

**PSYCHOLOGY
HIGHER LEVEL
PAPER 2**

Thursday 9 May 2002 (morning)

3 hours

INSTRUCTIONS TO CANDIDATES

- Do not open this examination paper until instructed to do so.
- Section A: read the research report carefully and then answer all the questions.
- Section B: answer two questions, each chosen from a different Optional Subject Area.

SECTION A

Read the following research report carefully, and then answer **all** the questions.

The allocation of marks for each question is indicated in the margin.

5 A team of psychological researchers suggests that the more experience we have in using spatial memory the greater will be our spatial ability. Spatial memory is used when we have to find our way around a town or give someone directions around a building. Spatial ability can be assessed using a test of spatial reasoning. Such a test could involve solving problems concerning shapes or using a pencil to find a route round a maze drawn on paper.

10 Researchers selected a sample of London taxi drivers by asking for volunteers in a magazine read by most taxi drivers in the city. The researchers also selected a sample of people from among volunteers who were students or staff at their university. This second sample, who were not all experienced car drivers, served as a control group. Each taxi driver was matched with a member of the control group on the variables of age, education, salary and type of accommodation occupied.

15 Both groups were then given a spatial reasoning test. The results of this test are shown in the two stem and leaf charts below (**Table I**). A summary of descriptive statistics is given in **Table II**. The mean for the taxi-drivers was higher than the mean for the control group. The difference between the two groups of scores was tested and it was found that they were significantly different with $p < 0.01$. It was also found that there was a moderately strong correlation of 0.78 between each taxi driver’s spatial reasoning score and the length of time they had been driving a taxi.

Table I : Stem and leaf chart of spatial reasoning scores – each stem is ten units

Taxi drivers		Control group	
1	9	1	79
2	4669	2	13356889
3	00123578	3	02455566667799
4	1113345566799	4	1223335667899
5	000112223334455666	5	012334446789
6	11334556677899	6	234568

Table II : Spatial reasoning scores

	N	Mean	Standard Deviation
Taxi drivers	58	48.9	12.93
Control group	54	42.5	12.81

1. Explain why this research design is not a true experiment. [2 marks]
2. State the independent variable and give a reason for your answer. [2 marks]
3. State the dependent variable and give a reason for your answer. [2 marks]
4. Explain why the selection method used for both samples of participants might produce bias. [2 marks]
5. The test of spatial reasoning used in this research should be:
 - (a) reliable
 - and**
 - (b) valid.

Explain what is meant by **each** of these terms with reference to the tests. [4 marks]

6. Psychological tests need to be standardised before they are used as measures in research. Explain what is meant by the term *standardised test*. [2 marks]
7. Explain the difference between the mean and the median as measures of central tendency. [2 marks]
8. **Table I** shows the stem and leaf chart for the taxi drivers' and control group's scores on spatial reasoning.

State which group's scores would be described as particularly "skewed", give a reason for this answer, and indicate the direction of the skew. [4 marks]

9. **Table II** gives values for the standard deviation in each group.
 - (a) Explain what is meant by the term *standard deviation*. [2 marks]
 - (b) Explain what is meant by saying that a participant in a study has a standard score (z score) of 1.5. [2 marks]

10. (a) Select a statistical test which could be used to test the significance of the difference between the two sets of spatial reasoning scores produced by the taxi drivers and the control group. *[1 mark]*

(b) Give **two** reasons why you selected the test you chose in part (a). *[2 marks]*

11. Explain what is meant by describing the difference as significant with “ $p < 0.01$ ” (line 16). *[3 marks]*

12. The correlation of 0.78 between time spent driving and spatial reasoning score is described as “moderately strong” (line 16). Explain what is meant by this description. *[2 marks]*

13. The researchers claim that the difference between the spatial reasoning scores of the taxi drivers and the control group is likely to be caused by the taxi drivers’ experience in using their spatial memory in their job every day.

Describe **two** confounding variables which might account for the difference found. Give a reason for **each** answer and base your answer only on the information provided within the research description given above. *[6 marks]*

14. The research described here was not a true experiment. Describe a true experiment which could be carried out in order to test the hypothesis that daily intensive use of spatial memory will lead to an increase in spatial abilities in humans.

