PSY.ISS9 Applying Issues and Debates to Memory and Eyewitness Testimony Research

Total Marks

AQA 7182 · Calculators not allowed · about 80 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Researchers use the multi-store model (MSM) as a framework when designing memory experiments. Identify one way the MSM is reductionist in its approach to human memory, as applied to laboratory memory research.

(Total for Question 1 is 2 marks)

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2 A study on leading questions used only young adult university students as witnesses. State one problem this sample choice creates for generalising findings about eyewitness testimony to the wider population.

(Total for Question 2 is 3 marks)

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3 A laboratory memory experiment finds that participants recall words in a fixed order, suggesting deterministic stage-like processing. Explain how this result might be used to support cognitive determinism in eyewitness reliability debates.

(Total for Question 3 is 3 marks)

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4 Describe one way eyewitness testimony research could be accused of cultural bias, and give one practical implication for the justice system if such bias exists.

(Total for Question 4 is 4 marks)

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5 A researcher claims the MSM's separation of STM and LTM is useful because it allows precise laboratory tests. Analyse one strength and one limitation of using reductionism as a scientific approach in memory research.

(Total for Question 5 is 3 marks)

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6 Priya, a police interviewer, uses a structured leading question format developed from a US laboratory study when interviewing a witness from a collectivist culture. Evaluate one issue of cultural bias and one ethical concern that arise from applying standardised laboratory-derived questions in this situation.

(Total for Question 6 is 4 marks)

7 A memory experiment reports that males and females differ slightly in accuracy for peripheral details only. State one way gender bias could affect the interpretation of this finding in eyewitness research.

(Total for Question 7 is 3 marks)

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8 Describe briefly how holism offers an alternative to reductionism when explaining memory errors in eyewitness testimony research.

(Total for Question 8 is 3 marks)

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9 A study finds consistent effects of leading questions across many labs, suggesting predictable cognitive vulnerability. Analyse how such evidence could be used to argue against strong versions of free will in witness testimony.

(Total for Question 9 is 4 marks)

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10 Researchers wish to test whether an adapted interview technique reduces cultural bias in eyewitness reports. Give a fully operationalised, non-directional null hypothesis and state an appropriate sampling method to reduce cultural bias in recruitment.

(a) Write a fully operationalised, non-directional null hypothesis for the study testing the adapted interview technique on eyewitness accuracy across cultural groups. **(3)**

(b) State a sampling method that would help reduce cultural bias when recruiting participants, and briefly describe how it would be implemented. **(3)**

(Total for Question 10 is 6 marks)

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11 A lab study into post-event discussion used only same-gender pairs of participants and found higher contamination when partners were friends. State one methodological limitation of using friends as pairs and suggest one practical way to control for this limitation in future experiments.

(Total for Question 11 is 4 marks)

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12 Consider a courtroom where expert testimony about the unreliability of memory is used. Give two distinct evaluation points that criticise applying laboratory memory research directly to courtroom practice, using issues and debates language.

(Total for Question 12 is 6 marks)

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13 Extended essay: discuss reductionism in memory research with reference to MSM and eyewitness testimony research context.

Discuss the extent to which research into memory is reductionist. In your answer, refer to the multi-store model and to eyewitness testimony research, and consider alternative holistic accounts and the practical implications of reductionist research for legal practice.

(Total for Question 13 is 16 marks)

Mark scheme · PSY.ISS9 Applying Issues and Debates to Memory and Eyewitness Testimony Research

Question 1

- **B1** identifies a reductionist feature, e.g. describing memory as separate stores (sensory register, STM, LTM) rather than as an integrated process oe
- **B1** links to research context, e.g. experimental tasks isolate one store at a time, simplifying complex everyday memory oe
- **Answer: The MSM treats memory as separate stores such as STM and LTM; in experiments this leads to isolating one store at a time, simplifying the complex, interactive nature of real memory.**

Question 2

- **M1** identifies a generalisation issue, e.g. the sample is not representative of all ages or education levels oe
- **A1** explains why this matters, e.g. memory accuracy and susceptibility to suggestion may vary with age or experience, so results may not apply to older adults or children oe
- **A1** applies to eyewitness context, e.g. legal cases involve diverse witnesses so the study's conclusions may be limited when used in court recommendations oe
- **Answer: Using only young university students limits generalisability because memory and suggestibility can vary with age and experience, so findings may not apply to older adults or children who are often eyewitnesses.**

Question 3

- **M1** states link: stage-like or rule-based findings support determinism, the idea behaviour follows predictable cognitive laws oe
- **A1** explains application to eyewitness reliability, e.g. if recall follows predictable cognitive processes, errors may be seen as caused by identifiable cognitive factors rather than free choice oe
- **A1** gives consequence, e.g. this can inform legal practice by identifying predictable sources of error such as retroactive interference or leading questions oe
- **Answer: Stage-like recall supports cognitive determinism because it suggests memory errors follow predictable cognitive processes; therefore mistakes by witnesses may be attributed to identifiable factors like interference or encoding limits rather than to free will.**

