

AQA A-LEVEL PSYCHOLOGY • 7182

PSYCHOLOGY



EXAM QUESTION PACK

3.3.1 THE NATURE-NURTURE DEBATE

SCORE

/48

PERCENTAGE

%

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Q1.

What is meant by the 'nature-nurture debate' in psychology?

(Total 2 marks)

Q2.

Read the item and then answer the questions that follow.

Researchers used a test to measure the mathematical reasoning ability of pairs of identical and non-identical twins. If both members of a pair had a similar score on the test, they were said to be 'concordant'. This type of study is known as a concordance study.

Outcome of the research with the concordance rates expressed as a percentage

Genetic relationship group	Concordance rate for mathematical reasoning ability
Identical twins (100% shared genes)	58%
Non-identical twins (50% shared genes)	14%

(a) Briefly explain the outcome of the study in relation to the nature-nurture debate.

(2)

(b) Some ways of establishing validity involve the use of a statistical test.

Outline how these researchers could have used a statistical test to establish **concurrent** validity of the mathematical reasoning ability test.

(4)

(Total 6 marks)

Q3.

Read the item and then answer the questions that follow.

Extract from a newspaper article

Coping with Life's Pressures

Depression often runs in families, but many depressed people have serious social problems or have experienced traumatic events in the past. However, many people find ways to cope. What we need is the will to overcome our problems.

(a) With reference to the item above, explain what is meant by 'determinism'. Refer to **three** types of determinism in your answer.

(6)

- (b) With reference to the item above, identify **one** influence of nature on our behaviour and **one** influence of nurture on our behaviour.

(2)

(Total 8 marks)

Q4.

Discuss the nature-nurture debate in psychology. Refer to **at least two** topics you have studied in your answer.

(Total 16 marks)

Q5.

'Nature and nurture interact; both are vital to understanding and explaining human behaviour.'

Referring to this statement, discuss the nature-nurture debate in psychology.

(Total 16 marks)

Mark schemes

Q1.

[AO1 = 2]

2 marks for the possibility that behaviour is governed by nature (genes etc) and by nurture (eg environment, experiences etc) and reference to the debate being about the relative contribution of each of these influences.

1 mark for reference to the possibility that behaviour is governed by nature (genes etc) and (or) by nurture (eg environment, experiences).

0 marks for focus solely on one possible explanation (nature or nurture) or no relevant content.

Q2.

(a) [AO2 = 2]

1 mark appears to support the nature side of the debate.

Plus

1 mark because the concordance rate is stronger in the identical twins where there is greater genetic relatedness (or nurture must also play a role – not 100% concordance).

Full credit can be awarded to answers which argue for mathematical ability being partly due to nurture as both percentage concordance rates are less than degree of genetic relatedness.

(b) [AO2 = 4]

Level	Marks	Description
2	3 – 4	Answer focuses clearly on concurrent validity. How a correlational test would be used to determine the relationship between the two sets of scores is clearly described with reference to calculation of a correlation coefficient and need for a significant positive correlation.
1	1 – 2	Answer focuses on validity. How a correlational test would be used to determine the relationship between the two sets of scores is partly described. The answer lacks accuracy and detail.
	0	No relevant content.

Content:

- concurrent validity would involve correlating the results on the maths test with results for the same group of people on an established maths reasoning test
- A Spearman's rho or Pearson's r test should be used for the two sets of

- test results
- if the mathematical ability test is valid then there should be a significant positive correlation between the two sets of test scores at the 0.05 level.

Q3.

(a) [AO2 = 6]

Level	Marks	Description
3	5 – 6	There is accurate and detailed knowledge of determinism with appropriate reference to three different types of determinism. Most of the application to the stem is clear and effective. The answer is coherent and well organised with effective use of specialist terminology.
2	3 – 4	There is some relevant knowledge of determinism and types of determinism and some appropriate application to the stem. The answer is mostly clear and organised, with appropriate use of specialist terminology.
1	1 – 2	Knowledge of determinism and/or types of determinism is muddled but can be inferred. Application is limited/absent. Specialist terminology is either absent or inappropriately used.
	0	No relevant content.

Content and application:

- determinism – understanding that behaviour is controlled and we do not exercise free will over our own behaviour
- biological determinism – behaviour is controlled by aspects of biology eg genes, chemicals etc – depression ‘runs in families’ implies biological determinism
- environmental determinism – behaviour is controlled by external influences eg parents, society etc – ‘serious social problems’ implies environmental determinism
- psychic determinism – behaviour is controlled by unconscious fears, desires etc – ‘experienced traumatic events in the past’ implies psychic determinism

Credit also appropriate references to hard and soft determinism

(b) [AO2 = 2]

1 mark – nature is indicated by reference to genetic inheritance ‘runs in families’

Plus

1 mark – nurture is indicated by reference to environment or experience ‘serious social problems’, ‘traumatic events in the past’.

Q4.

