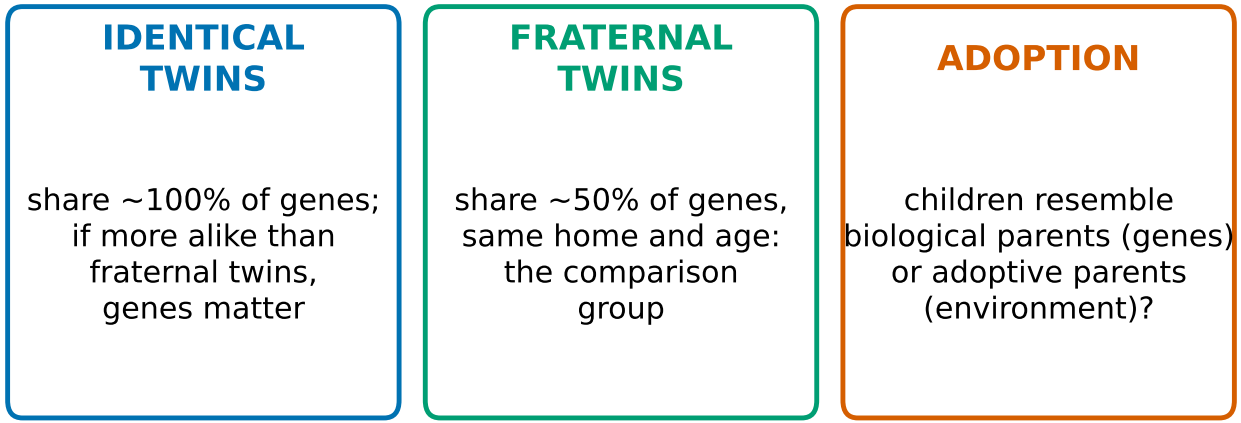
Exercise walk-through

1.1
Levels of explanation and evidence: supported rehearsal

International Baccalaureate · IB Diploma · Psychology · HL

Figure: The biological approach ·



- Three boxes: identical twins share about 100% of **genes**, fraternal twins about 50%, and adopted children are compared with biological and adoptive parents
- Match each part of the diagram to the text.

The cognitive approach

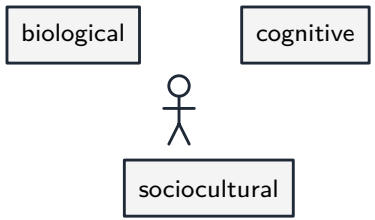
- The **cognitive approach** studies mental processes such as memory, thinking and **attention**.
- Because we cannot see these processes, cognitive psychologists build **models** : simple pictures of how a process might work.
- A good model makes **predictions** that an experiment can test.
- The **multi-store model** (Atkinson and Shiffrin, 1968) says memory has three stores in a line: sensory memory, short-term memory and long-term memory.

Common errors

- Describing a study without saying what it shows about the behaviour in the question.
- Treating the three approaches as rivals; most behaviour has causes at all three levels, and the levels affect each other.
- Saying a brain scan "proves" a cause; fMRI shows where activity changes, and most scan studies are correlational.

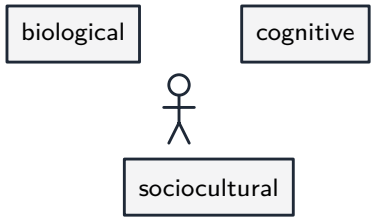
Exercise 2.1

2.1 Define localisation of function and neuroplasticity. [2]



Exercise 2.1

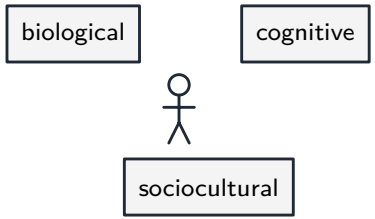
2.1 Define localisation of function and neuroplasticity. [2]



2.1 Localisation: particular brain areas do particular jobs, such as the hippocampus storing new memories (1). Neuroplasticity: the brain's ability to change its structure with experience (1).

