

科目：心理學方法

系所組：臨床心理學系碩士班

一、選擇題(單選題八題，每題 2%；複選題三題，每題 3%；複選題需全對才給分;25%)

1.To be successful, science must (2%)

- A. conduct research ethically
- B. avoid self-examine its practices to determine what is working and what is not
- C. engage in ongoing self-promotion
- D. interpret findings strategically to prove the one and only accurate hypothesis

2.About variables, which of the following statements is WRONG (2%)

- A. mediating variable occurs between two other variables in a causal chain
- B. in this case “the impact of anxiety on memory depends on the level of fatigue”, the moderating variable is memory
- C. causal effect may refer to a probabilistic relationship between an independent variable and a dependent variable
- D. extraneous variables are variables that compete with the independent variable in explaining the dependent variable

3.Which of the following would be the least capable of scientific investigation and thus would represent the worst potential research idea? (2%)

- A. Which is better to decrease fatigue, tea or coffee?
- B. Which animal can solve a particular maze faster, cats or dogs?
- C. Which produces better memory, studying with or without caffeine?
- D. Which dance is more valuable to society, ballet or hip-hop?

4.Which of the following situations would NOT necessitate a larger sample size? (2%)

- A. if you use proportional stratified sampling
- B. if your population is heterogeneous
- C. if you plan to use multiple categories
- D. if you expect a weak effect

5.Failure to identify interactive effects of independent variables can result in (2%)

- A. confounding variables
- B. a failure to generalize results
- C. external validity
- D. none of the above

6.Although the extent to which experimenter effects influence study outcomes is controversial, techniques have been developed to at least partially counteract these effects. Which of the following is the LEAST likely to be used? (2%)

- A. using a random sample of experimenters to control for experimenter attribute effects
- B. keeping the experimenter unaware of the experimental condition a given participant is tested in
- C. keeping the experimenter unaware of the experimental condition a given participant is in for as long as possible
- D. automating as many aspects of the experiment as possible

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7. A research study examined the effects of playing violent or non-violent video games on the aggressive behavior of children of three different ages (11 year olds, 12 year olds and 13 year olds). The researchers found that, regardless of age, children who played violent video games were more aggressive than those who played non-violent video games. This finding represents a(n) (2%)

- A. main effect
- B. interactive effect.
- C. two-way interaction.
- D. mixed interaction.

8. A small town decides to ban cell phone texting while driving. Before putting the law into effect, officials measure the amount of cell phone use among drivers by placing observers at a busy intersection and recording the percentage of drivers using phones. They do this over 6 consecutive one-week intervals, each week being the middle week of a month (i.e., six months of pretesting). Right after the law is passed, officials repeat the observational study for another six months. Which of the following is true about the design of this study? (2%)

- A. it is an interrupted time series design
- B. it is an example of a nonequivalent control group design
- C. without a control group, there is no way to evaluate trends with this design
- D. because there are multiple observations this would qualify as a regression discontinuity design

9. Regarding research validity (3%)

- A. is the truthfulness of inferences made from a research study
- B. confounding extraneous variables is the primary threat to external validity
- C. major types of research validity are statistical conclusion validity, construct validity, internal validity and external validity
- D. large sample size is a threat to statistical conclusion validity

10. When deciding if the benefit of the research is greater than the cost to the participants (3%)

- A. cost-benefit ratio should be seriously considered
- B. primary consideration should always be the welfare of the society
- C. the current recommendation is to present research to the Institutional Review Board (IRB) for review
- D. "high cost and low benefit in the decision-plane model" usually not approved

11. Researchers who were interested in the changes that occur in students' executive functions during adolescence recruited a group of 10th graders and a group of 11th graders and followed them until they completed 11th and 12th grade, respectively (3%)

- A. the design is cohort-sequential
- B. different age groups can be tested longitudinally
- C. the design is very likely to be qualitative
- D. the design is a combination of cross-sectional and longitudinal designs

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二、問答題 A 與計算題(40%,F 表於第五頁)

- 因素分析是心理測驗編製時重要的統計方法，而應用上又可分為探索性因素分析與驗證性因素分析，試從問題形式、因素構面、統計程序等角度說明這二種統計方法的差異。(8%)
- 中介模式、調節模式及調節中介模式是近期研究變項間因果模式的重要統計方法，試以問題、圖形及所需建構的多元迴歸方程說明這三者。(12%)
- 心理韌性是個體面對挫敗、困境的回彈力，某研究者想了解生活中的正負向事件對不同心理韌性的人，其正向情緒的影響，於是進行了一項準實驗，讓不同心理韌性者經歷正向或負向事件，然後測量其正向情緒的強度(分數愈高表示正向情緒愈高)，分析結果如下，請(1)寫出統計假設(2)針對此結果，進行後續的分析(3)以圖、文字為此研究寫一份報告，報告中應包括效果量。(事件為 X1, 心理韌性為 X2, $\alpha = .05$; 12%)

