

系所組別：教育研究所

考試科目：社會科學研究法

考試日期：0226，節次：1

一、Match each term (a-f) with one of the definitions (1-12) that best describes it. (30分，每個5分)

- (a) 標準誤 Standard error
- (b) 對立假設 The alternative hypothesis
- (c) 內部一致性 Internal consistency
- (d) 測量標準誤 standard error of measurement
- (e) 型 I 錯誤 Type I error
- (f) 選擇偏誤 The selection bias

- (1) The probability of making a Type I error on any given comparison.
- (2) The extent to which tests or procedures assess the same characteristic.
- (3) The logical error of falsely rejecting H_0 when H_0 is true.
- (4) A hypothesis says an independent variable has a significant effect on a dependent variable.
- (5) A hypothesis that states there is no significant effect of an independent variable on a dependent variable.
- (6) A systematic error due to a non-random sample of a population.
- (7) Subjects respond in ways that they think are appropriate or expected by the researcher.
- (8) Acceptance of H_0 when H_0 is false.
- (9) Scores are transformed observations that are measured in standard deviation units.
- (10) The subset of the sample space that leads to rejection of H_0 .
- (11) An estimate of error to use in interpreting an individual's test score.
- (12) The standard deviation of the sampling distribution of a statistic.

(背面仍有題目,請繼續作答)

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二、計算題(20%)

若從一個學生成績的常態群體 $N(\mu, \sigma^2)$ 間取25個樣本，他們的分數分別為 y_1, \dots, y_{25} 。由前36個樣本算出均數 $\bar{y} = 86$ 分，標準差 $s = 10$ 分

(1)請以顯著水準 $\alpha=0.05$ 檢驗下述假設並做成結論。 $H_0: \mu=90$ vs $H_a: \mu \neq 90$ (2)
請再利用(1)的資料求出 μ 的 95%信賴區間，並做解釋與結論。

$$\left(\text{註： } \begin{array}{l} {}_{0.025}t_{24} = 2.064, \\ {}_{0.05}t_{24} = 1.71 \end{array} \right)$$

三、請解釋下列各組中的兩個研究法相關名詞，並說明其兩者之差異處：（每題10分，共30分）

1. 「分層抽樣」(Stratified Sampling)與「分段抽樣」(Multistage Sampling)
2. 「抑制變項」(Suppressor Variable)與「調節變項」(Moderator Variable)
3. 「內容效度」(Content Validity)與「構念效度」(Construct Validity)

四、試陳述何謂質性及量化研究（5分）？並指出兩者在抽樣或選取研究對象、資料分析上的差異性（10分）。在質性及量化研究中，你比較喜歡應用那一研究方法？其理由為何（5分）？