Question 4

- **M1** identifies a cultural bias issue, e.g. most studies use Western participants and may not account for cross-cultural differences in attention to faces or social norms oe
- **A1** explains why this is a problem, e.g. differences in recognition accuracy or in responses to authority could change how reliable eyewitness reports are across cultures oe
- **M1** states a practical implication, e.g. police procedures based on such research might be less effective or unfair for witnesses from other cultures oe
- **A1** explains the implication, e.g. misapplied procedures could increase wrongful convictions or reduce confidence in the justice system among minority communities oe
- **Answer: Cultural bias arises when studies use mainly Western participants, ignoring cross-cultural differences in face processing or deference to authority; as a consequence, police procedures developed from this research might be less valid for other cultures, risking wrongful convictions and reduced trust in the justice system.**

Question 5

- **M1** identifies a strength, e.g. reductionism enables clear hypotheses and controlled tests of specific components of memory oe
- **A1** explains why that is valuable, e.g. precise control increases internal validity and helps identify causal mechanisms that can inform theory and practice oe
- **A1** identifies and explains a limitation, e.g. oversimplifying may ignore interactions with emotion or social context, reducing ecological validity and limiting application to eyewitness situations oe
- **Answer: Strength: reductionism permits precise, controlled testing of specific memory components, improving internal validity and causal inference. Limitation: it may ignore interactions with emotion or social context, reducing ecological validity and limiting application to complex eyewitness situations.**

Question 6

- **M1** identifies cultural bias issue, e.g. lab-derived questions may assume direct, individualistic communication and may not fit collectivist norms oe
- **A1** explains consequence, e.g. witnesses may give answers shaped by deference to authority or group concerns, reducing accuracy and validity of the testimony oe
- **M1** identifies ethical concern, e.g. using leading questions increases the risk of producing false memories or distressing a witness by suggesting traumatic details oe
- **A1** explains implication, e.g. this risks harming the witness and damaging the fairness of legal outcomes, so interviewers must adapt methods and ensure protection for vulnerable witnesses oe
- **Answer: Cultural bias: standardised, lab-derived leading questions may clash with collectivist communication styles, causing answers shaped by deference and reducing validity. Ethical concern: leading questions risk implanting false memories or causing distress, threatening witness welfare and fairness in legal outcomes, so adaptation and protection are needed.**

Question 7

- **M1** identifies gender bias issue, e.g. researchers might overgeneralise small sample differences to claim innate gender differences in eyewitness reliability oe
- **A1** explains why this is problematic, e.g. social roles, task type or sample imbalance could explain the difference rather than biology oe
- **A1** applies to legal context, e.g. overstating gender effects could lead to unfair weighting of male or female testimony in court oe
- **Answer: Gender bias could lead researchers to overgeneralise a small difference into a claim of innate differences in reliability, ignoring social or methodological explanations; this could unfairly influence how courts weight male versus female eyewitness testimony.**

Question 8

- **M1** identifies holism, e.g. memory is viewed as an interaction of cognitive, emotional and social factors rather than separate stores oe
- **A1** explains application, e.g. eyewitness errors are explained by interactions between stress, attention, social influence and context rather than a single faulty store oe
- **A1** gives consequence, e.g. holistic approaches suggest interventions should address interview context, emotion regulation and social dynamics as well as memory training oe
- **Answer: Holism views memory errors as arising from interacting cognitive, emotional and social factors. For eyewitnesses this means stress, attention, social influence and context combine to affect recall, so remedies must address context and emotion as well as cognitive processes.**

Question 9

- **M1** identifies the argument: consistent lab effects show cognitive processes reliably influence memory, supporting determinism oe
- **A1** explains implication for free will, e.g. if memory can be predictably altered by question wording, witnesses have limited conscious control over their reconstructed memories oe
- **M1** identifies a counterpoint, e.g. people can sometimes resist suggestion, and real-world factors like motivation and accountability may moderate effects oe
- **A1** evaluates consequence, e.g. results support a constrained view of free will where cognitive determinants shape responses but individual and situational moderators still allow variability oe
- **Answer: Consistent lab effects of leading questions suggest memory is predictably shaped by cognitive processes, undermining a strong notion of free will in testimony; however, some witnesses resist suggestion and real-world motivations and accountability can moderate effects, so a constrained view of free will is more accurate.**

Question 10

- (a) **M1** states non-directional null hypothesis format, e.g. there will be no difference in eyewitness accuracy between interview techniques or cultural groups oe
- (a) **A1** operationalises independent variable, e.g. interview technique: standard interview versus adapted interview oe
- (a) **A1** operationalises dependent variable, e.g. eyewitness accuracy measured as percentage of correct event details recalled from a standard video, scored by predefined criteria oe
- **(a) Answer: Null hypothesis: there will be no difference in eyewitness accuracy, measured as the percentage of correctly recalled event details from a standard video, between participants interviewed using the standard interview and those interviewed using the adapted interview, across the cultural groups sampled.**
- (b) **M1** identifies an appropriate probability sampling method, e.g. stratified sampling by cultural group oe
- (b) **A1** describes implementation, e.g. identify relevant cultural strata, determine proportions in target population, and randomly sample within each stratum oe
- (b) **A1** explains why it reduces bias, e.g. ensures all cultural groups are represented proportionally, improving generalisability of conclusions oe
- **(b) Answer: Stratified sampling: identify cultural strata relevant to the research, decide target proportions, then randomly select participants within each stratum so all cultural groups are proportionally represented, reducing cultural sampling bias.**

