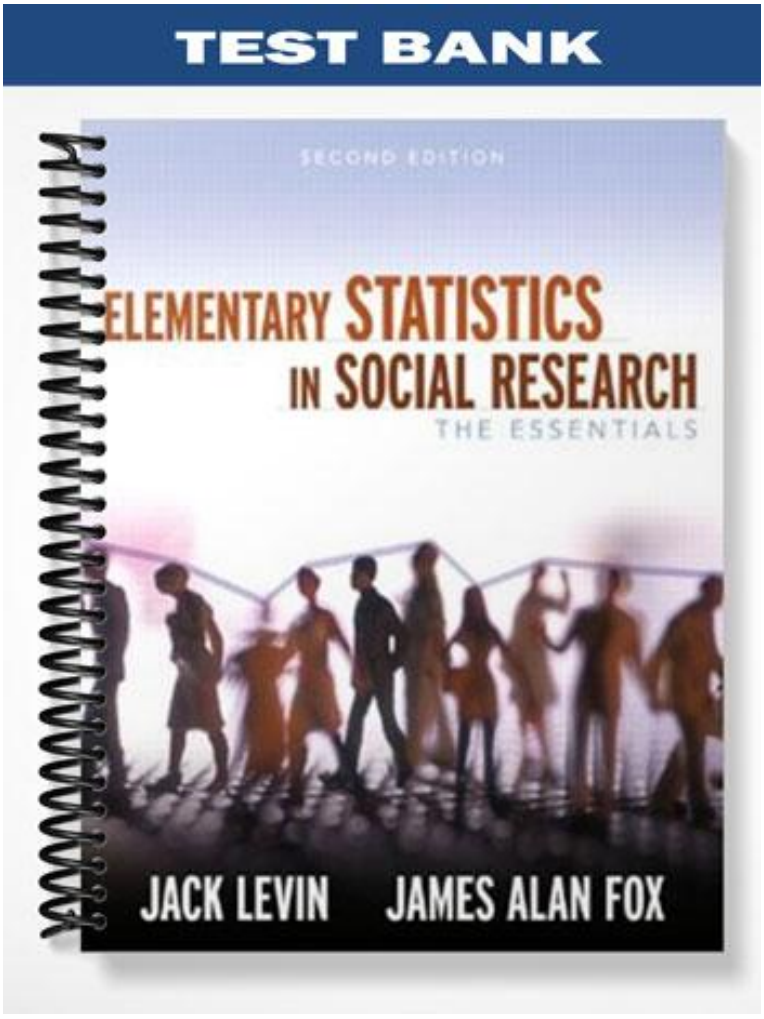
TEST BANK


SECOND EDITION
ELEMENTARY STATISTICS
IN SOCIAL RESEARCH
THE ESSENTIALS
JACK LEVIN
JAMES ALAN FOX

Instructor's Manual and Test Bank

for

Levin and Fox

Elementary Statistics in Social Research
The Essentials

Second Edition

prepared by

Jeb Booth
Northeastern University

Boston New York San Francisco
Mexico City Montreal Toronto London Madrid Munich Paris
Hong Kong Singapore Tokyo Cape Town Sydney

