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Revision

Split brain studies: 80 years of research and still a mystery

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This quiz relates to the PSYCHOLOGY REVIEW Vol. 30, No. 3 article on split brain research. If you keep both the article and your answers to the questions, you will have a useful revision guide for relevant exam questions.

Part 1

True or false

1 According to the article, the midbrain is primarily involved in cognitive processes such as language and memory

True [] False []

2 The hemispheres are connected via a bundle of nerve fibres or axons known as the corpus callosum.

True [] False []

3 The first studies of split-brain patients were conducted in the 1960s.

True [] False []

4 In a split-brain patient, the right visual cortex only receives input only from the left visual field in the right eye.

True [] False []

Part 2

Multiple choice

1 If a picture of an object is presented to the left visual field, a split brain patient can...

- a) name the object
- b) draw the object with their right hand
- c) draw the object with their left hand
- d) name the object but not draw it with their left hand

2 Pinto et al. (2017) found that two split-brain patients in Italy were 95–100% correct in detecting a red dot on a screen regardless of whether it was presented to the left or right visual field or whether they were asked to respond verbally or pointing with their left or right hand. This finding...

- a) increased the reliability of previous research.
- b) was unexpected and difficult to explain using existing explanations.
- c) had high predictive validity.
- d) demonstrated the importance of replicating classic research.

3 Pinto et al. (2017) thought that their patients might not be 'proper' split-brain patients but this was not the case; they demonstrated this by...

- a) presenting stimuli simultaneously to the left and right visual half-fields and asking whether the stimuli were the same or different (proper split-brain patients struggle with this task).
- b) asking two independent doctors to examine MRI scans for each patient.
- c) asking the patients to detect red dots on a screen using their left and right hands.
- d) presenting the word 'Texas' to their left visual field and asking them to draw an object, e.g. a cowboy hat.

Part 3

Know your terms

What do each of the following terms mean? For each term, try to create a sentence that uses the term correctly.

- Split-brain patients
- Hemispheres
- Corpus callosum
- Consciousness
- Optic chiasm
- Paradox

Pick out any other key terms or words in the article that you do not fully understand and find out what they mean. Remember, some of the specialist terms used in psychology may have different meanings when used in everyday conversation. Be careful about where you search for definitions – try to use credible psychology-specific sources, not just general dictionaries.

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