Marks will be awarded for

(a) clear outline of the experimental design *[2 marks]*

(b) explicit identification of IV and DV *[2 marks]*

(c) sample selection *[2 marks]*

(d) precise research procedure. *[2 marks]*

15. In the experimental design which you have just described in question 14, state **two** ethical issues which the researcher should identify and explain **each** of these. *[4 marks]*

SECTION B

*Marks will be awarded for clear presentation of **theories**, inclusion of appropriate **empirical studies** and **evaluation**. When structured questions are set (that is, with parts a and b) candidates should clearly label each part of their answer a and b.*

Biological bases of behaviour

16. (a) Describe effects of drugs on the nervous system. [13 marks]
(b) Consider how these drugs may affect behaviour in humans. [12 marks]
17. Describe how the brain is affected by **one** degenerative disease and discuss how this disease alters the behaviour of its human sufferers. [25 marks]
18. Describe and evaluate **two** studies of bodily rhythms. [25 marks]

Comparative psychology

19. (a) Consider courtship behaviour in birds prior to mating. [13 marks]
(b) Discuss the extent to which such behaviour differs from pre-mating behaviour in other species. [12 marks]
20. Discuss explanations of visual communication between animals. [25 marks]
21. Describe and evaluate **two** theories that attempt to account for the evolution of behaviour in non-human animals. [25 marks]

Delinquency and crime

22. (a) With reference to empirical studies, describe **two** major family factors that contribute to the development of delinquent and criminal behaviour. *[13 marks]*
- (b) Evaluate the importance of family factors as an influence on the development of delinquent and criminal behaviour. *[12 marks]*
23. “Delinquent and criminal behaviour may be learned, but it is also a rational choice.” Evaluate this claim using the social learning and cognitive approaches. *[25 marks]*
24. Consider how theories of identity development and stigmatisation help to explain the social construction of the criminal identity. *[25 marks]*

Dysfunctional behaviour

25. Critically consider behavioural explanations of dysfunctional behaviour, and the resultant therapies. *[25 marks]*
26. Describe and assess theory and research into the origins of schizophrenia. *[25 marks]*
27. (a) Outline assumptions made about the origins of dysfunctional behaviour from the biomedical perspective. *[10 marks]*
- (b) Discuss ethical and practical implications arising from the use of this approach. *[15 marks]*

The psychology of gender

28. There are more illiterate women than men in all parts of the world. Examine the possible reasons for this gender difference by referring to theories and/or research, studied within this option. *[25 marks]*
29. (a) Choose one of the cognitive theories of acquisition of gender identity and compare and contrast it to the Social Learning theory explanation. *[15 marks]*
- (b) How can these two theories explain cultural and cross-cultural differences in gender roles? *[10 marks]*
30. To what extent can gender differences in mental health be explained by biological factors? Support your answer by considering other possible explanations. *[25 marks]*

Intelligence and personality

31. “Human behaviour is primarily influenced by genetic factors.” Discuss this statement by referring to specific research in the field of personality. *[25 marks]*
32. (a) Describe the differences between nomothetic and idiographic theories of personality. *[15 marks]*
- (b) Examine the strengths and weaknesses of each type of theory. *[10 marks]*
33. Examine controversies in the production and use of intelligence tests. *[25 marks]*

Life span psychology

34. Examine methodological and ethical considerations associated with the study of the individual across the life span. *[25 marks]*
35. (a) Outline **one** theory of adulthood. *[12 marks]*
- (b) Use examples of cultural variation in evaluating the chosen theory. *[13 marks]*
36. Consider how the concepts of childhood attachment and separation relate to behaviour in adulthood. *[25 marks]*

The migrant, sojourner and tourist experience

37. Using psychological theory and/or research, consider why the development and maintenance of the migrant's and sojourner's personal identity is especially difficult in foreign environments. *[25 marks]*
38. (a) Cultural values are maintained by more traditional societies. Comment on the relationship between international mass media and the cultural values of such societies, using relevant psychological theory/research in your answer. *[15 marks]*
- (b) Explain the possible psychological consequences of this relationship. *[10 marks]*
39. Analyse the positive and negative psychological consequences of travel for the tourist. *[25 marks]*

Organisational psychology

40. Explain why the structures of organisations vary according to different cultures. *[25 marks]*
41. Stress is common in individuals working within organisations.
- (a) Discuss physiological stress that arises from working within organisations. *[12 marks]*
- (b) How do organisations contribute to the development of psychological stress in individuals? *[13 marks]*
42. Identify some of the barriers to communication within organisations, and assess ways in which these have been successfully overcome. *[25 marks]*

Social psychology

43. Explain through reference to empirical research the ways in which socially contextualised conceptualisations of identity (“collectivist”) may be similar to **and** different from individualistic ones. *[25 marks]*
44. (a) Identify and explain some of the psychological factors which contribute to interpersonal aggression. *[15 marks]*
- (b) Evaluate research studies which suggest that environmental factors may contribute to interpersonal aggression. *[10 marks]*
45. Assess the influence of social norms on attitudes and behaviour. *[25 marks]*
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