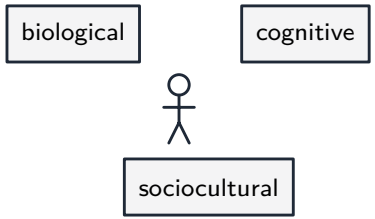
Exercise 2.2

2.2 Maguire et al. (2000) found that taxi drivers had a larger posterior hippocampus. State the comparison, explain why this study cannot show that driving caused the change, and name a study that can. [3]



Exercise 2.2

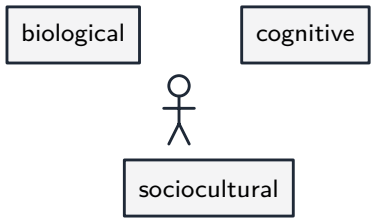
2.2 Maguire et al. (2000) found that taxi drivers had a larger posterior hippocampus. State the comparison, explain why this study cannot show that driving caused the change, and name a study that can. [3]



2.2 Sixteen London taxi drivers were compared with 50 other men (1). It is a correlation: men with a larger hippocampus may be more likely to become, or stay, taxi drivers (1). Draganski et al. (2004) changed the experience in an experiment (three months of juggling), so it can show cause (1).

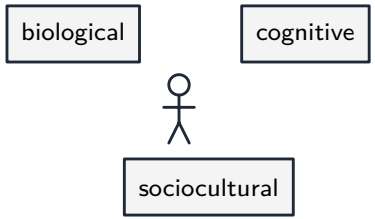
Exercise 2.3

2.3 Explain the logic of a twin study, and what Kendler et al.'s (2006) figure of about 38% means for depression. [3]



Exercise 2.3

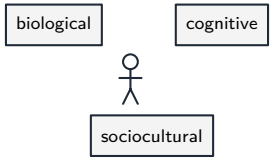
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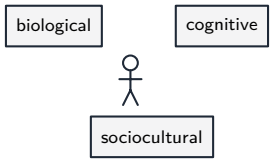
2.3 Identical twins share almost all their genes, non-identical twins about half, and both pairs share a home (1). If identical twins are more alike in a behaviour, genes probably play a part (1). 38% means genes explain about 38% of the differences between people in depression risk, so most of the difference comes from other factors (1).

Exercises 2.4·2.5

2.4 Using the working memory model, predict which pair of tasks will interfere more: (a) learning a word list while tapping a rhythm on the desk and picturing a route; (b) learning a word list while saying "the, the, the" aloud. Give a reason. [2]

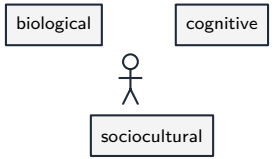


2.5 In Tversky and Kahneman's (1974) study the wheel stopped at 10 or 65. State the two typical answers and name the bias. [2]



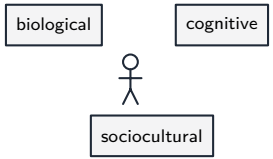
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2.4 Pair (b) (1): saying "the" aloud uses the phonological loop, the same part that holds the word list; tapping and picturing a route use other parts (1).

2.5 In Tversky and Kahneman's (1974) study the wheel stopped at 10 or 65. State the two typical answers and name the bias. [2]

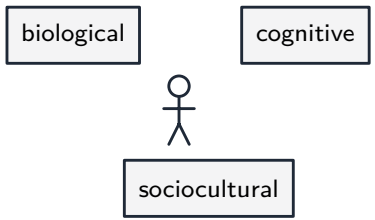


2.5 About 25% after the wheel showed 10, about 45% after 65 (1); anchoring bias (1).

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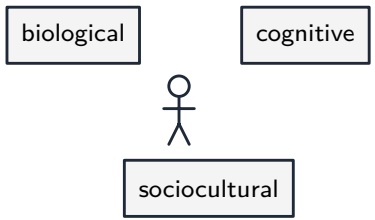
Exercise 2.6

2.6 Name Berry's acculturation strategy for each student who moves from Chengdu to study in Toronto: (a) she keeps speaking Sichuanese at home and also joins the school's debating club; (b) he stops using Chinese and spends time only with Canadian friends; (c) she mixes only with other Chinese students and avoids local events; (d) he feels part of neither group. [4]



Exercise 2.6

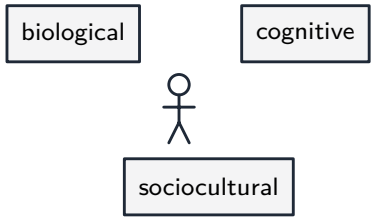
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2.6 (a) integration; (b) assimilation; (c) separation; (d) marginalisation (1 each).

