Instructor’s Manual and Test Bank

for

Levin, Fox, and Forde

Elementary Statistics in Social Research
Eleventh Edition

prepared by

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Welcome to the Instructor’s Manual for the 11th edition of Levin and Fox’s *Elementary Statistics in Social Research*. This supplement is substantially different from those for previous editions, and we hope that the number of helpful tools available within the supplement will help you teach the statistics course in the social sciences more effectively and efficiently.

This Instructor’s Manual consists of a set of tools available for each chapter. An “At-a-Glance” grid overviews the sections covered in each chapter from the main text and highlights other supplements that can be used in conjunction with the textbook and Instructor’s Manual. The new and improved version of the Instructor’s Manual contains “Learning Objectives,” “Detailed Lecture Notes,” “Summary,” “Key Terms,” “Lecture Launchers,” and “Demonstrations and Activities” sections for each chapter. This detailed outline view is likely to help novice or seasoned instructors alike with class preparation and teaching. We have also incorporated overheads and handouts from previous editions that can be used to supplement teaching using alternative methods in the classroom. We have also continued, from previous editions, classroom exercises and handouts that can be used to help gauge the understanding level of students in the classroom. A corresponding answer key is also included at the end of the manual that will aid you with the assessment of your student’s understanding.

The help received from previous editions of Instructor’s Manuals and the publishers has been invaluable, but the errors remain mine. I sincerely hope that this Instructor’s Manual meets your needs in taking the students down the path of Statistics in the Social Sciences. Here is to hoping for a fun-filled and exciting statistical journey for you and your students!

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Instructor’s Manual
Chapter 1: Why the Social Researcher Uses Statistics

Chapter At-a-Glance Grid

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Learning Objectives

- Recognize the importance of social research and its dependence on statistics
- Recognize the steps of hypothesis testing
- Recognize various levels of measurement of each variable
- Recognize dependent and independent variables clearly

Detailed Lecture Outlines

The Nature of Social Research – Using past experiences, either our own or those of others, to make predictions for future situations, we are acting as researchers on an informal basis. Social scientists observe and make predictions for society and social behaviors.

- Variables and Constants – Aspects such as gender of mother (female!) are constants among population whereas aspects such as age of mother are variable either across population or over time.
• **Unit of Observation** – Data on individuals or aggregate data such as cities or households
• **Hypothesis** – Statement of relationship between two or more variables
• **Dependent and Independent Variables** – Independent variables are usually the “cause” whereas the dependent variables are the “consequence”
• **Research Methods** – Experiment; survey; participant observation; secondary analysis

**Why Test Hypotheses?** The Social Reality of matters are likely to be different from commonly held perceptions, so hypothesis testing helps us to empirically test the validity of relationships

**The Five Stages of Social Research:**
1. Identify Problem
2. Develop Instruments
3. Collect data
4. Analyze Data
5. Analyze Results

**Using Series of Numbers to Do Social Research** – Data helps with performing statistical analysis and testing hypotheses.
- Three Major Levels of Measurement – Nominal, Ordinal, and Interval/Ratio
- Same variable can be measured using different levels depending on the hypothesis
- Variables can be discrete or continuous

**The Function of Statistics** – Statistics functions as a tool of description or decision making
- Data can be described and analyzed through frequency distributions or through graphs or by the basic descriptive statistics
- Statistical Significance – Researcher needs to establish a level of significance in his/her research
- Rounding Off – We usually round off the final answer to two decimal places, and do not round off while calculating the intermediate steps.

**Summary (page 24)**

In the first chapter we linked our everyday predictions about the course of future events with the experiences of social researchers who use statistics as an aid in testing their hypotheses about the nature of social reality. Almost daily, ordinary people take educated guesses about the future events in their lives. Unlike haphazard and biased everyday observations, however, researchers seek to collect systematic evidence in support of their ideas. For this purpose, and depending on their particular research objective, they might decide to conduct a survey, an experiment, participant observation, a content analysis, or a secondary analysis. Depending on the particular level of measurement, series of numbers are often employed by social researchers to categorize (nominal level), rank (ordinal level), or score (interval/ratio level) their data. Finally, social researchers are able to take advantage of two major functions of statistics in the data-analysis stage of social research: description (that is, reducing quantitative data to a smaller number of more convenient descriptive terms) and decision making (that is, drawing inferences from samples to populations).
Key Terms

Hypothesis
Variable
Experiment
Survey
Content analysis
Participant observation
Measurement
Level of measurement
Nominal
Ordinal
Interval/Ratio

Lecture Launchers and/or Discussion Topics

The textbook has some examples on current events or relevant social events that might interest the students. However, it is important to pick a topic other than those from the textbook in order to better inform students as to the relevance of statistics. Pick a newspaper article at random and illustrate to students how social research is relevant.

Demonstrations and/or Activities

Pick any current health issue such as depression or cancer and try to get students to determine what the independent variables might be for such an issue. Clearly demonstrate how the outcome is the dependent variable whereas the inputs are all independent variables in such cases.
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.
LEVELS OF MEASUREMENT

1. Suppose you were interviewing people about their views on gun control. You ask the respondents the following question: How much do you agree or disagree with this statement, “The United States needs stiffer laws controlling the purchase and ownership of guns.” The respondents are then asked to rank their feelings on the following scale: strongly agree, somewhat agree, neither agree or disagree, somewhat disagree, or strongly disagree. You would be using what level of measurement?
   a. ratio  c. nominal
   b. ordinal  d. interval

2. The jersey numbers associated with players on a baseball team are examples 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. Sociologists use measurement to
   a. classify or categorize data.
   b. rank order data.
   c. assign a score.
   d. all of the above
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. What dorm you live in _____
9. Number of children in a family _____
10. Tuition in dollars _____
11. Attitudes toward premarital sex between consenting adults (always wrong, usually wrong, sometimes wrong, never wrong) _____
12. The numbers on an athlete’s jersey _____
13. Racial categories _____
14. Fear of crime (a lot, some, none) _____
15. Number of hours per week survey respondent watches TV _____
16. Number of stolen cars in a city _____
What Are the Independent and Dependent Variables?

17. A social researcher is attempting to look at the relationship between race and income.

18. A sociologist tries to do research on religious affiliation and views on premarital sex.

19. A sociologist tries to examine the relationship between being drunk and a person’s bowling scores.

20. A sociologist tries to examine the relationship between political party affiliation and views on the war in Iraq.