[AO1 = 6 AO3 = 10]

Level	Marks	Description
4	13 – 16	Knowledge of the nature-nurture debate is accurate and generally well detailed. Discussion is thorough with effective use of topics. The answer is clear, coherent and focused. Specialist terminology is used effectively. Minor detail and/or expansion of argument sometimes lacking.
3	9 – 12	Knowledge of the nature-nurture debate is evident. There are occasional inaccuracies. Discussion is apparent and use of topics is mostly effective. The answer is mostly clear and organised. Specialist terminology is mostly used effectively. Lacks focus in places.
2	5 – 8	Some knowledge of the nature-nurture debate is present. Focus is mainly on description. Any discussion or use of topics is only partly effective. The answer lacks clarity, accuracy and organisation in places. Specialist terminology is used inappropriately on occasions.
1	1 – 4	Knowledge of the nature-nurture debate is limited. Discussion/use of topics is limited, poorly focused or absent. The answer as a whole lacks clarity, has many inaccuracies and is poorly organised. Specialist terminology either absent or inappropriately used.
	0	No relevant content.

Possible content:

- Debate about the relative importance of heredity and environment in determining behaviour
- Nature side of the debate assumes heredity is more important
- Nurture side of the debate assumes environment and experience is more important
- Nature aspect is rooted in nativist theory that knowledge/abilities are innate
- Nurture rooted in empiricist theory that knowledge derives from learning – Locke's view of the mind as a 'tabula rasa' or blank slate on which experiences are written

Possible discussion points:

- Use of evidence to support the influence of nature eg twin studies showing higher concordance for MZ pairs than DZ pairs
- Use of evidence to support the influence of nurture eg studies of social learning
- Need to take an interactionist approach rather than a dichotomous view
- Links with approaches in psychology eg how the biological approach supports the nature side of the debate
- Use of examples from topics to support arguments

Credit other relevant material.

Q5.

Marks for this question: AO1 = 6, AO3 = 10

Level	Marks	Description
4	13 – 16	Knowledge is accurate and generally well detailed. Discussion / evaluation / application is thorough and effective. The answer is clear, coherent and focused. Specialist terminology is used effectively. Minor detail and / or expansion of argument sometimes lacking.
3	9 – 12	Knowledge is evident. There are occasional inaccuracies. Discussion / evaluation / application is apparent and mostly effective. The answer is mostly clear and organised. Specialist terminology is mostly used effectively. Lacks focus in places.
2	5 – 8	Some knowledge is present. Focus is mainly on description. Any discussion / evaluation / application is only partly effective. The answer lacks clarity, accuracy and organisation in places. Specialist terminology is used inappropriately on occasions.
1	1 – 4	Knowledge is limited. Discussion / evaluation / application is limited, poorly focused or absent. The answer as a whole lacks clarity, has many inaccuracies and is poorly organised. Specialist terminology either absent or inappropriately used.
	0	No relevant content.

Please note that although the content for this mark scheme remains the same, on most mark schemes for the new AQA Specification (Sept 2015 onwards) content appears as a bulleted list.

AO1

Marks for demonstrating knowledge and understanding relevant to the nature-nurture debate, including explanations of behaviour relating to both nature and nurture; knowledge and understanding of relevant terminology such as nativism, empiricism, interactionism, shared and non-shared environments, pre- and post-natal environments; active-passive environments; heritability co-efficient; methods of research used in relation to the debate, the standing of different approaches in psychology in relation to the debate.

AO3

Marks for discussion, analysis and application of the debate to behaviour. Behaviour will most likely emerge from topic areas such as schizophrenia and children's thinking, but accept other examples such as PKU and language. Discussion may include the difficulties of establishing the relative contributions of nature and nurture, the implications of the debate for the prediction and control of behaviour, theoretical and methodological complexities including twin studies and the need to take an

interactionist approach. Credit references to approaches and to other debates in psychology.
Credit use of relevant evidence.

Examiner reports

Q5.

Students generally demonstrated sound knowledge and understanding of the nature-nurture debate and were able to use relevant terminology correctly. It was also evident that students were knowledgeable about the standing of different approaches in psychology in relation to the debate.

Disappointingly, some students seemed to be writing a 'pre-prepared' essay on the nature-nurture debate which did not quite fit the question, again illustrating the requirement to read the question carefully and plan an answer to the specific question set. The answer required reference to the statement which concerned the interaction between nature and nurture. Many answers did refer to interactionism, often using appropriate examples such as Phenylketonuria (PKU), schizophrenia and / or language development. However, some students offered little or no discussion of the interaction of nature and nurture and this restricted the marks that could be awarded. The skill of using topics / approaches / research to illustrate points raised in the essay on the nature-nurture debate seems to be improving. However, some answers still begin to read like a PSYB3 answer where, for example, there might be a whole page on theories of crime, with detailed outline of research followed by evaluation of the research, with the focus of the debate lost. The best answers made clear but succinct references to topic areas / research in order to illustrate the debate.