ISBN 0-205-49977-5

Instructor's Manual Contents

Test Bank Contents

Chapter 1 At-a-Glance: Why the Social Researcher Uses Statistics

Detailed Outline	Print Supplements	Media Supplements
The Nature of Social Research p. 1 Explain and Predict • Variables and Constants • Unit of Observation • Hypothesis • Independent & Dependent Variables	**Test Bank: 1.1-1.8; 1.30-1.35** **Workbook: Preface: pgs. 5-6**	**Companion Website: http://wps.ablongman.com/ab_levinfox_elemstats_9**
Why Test Hypotheses p. 2 Social Reality vs. Commonsense Observations • Mass Murder Example •		
The Stages of Social Research p. 4 Identify Problem • Develop Instrument • Collect data • Analyze Results • Report Results	**Test Bank: 1.9, 1.29**	
Using Series of Numbers to Do social Research p. 4 Levels of Measurement • Nominal• Ordinal • Interval • Ordinal as Interval	**Test Bank: 1.10-1.26; 1.26-1.29** **Overhead: I** **Workbook: pgs. 4-5**	
The Functions of Statistics p. 9 Quantify • Description • Frequency Distribution • Decision making • Drawing Inferences • Important Note About Rounding	**Test Bank: 1.27-1.28; 1.36-.39** **Workbook: pgs. 7-10**	
Summary p. 13		
Questions and Problems p. 14 Looking at the Larger Picture		**Companion Website: http://wps.ablongman.com/ab_levinfox_elemstats_9**

OVERHEAD I
DETERMINING LEVELS OF MEASUREMENT

Taken from Chapter 1, the following overhead shows a frequency distribution of age of ten students in a hypothetical statistics class. The features that you might point out are as follows:

- **A question itself, when asked, does not necessarily determine the level of measurement, rather, it is determined by the way the data is recorded, organized, or displayed.**

- **The categories of age are shown in several frequency distributions representing different levels of measurement.**

- **Nominal variables classify or categorize and include dichotomies, those variables with only two choices or reorganized into two categories.**

- **Ordinal variables rank or order the variable attributes in a logical or meaningful way.**

- **Interval variables assign a score that is at an equal distance or 'interval' from those scores adjacent to them. This allows a greater number of mathematical operations.**

Frequency Distribution of Age

Age	f
21 and over	7
20 and under	3
Total	10

Frequency Distribution of Age

Student	Rank Age
Lisa	1 = oldest
Tom	2 = second
Jorge	3 = third
Sheila	4 = fourth
Cole	5 = fifth
Rylee	6 = sixth
Stephen	7 = seventh
Tanya	8 = eighth
Luis	9 = ninth
Veronica	10 = tenth

Frequency Distribution of Age

Student	Age
Lisa	27
Tom	26
Jorge	24
Sheila	23.5
Cole	23
Rylee	22
Stephen	21
Tanya	20
Luis	19
Veronica	18
Total	10

HANDOUT 1.1
DETERMINING LEVELS OF MEASUREMENT

Taken from Chapter 1, the following handout can be used as a quiz, an in-class assignment, or for discussion. The features that you might point out are as follows:

- **Nominal variables classify or categorize and include dichotomies, those variables with only two choices or reorganized into two categories.**

- **Ordinal variables rank or order the variable attributes in a logical or meaningful way.**

- **Interval variables assign a score that is at an equal distance or 'interval' from those scores adjacent to them. This allows a greater number of mathematical operations.**

Handout 1.1

Name: _____ Date: _____ Class: _____

LEVELS OF MEASUREMENT

1. Suppose you were to interview five political candidates about their stance on environmental crime and you organized them from low to high in terms of your opinion of how tough they would be on environmental crime. You would be using what level of measurement?

   a. ratio
   b. ordinal
   c. nominal
   d. interval

2. The identification numbers given to arriving prisoners are example of scores on a(n)

   a. nominal scale
   b. ratio scale
   c. interval scale
   d. ordinal scale

3. Compared to the ordinal level of measurement, the interval level

   a. not only indicates the order of categories, but also the exact distance between them.
   b. does not provide labeling of each score.
   c. starts from a true zero point.
   d. only categorizes.

4. Statistics can be used to

   a. reduce data to more easily understood descriptive terms.
   b. generalize results.
   c. determine when an observed difference between two or more groups is the result of chance, or when it is the result of "real" differences between groups.
   d. all of the above.

