar charts, histograms, and line graphs
5. Create frequency distributions in SPSS and analyze the output

Chapter Summary

This chapter covers relatively simple descriptive devices: frequency distributions, percentages and proportions, ratios, rates, percent change, pie and bar charts, histograms, and line charts. The emphasis is on frequency distributions and the construction and interpretation of these tables for variables measured at each of the three different levels. Instructors may want to supplement this material with additional examples of each technique and/or graphs and charts, especially those created by software such as Microsoft Excel.

The underlying 'theme' of this chapter is the need to present results clearly; to communicate results accurately and concisely but without losing too much detail. Social Research and Data Analysis 2.3, for example, is intended to contrast the anarchy of raw, unorganized data with the clarity and simplicity of the frequency distributions.