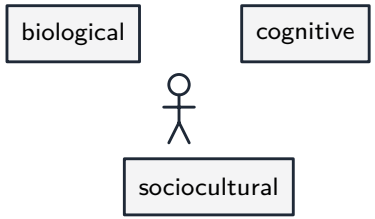
Exercise 3.1

3.1 *(Paper 1 Section A.)* Describe one study of neuroplasticity. [4]



Exercise 3.1

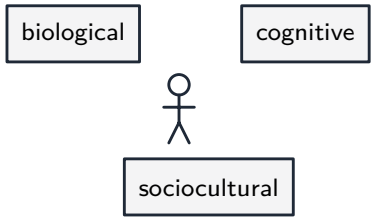
3.1 *(Paper 1 Section A.)* Describe one study of neuroplasticity. [4]



3.1 Maguire et al. (2000) used MRI scans to compare 16 London taxi drivers with 50 men who were not taxi drivers (1). The drivers' posterior hippocampus was larger (1), and it was larger in drivers with more years in the job (1). This suggests the hippocampus grew with the demands of learning the city's roads, which is neuroplasticity (1). (Draganski et al. 2004, juggling and grey matter, also earns full marks.)

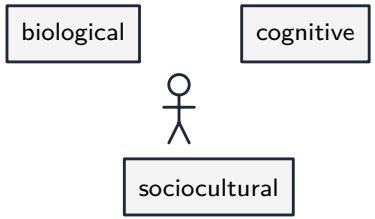
Exercise 3.2

3.2 *(Paper 1 Section A.)* Explain how schemas can affect memory, with reference to one study. [4]



Exercise 3.2

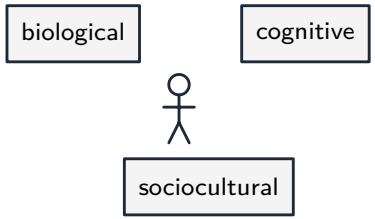
3.2 *(Paper 1 Section A.)* Explain how schemas can affect memory, with reference to one study. [4]



3.2 A schema is an organised set of knowledge that we use to make sense of new information (1). Bartlett (1932) had English students read "The War of the Ghosts", a Native American story, and retell it several times (1). The retellings became shorter, and unfamiliar details became familiar ones (a canoe became a boat) (1). This shows reconstructive memory: schemas change what we recall to fit what we already know (1).

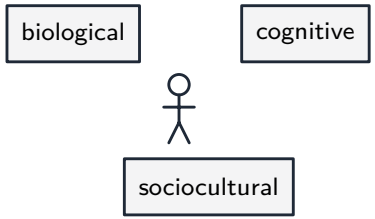
Exercise 3.3

3.3 *(Paper 1 Section A.)* Explain social identity theory, with reference to one study. [4]



Exercise 3.3

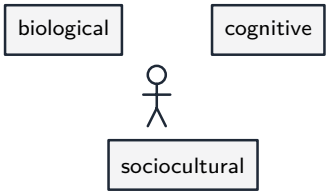
3.3 *(Paper 1 Section A.)* Explain social identity theory, with reference to one study. [4]



3.3 Part of our self-esteem comes from the groups we belong to, so we favour our own group (1). Tajfel (1971) divided Bristol schoolboys into groups by a trivial task, a preference for one of two painters (1). The boys gave more points to their own group, often choosing the largest gap between groups over the most points for their own (1). So even a meaningless group creates in-group favouritism (1).

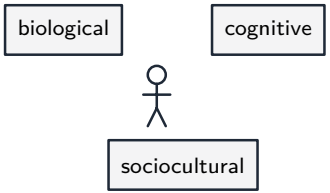
Exercise 3.4

3.4 *(Original, 6 marks.)* Using Caspi et al. (2003), explain why one approach alone cannot fully explain depression. [6]



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3.4 Caspi et al. followed 847 New Zealanders from birth (1). People with a short version of the 5-HTT gene were more likely to become depressed (1), but only after several stressful life events (1). The gene alone (biological) does not predict depression, and stress alone does not either (1): the result depends on both, a gene–environment interaction (1). So a full explanation needs the biological approach and the person's life events, as in the diathesis–stress model (1).

Review guidance: name the study, the method, the result and a link to the question; correlation before cause; (R1 3.4) both "only after" and the link to more than one approach. Authored guidance.