敘述統計

依變數：正向情緒

事件	心理韌性	平均值	標準差	N
正向	高	25.8000	1.30384	5
	中	26.4000	1.51658	5
	低	27.6000	1.67332	5
	總計	26.6000	1.59463	15
負向	高	22.2000	1.30384	5
	中	17.4000	2.07364	5
	低	13.6000	2.70185	5
	總計	17.7333	4.13118	15
總計	高	24.0000	2.26078	10
	中	21.9000	5.04315	10
	低	20.6000	7.67680	10
	總計	22.1667	5.45883	30

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受試者問效應項檢定

依變數：正向情緒

來源	類型 III 平方和	自由度	均方	F	顯著性
修正模型	783.767 ^a	5	156.753	46.792	.000
截距	14740.833	1	14740.833	4400.249	.000
x1	589.633	1	589.633	176.010	.000
x2	58.867	2	29.433	8.786	.001
x1 * x2	135.267	2	67.633	20.189	.000
誤	80.400	24	3.350		
總計	15605.000	30			
修正後總數	864.167	29			

a. R 平方 = .907 (調整的 R 平方 = .888)

4. 近年來物價上揚，房價更是高不可攀，然而薪水的上升卻是遠遠跟不上腳步。有研究者對不同年齡族群的人在這二件事項的想法感興趣，於是他進行了年輕與年長者對”抑制房價”與”控制通膨”二事項的重要性調查，結果如下表所示。請為其進行必要的統計分析，並說明結果的意義。(8%)

計數

	重要事項		總計
	抑制房價	控制通膨	
年齡族群-年輕	83	47	130
年長	40	90	130
總計	123	137	260

三、問答題 B (35%)

國內某位學者曾編製「華人勇氣量表」，她的「華人勇氣量表」可分為五個分量表，亦即「意志」、「果斷」、「挑戰」、「冒險」、「擔當」，題目共計52題，以Likert式四點量表評量，其Cronbach's α 係數分別為意志.72、果斷.80、挑戰.68、冒險為.77、擔當.69，整體量表之Cronbach's α 係數為.88。請根據您心理測驗的知識，回答下列的問題：

問題一：請問上述缺乏哪些訊息，讓您無法判斷此量表的好壞？

問題二：就目前提供的訊息，您覺得此量表的優缺點為何？

問題三：根據您對華人「華人勇氣」的概念與理解，您會怎麼建立「華人勇氣」量表，以及您覺得「華人勇氣」量表應包含哪些概念？此外，您會選用哪些「量表」來建立「同時效度」(concurrent validity)、「預測效度」(predictive validity)或「建構效度」(construct validity)？理由為何？

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Critical values of the F distribution for $\alpha = .05$. A value of $F_{obs} (df_{numerator}, df_{denominator})$ equal to or greater than the tabled value is statistically significant at the .05 significance level

