

國立成功大學
110學年度碩士班招生考試試題

編 號： 339

系 所： 老年學研究所

科 目： 研究方法與統計

日 期： 0203

節 次： 第 3 節

備 註： 不可使用計算機

※ 考生請注意：本試題不可使用計算機。請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

一、選擇題: (50 分，每題 5 分)

1. Variables measured in an experiment, sometimes called outcome variables are:

- (A) control variables
- (B) independent variables
- (C) confounding variables
- (D) dependent variables

2. What does it mean if two variables have a positive correlation?

- (A) As one variable increases, so does the other
- (B) As one variable increases, the other decreases
- (C) The correlation between the two variables is 0
- (D) The correlation between the two variables is greater than 1.0

3. How can we determine if a test has good validity?

- (A) It produces the same result when it is given at different times to the same group of people
- (B) It produces the same result no matter which version of the test is used
- (C) It measures what it is supposed to measure
- (D) All of the questions on it can be answered accurately by the subject

4. What is the variable called that a researcher manipulates in an experiment?

- (A) Dependent variable
- (B) Independent variable
- (C) Extraneous variable
- (D) None of the above

5. What is the difference between the highest and lowest scores in a data distribution called?

- (A) Mode
- (B) Standard deviation
- (C) Range
- (D) Median

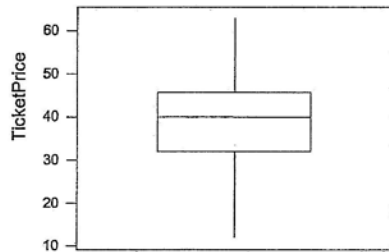
6. What is a common way of controlling extraneous variables in an experiment?

- (A) Random assignment
- (B) Double-blind procedure
- (C) Single-blind procedure
- (D) Using animal subjects

7. In order for a variable to be measured, a researcher must provide a(n) _____.
- (A) operational definition
 - (B) quantitative theorem
 - (C) hypothesis
 - (D) scale
 - (E) theory
8. Which of the following was not identified as one of the four conditions that must be met before a researcher can say that an independent variable or variables caused the change in the dependent variable?
- (A) time order
 - (B) theory
 - (C) elimination of spuriousness
 - (D) correlation
 - (E) internal consistency
9. What research method is popular because it is comparatively inexpensive and well-suited to studying large numbers of people?
- (A) content analysis
 - (B) participant observation
 - (C) experiments
 - (D) interviews
 - (E) surveys
10. The major advantage of interviews is _____.
- (A) they are not time consuming
 - (B) that the researcher can ask more detailed questions
 - (C) the response rate is high
 - (D) the interviewer can guess the age of the respondent
 - (E) that people are more likely to be honest
- 二、題組題: (50 分，每小題 5 分)
1. Suppose researchers want to test the theory that elderly people who walk a lot have better mental function than those who walk very little. One possible design is to recruit elderly people for a study; assign some of them to walk 90 minutes every week and others to walk only 40 minutes a week. After many weeks, compare scores on a test of cognitive competence for those in the two groups.
- 1-1. Report the two variables of interest, which is explanatory and which is response, and whether each is quantitative or categorical. Will results be summarized with means or proportions?

- 1-2 The design is best described as (A) an experiment (B) an observational study (C) a survey.
- 1-3 Which is more important: (A) obtaining a random sample of elderly people to participate in the study, or (B) randomly assigning to 90 or 40 minutes of walking per week?
- 1-4 The design described is (A) paired or (B) two-sample.
- 1-5 What is the most obvious reason why some of the elderly people would fail to complete the prescribed 90 minutes of walking per week?
- 1-6 The most worrisome flaw is (A) confounding variables (B) lack of realism (C) the placebo effect (D) people's faulty memories (E) non-compliance.

2. This boxplot shows prices for older adult weekend movie tickets in various states in the U.S. of 2020.



- 2-1 The shape is (A) noticeably skewed to the left (B) approximately symmetric (C) noticeably skewed to the right a.
- 2-2 Which of these is your best guess for the interquartile range ($IQR = Q3 - Q1$)? (A) 15 (B) 25 (C) 35 (D) 50
- 2-3 Suppose price is included for a new state that only charges \$10 for a movie ticket. How would this affect the mean? (No calculations necessary.) (A) decrease it (B) no effect (C) increase it
- 2-4 Suppose price is included for a new state that only charges \$10 for a movie ticket. How would this affect the standard deviation? (No calculations necessary.) (A) decrease it (B) no effect (C) increase it