5. Criminal justice researchers use measurement to:

   A) classify or categorize data
   B) rank order data
   C) assign a score
   D) all of the above

Handout 1.1

Name: _____ Date: _____ Class: _____

6. Nominal measurement is used primarily to:

   A) classify or categorize data
   B) rank order data
   C) assign a score
   D) all of the above

7. Ordinal measurement is used primarily to:

   A) classify or categorize data
   B) rank order data
   C) assign a score
   D) all of the above

Classify the measurement type in each of the following examples as:

   A) nominal
   B) ordinal
   C) interval

8. Type of car stolen. _____

9. Seriousness of offense. _____

10. Amount of money stolen in dollars. _____

11. Alphabetical listing of inmate names. _____

12. The numbers on an inmate's clothing. _____

13. Racial categories. _____

14. Fear of crime (a lot, some, none). _____

15. Years of sentence length. _____

16. Number of stolen cars. _____

Chapter 2 At-a-Glance: Organizing the Data

Detailed Outline	Print Supplements	Media Supplements
Frequency Distribution of Nominal Data p. 21		**Companion Website: http://wps.ablongman.com/ab_levinfox_elemstats_9**
Comparing Distributions p. 22	**Workbook: pg. 15**	
Proportions and Percentages p. 23	**Test Bank: 2.1-2.8**	
Simple Frequency Distributions of Ordinal and Interval Data p. 24	**Test Bank: 2.9-2.10** **Overhead: II**	
Grouped Frequency Distributions of Interval Data p. 25 Class Limits • The Midpoint • Guidelines for Class Intervals	**Test Bank: 2.11-2.15; 2.30; 2.33** **Workbook: pg. 16**	
Cumulative Distributions p. 27 Cumulative Frequencies • Cumulative Percentage	**Test Bank: 2.16-2.23; 2.36-2.39**	
Dealing with Decimal Data p. 29		
Flexible Class Intervals p. 31	**Test Bank: 2.32** **Workbook: pg. 47**	
Cross-Tabulations p. 33 Marginal Distributions • Total Percents • Row Percents • Column Percents • Choosing among Total, Row, and Column Percents	**Test Bank: 2.24-2.28; 2.42-2.43**	
Graphic Presentations p. 39 Pie Charts • Bar Graphs & Histograms • Frequency Polygons • The Shape of a Frequency Distribution • Kurtosis • Symmetrical Distributions • Skewed Distributions	**Test Bank: 2.29-2.35; 2.40-2.41; 2.44** **Overhead: III** **Workbook: pgs. 49-58**	
Summary p. 45		
Questions and Problems p. 45	**Workbook: pgs. 11-16; 35-38; 47-48;** **59-64**	**Companion Website: http://wps.ablongman.com/ab_levinfox_elemstats_9**

OVERHEAD II
CONSTRUCTING AND DEPICTING FREQUENCY DISTRIBUTIONS

Taken from Chapter 2, the following overhead shows a frequency distribution of seat belt usage and the same data presented in a bar graph. The features that you might point out are as follows:

- **The categories in the frequency distribution of seat belt usage are ordered from high (greatest usage) to low (least usage). Percentages are obtained by dividing each of the frequencies by the total number of cases (997) and then multiplying by 100 to convert proportions to percentages.**