Question 11

- **M1** identifies limitation, e.g. friends may be more likely to influence each other due to trust and conversational dynamics, reducing generalisability to stranger witness interactions oe
- **A1** explains why this matters, e.g. the level of contamination may be exaggerated compared with typical eyewitness interactions between strangers oe
- **M1** suggests a control, e.g. use random pairing of unfamiliar participants or include both friend and stranger conditions with counterbalancing oe
- **A1** explains how this improves validity, e.g. allows comparison and separates friendship effects from the basic mechanism of post-event discussion oe
- **Answer: Limitation: friends are more likely to influence each other, exaggerating contamination compared with stranger witnesses. Control: use random pairing of unfamiliar participants or include both friend and stranger conditions with counterbalancing to isolate friendship effects and improve generalisability.**

Question 12

- **M1** identifies first criticism: low ecological validity of many lab studies oe
- **A1** explains why this matters, e.g. controlled stimuli and brief delays may not reflect complex, emotional, long-term real-life event memory, so courtroom application can be misleading oe
- **M1** identifies second criticism: cultural or sample bias in research used as evidence oe
- **A1** explains why this matters, e.g. if studies use WEIRD samples results may not generalise to diverse juries and witnesses, risking unfair legal standards oe
- **M1** offers implication or mitigation, e.g. experts should qualify applicability and suggest converging evidence from field studies or police-case reviews oe
- **A1** explains mitigation, e.g. combining lab findings with observational and cross-cultural research provides a more balanced basis for courtroom recommendations oe
- **Answer: Criticism 1: many lab studies have low ecological validity, using controlled stimuli and short delays, so applying them directly to complex, emotional, long-term memories in court can be misleading. Criticism 2: sample and cultural bias in research (WEIRD samples) limit generalisability to diverse witnesses and juries, risking unfair standards. Mitigation: expert testimony should qualify applicability and draw on converging field and cross-cultural evidence.**

Question 13

- **Level 4** (13-16): Knowledge of reductionism and holism in memory research is accurate and well developed. Discussion is thorough and balanced, using the multi-store model and eyewitness testimony research as applied examples. Evaluation considers methodological, theoretical and practical implications, including the value of reductionist precision and the limits of over-simplification. Arguments are coherent, well organised and use specialist terminology appropriately.
- **Level 3** (9-12): Knowledge is clear with reasonable detail. Discussion evaluates reductionist and holistic perspectives with some balance, and applies points to MSM and eyewitness research. Some relevant implications are considered, though depth or balance may be limited. The answer is generally organised and uses appropriate terminology.
- **Level 2** (5-8): Knowledge is present but basic. Discussion is limited or one-sided, with simple application to the MSM or eyewitness studies. Evaluation is superficial, perhaps listing strengths and limitations without full development. The answer may lack clarity in places and use terminology inconsistently.
- **Level 1** (1-4): Knowledge is very limited and answers may be simplistic or descriptive. Discussion/evaluation is minimal or absent, and application to MSM or eyewitness research is weak or missing. The answer lacks structure and specialist terminology is absent or misused.
- **Level 0** (0): No creditable content.
- **Indicative content:**
  - AO1: Reductionism defined as explaining complex phenomena by simpler components, versus holism which emphasises interaction of multiple factors.
  - AO1: The multi-store model (MSM) exemplifies reductionism by separating sensory register, STM and LTM and specifying discrete functions such as coding, duration and capacity. This allowed clear experimental tests of store-specific predictions.
  - AO1: Eyewitness testimony research often isolates variables such as leading questions, post-event discussion or retention interval in controlled studies, demonstrating a reductionist, variable-focused approach.
  - AO3: Strength of reductionism: precise hypotheses, controlled experiments and clearer causal inferences, which have produced useful findings such as the effects of leading questions that can inform interview protocols.
  - AO3: Limitation of reductionism: may ignore interactions with emotion, stress, social influence, and cultural context that affect everyday memory and eyewitness reliability, reducing ecological validity of laboratory findings.
  - AO3: Holistic alternatives include cognitive models that incorporate emotion and social context, and ecological or systems approaches that view memory as situated and distributed across person and environment; these better account for complex eyewitness phenomena but can be harder to test experimentally.
  - AO3: Evaluation of practical implications: reductionist research has led to concrete procedural changes, e.g. guidance on question wording and the use of cognitive interviews, showing applied value despite simplification. However over-reliance on simplified lab results risks misapplication in court without qualification about limits.
  - AO3: Consideration of issues and debates language: reductionism sits with scientific determinism and nomothetic aims, while holism fits idiographic, contextualised explanations. Also consider gender and cultural bias where reductionist samples (WEIRD) limit generalisability.
  - AO3: Conclude with a balanced judgement that reductionism has been highly productive for building knowledge and practical tools, but must be complemented by holistic and field research to ensure applicability to complex, real-world eyewitness situations.