		Degrees of Freedom for the Numerator																		
		1	2	3	4	5	6	7	8	9	10	12	15	20	24	30	40	60	120	∞
Degrees of Freedom for the Denominator	1	161.4	199.5	215.7	224.6	230.2	234.0	236.8	238.9	240.5	241.9	243.9	245.9	248.0	249.1	250.1	251.1	252.2	253.3	254.3
	2	18.51	19.00	19.16	19.25	19.30	19.33	19.35	19.37	19.38	19.40	19.41	19.43	19.45	19.45	19.46	19.47	19.48	19.49	19.50
	3	10.13	9.55	9.28	9.12	9.01	8.94	8.89	8.85	8.81	8.79	8.74	8.70	8.66	8.64	8.62	8.59	8.57	8.55	8.53
	4	7.71	6.94	6.59	6.39	6.26	6.16	6.09	6.04	6.00	5.96	5.91	5.86	5.80	5.77	5.75	5.72	5.69	5.66	5.63
	5	6.61	5.79	5.41	5.19	5.05	4.95	4.88	4.82	4.77	4.74	4.68	4.62	4.56	4.53	4.50	4.46	4.43	4.40	4.36
	6	5.99	5.14	4.76	4.53	4.39	4.28	4.21	4.15	4.10	4.06	4.00	3.94	3.87	3.84	3.81	3.77	3.74	3.70	3.67
	7	5.59	4.74	4.35	4.12	3.97	3.87	3.79	3.73	3.68	3.64	3.57	3.51	3.44	3.41	3.38	3.34	3.30	3.27	3.23
	8	5.32	4.46	4.07	3.84	3.69	3.58	3.50	3.44	3.39	3.35	3.28	3.22	3.15	3.12	3.08	3.04	3.01	2.97	2.93
	9	5.12	4.26	3.86	3.63	3.48	3.37	3.29	3.23	3.18	3.14	3.07	3.01	2.94	2.90	2.86	2.83	2.79	2.75	2.71
	10	4.96	4.10	3.71	3.48	3.33	3.22	3.14	3.07	3.02	2.98	2.91	2.85	2.77	2.74	2.70	2.66	2.62	2.58	2.54
	11	4.84	3.98	3.59	3.36	3.20	3.09	3.01	2.95	2.90	2.85	2.79	2.72	2.65	2.61	2.57	2.53	2.49	2.45	2.40
	12	4.75	3.89	3.49	3.26	3.11	3.00	2.91	2.85	2.80	2.75	2.69	2.62	2.54	2.51	2.47	2.43	2.38	2.34	2.30
	13	4.67	3.81	3.41	3.18	3.03	2.92	2.83	2.77	2.71	2.67	2.60	2.53	2.46	2.42	2.38	2.34	2.30	2.25	2.21
	14	4.60	3.74	3.34	3.11	2.96	2.85	2.76	2.70	2.65	2.60	2.53	2.46	2.39	2.35	2.31	2.27	2.22	2.18	2.13
	15	4.54	3.68	3.29	3.06	2.90	2.79	2.71	2.64	2.59	2.54	2.48	2.40	2.33	2.29	2.25	2.20	2.16	2.11	2.07
	16	4.49	3.63	3.24	3.01	2.85	2.74	2.66	2.59	2.54	2.49	2.42	2.35	2.28	2.24	2.19	2.15	2.11	2.06	2.01
	17	4.45	3.59	3.20	2.96	2.81	2.70	2.61	2.55	2.49	2.45	2.38	2.31	2.23	2.19	2.15	2.10	2.06	2.01	1.96
	18	4.41	3.55	3.16	2.93	2.77	2.66	2.58	2.51	2.46	2.41	2.34	2.27	2.19	2.15	2.11	2.06	2.02	1.97	1.92
	19	4.38	3.52	3.13	2.90	2.74	2.63	2.54	2.48	2.42	2.38	2.31	2.23	2.16	2.11	2.07	2.03	1.98	1.93	1.88
	20	4.35	3.49	3.10	2.87	2.71	2.60	2.51	2.45	2.39	2.35	2.28	2.20	2.12	2.08	2.04	1.99	1.95	1.90	1.84
	21	4.32	3.47	3.07	2.84	2.68	2.57	2.49	2.42	2.37	2.32	2.25	2.18	2.10	2.05	2.01	1.96	1.92	1.87	1.81
	22	4.30	3.44	3.05	2.82	2.66	2.55	2.46	2.40	2.34	2.30	2.23	2.15	2.07	2.03	1.98	1.94	1.89	1.84	1.78
	23	4.28	3.42	3.03	2.80	2.64	2.53	2.44	2.37	2.32	2.27	2.20	2.13	2.05	2.01	1.96	1.91	1.86	1.81	1.76
	24	4.26	3.40	3.01	2.78	2.62	2.51	2.42	2.36	2.30	2.25	2.18	2.11	2.03	1.98	1.94	1.89	1.84	1.79	1.73
25	4.24	3.39	2.99	2.76	2.60	2.49	2.40	2.34	2.28	2.24	2.16	2.09	2.01	1.96	1.92	1.87	1.82	1.77	1.71	
26	4.23	3.37	2.98	2.74	2.59	2.47	2.39	2.32	2.27	2.22	2.15	2.07	1.99	1.95	1.90	1.85	1.80	1.75	1.69	
27	4.21	3.35	2.96	2.73	2.57	2.46	2.37	2.31	2.25	2.20	2.13	2.06	1.97	1.93	1.88	1.84	1.79	1.73	1.67	
28	4.20	3.34	2.95	2.71	2.56	2.45	2.36	2.29	2.24	2.19	2.12	2.04	1.96	1.91	1.87	1.82	1.77	1.71	1.65	
29	4.18	3.33	2.93	2.70	2.55	2.43	2.35	2.28	2.22	2.18	2.10	2.03	1.94	1.90	1.85	1.81	1.75	1.70	1.64	
30	4.17	3.32	2.92	2.69	2.53	2.42	2.33	2.27	2.21	2.16	2.09	2.01	1.93	1.89	1.84	1.79	1.74	1.68	1.62	
40	4.08	3.23	2.84	2.61	2.45	2.34	2.25	2.18	2.12	2.08	2.00	1.92	1.84	1.79	1.74	1.69	1.64	1.58	1.51	
60	4.00	3.15	2.76	2.53	2.37	2.25	2.17	2.10	2.04	1.99	1.92	1.84	1.75	1.70	1.65	1.59	1.53	1.47	1.39	
120	3.92	3.07	2.68	2.45	2.29	2.17	2.09	2.02	1.96	1.91	1.83	1.75	1.66	1.61	1.55	1.50	1.43	1.35	1.25	
∞	3.84	3.00	2.60	2.37	2.21	2.10	2.01	1.94	1.88	1.83	1.75	1.67	1.57	1.52	1.46	1.39	1.32	1.22	1.00	

Table F. Distribution (variance ratio). Upper 5% points. F. S. Pearson and H. O. Hartley, *Biometrika Tables for*

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