- **The categories of seat belt usage are located along the horizontal base**

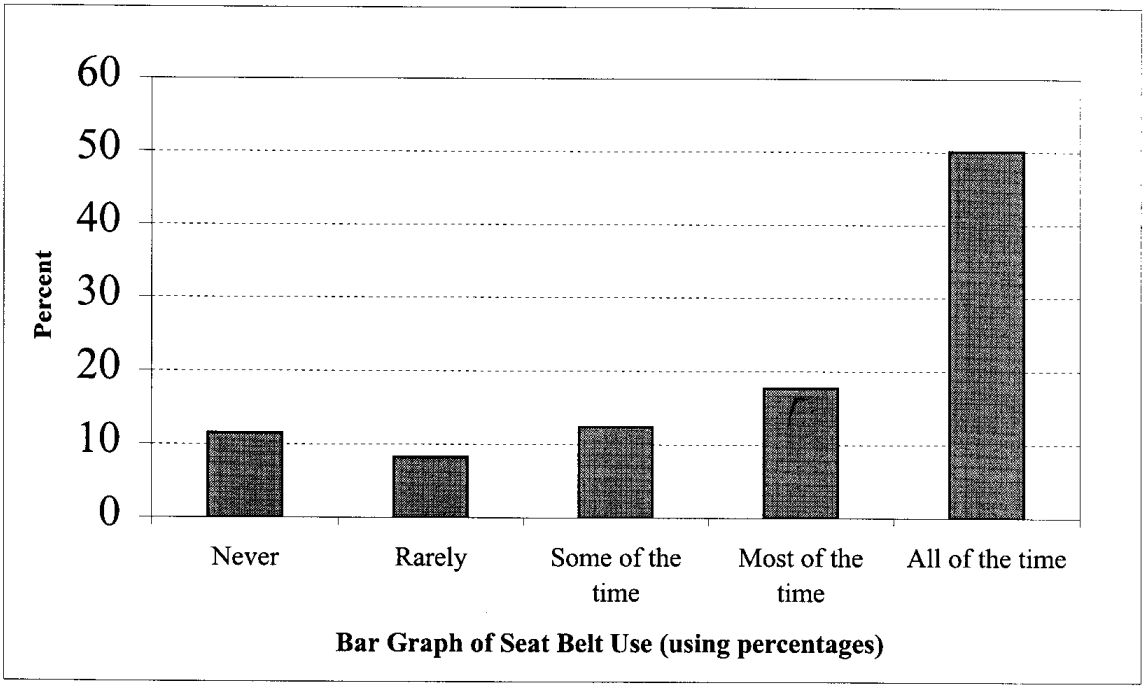
- **The percentages within the class intervals are located on the Y- axis. Frequencies can also be presented.**

- **There is no real difference between graphing vertically or horizontally, except which will fit better on the page.**

- **The taller the bar, the greater the percentage within the category.**

Frequency Distribution of Seat Belt Usage

Use of Seat Belts	f	%
All the time	499	50.1
Most of the time	176	17.7
Some of the time	124	12.4
Rarely	83	8.3
Never	115	11.5
Total	997	100%



Bar Graph of Seat Belt Use (using percentages)

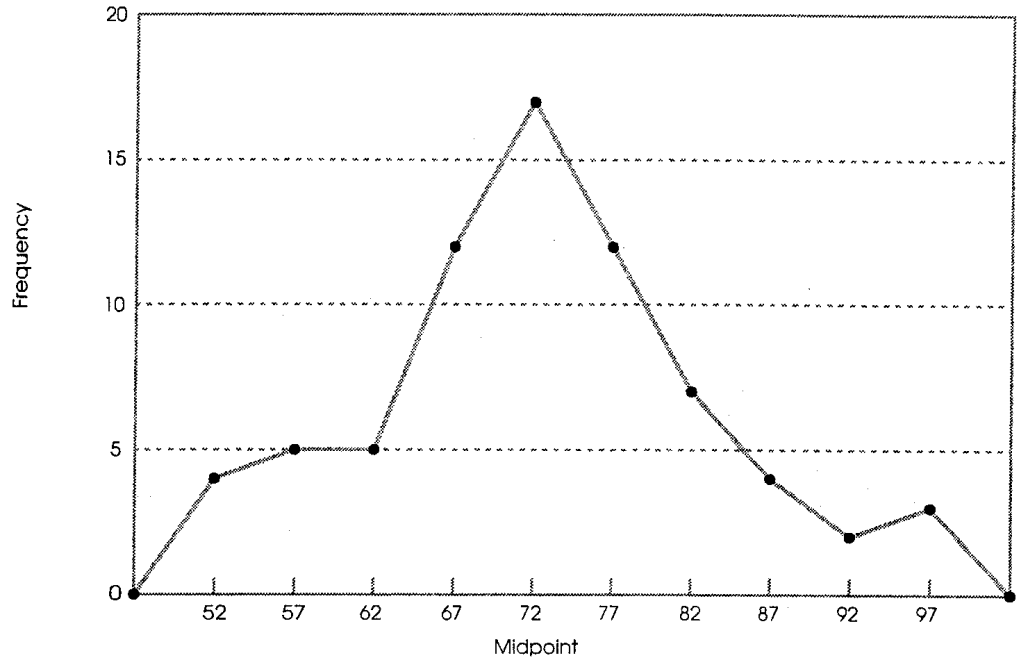
OVERHEAD III
FREQUENCY AND CUMULATIVE FREQUENCY POLYGONS

From Chapter 2, the following overhead shows a frequency polygon and a cumulative frequency polygon for a grouped distribution of student examination scores. The features that you might point out are as follows:

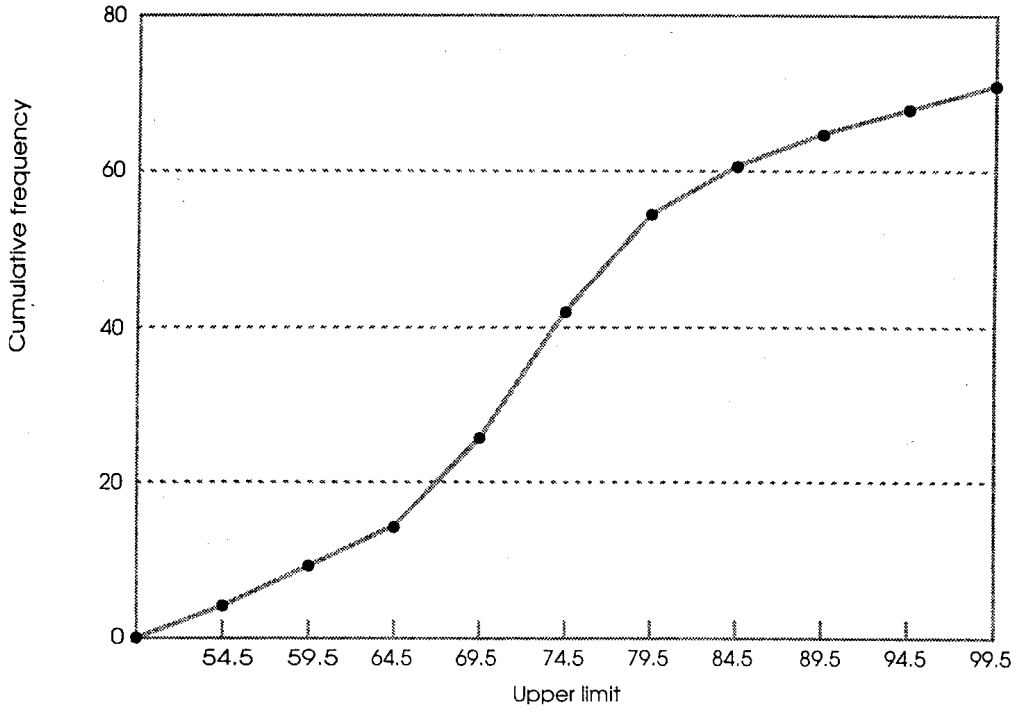
- **In both frequency polygons and cumulative frequency polygons, frequencies are indicated by the height of points connected with a straight line.**

- **In a frequency polygon, the points are plotted above the midpoints of class intervals. In a cumulative frequency polygon, the points are plotted above the upper limits of class intervals.**

- **In a frequency polygon, the straight line connecting adjacent points is dropped to the base line at either end. The straight line that connects all points in a cumulative frequency polygon cannot be dropped back to the base line, because cumulative frequencies are a product of successive additions.**



Frequency Polygon for Distribution of Exam Grades



Cumulative Frequency Polygon for Distribution of Exam Grades