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**PSYCHOLOGY ATAR – YEAR 12 2024  
Unit 3**

**Task 2:**

**Memory – Forgetting and Remembering**

**Science Inquiry**

**(Research)**

**Weighting (8%)**

**Conditions**

**PART A: Research**

Due 25th of March (5 marks)

* Two hours of class time for research
* Using **dot points** and **key** **phrases** only (5-word limit), you will collate a set of research notes on an A4 piece of paper (size 12 font).
* Must include information on the following:
* The aim, method and key findings for Craik and Tulving (1975)
* The aim, method and key findings on a piece of contemporary research on forgetting and remembering.
* No more than one A4 page, only containing the information above – no analysis and evaluation of sample, method, finding and other possible variables.
* You will create a reference list using APA 7 format, referencing sources of information (5 marks).

**PART B: In class Validation**

Due 25th of March (50 marks)

* 5 minutes reading time
* 50 minutes working time
* Supervised in class with part A notes allowed.
* Responding to questions in Part B

**Part B.**

1. Craik and Tulving (1975) conducted a study to investigate the impact of levels of processing on memory recall. According to their study, the endurance and strength of memories depend on the depth of cognitive processing.
2. State the independent and dependant variables for this study.

(2 marks)

|  |  |
| --- | --- |
| Independent: Type of encoding used | 1 mark |
| Dependant: Number of words recalled | 1 mark |
| Total | 2 marks |

1. List and describe the two forms of encoding that take place in the shallow level of processing, using examples from Craik and Tulving (1975).

(6 marks)

|  |  |
| --- | --- |
| Lists and describes structural encoding – physical properties | 1-2 |
| Provides example of structural encoding from study | 1 |
| Lists and describes Phonemic encoding – sounds | 1-2 |
| Provides example of Phonemic encoding from study | 1 |
| Total | 6 |

1. Discuss an ethical constraint associated with Craik and Tulving's research and propose a method to address it.

(4 marks)

|  |  |
| --- | --- |
| Deception | 1 |
| Participants were not informed of the true purpose of the study as they were told it was a test of perception | 1 |
| They should have been debriefed afterwards | 1 |
| Where the experimenters told them the true purpose of the experiment and why they’d been deceived | 1 |
| Total | 4 |

1. What method of sampling was utilised in this study?

(1 mark)

|  |  |
| --- | --- |
| Convenience Sampling | 1 |
| Total | 1 |

1. Formulate a conclusion for this study utilising evidence and key findings.

(4 marks)

|  |  |
| --- | --- |
| States clearly whether hypothesis or inquiry question was supported/not supported | 1 |
| Subtotal | /1 |
| Supports conclusion with a wide range of relevant evidence from the data collected | 3 |
| Supports conclusion with relevant evidence from the data collected | 2 |
| Supports conclusion with brief references to evidence from the data collected | 1 |
| Subtotal | /3 |
| Total | /4 |

1. Using an example from Craik & Tulving (1975) describe the form of encoding that occurs in the deep level of processing.

(3 marks)

|  |  |
| --- | --- |
| Lists and describes semantic encoding – encoding with meaning. | 1-2 |
| Provides example of semantic encoding from the study. | 1 |
| Total | 3 |

1. (a) Specify the aim of the contemporary study you have selected to research.

(1 mark)

|  |  |
| --- | --- |
| Correctly states the aim | 1 |
| Total | 1 |

(b) Write a directional hypothesis for the contemporary study you have researched.

(2 marks)

|  |  |
| --- | --- |
| Includes the independent variable | 1 |
| Includes the effect on the dependant variable | 1 |
| Total | 2 |

(c) (i) State the research design utilised in the study.

(1 mark)

|  |  |
| --- | --- |
| Correctly states the research design – Experimental | 1 |
| Total | 1 |

(ii) Explain **one strength** and **one limitation** of this research design, applying them to the study.

(2 marks)

|  |  |
| --- | --- |
| Describes one limitation of the experimental design – controlled environment issues with realism | 1 |
| Describes on strength of experimental design – cause and effect relationship can be determined and control over varibales | 1 |
| Total | 2 |

1. Eakin and Smith (2012) investigated whether implicit memory could be impacted by interference. Their sample consisted of 186 students from the Mississippi State University who received course credit in exchange for participation.

Participants viewed unrelated word pairs (e.g., COTTON–PRIZE) with the instructions to rate their ability to mentally form an interactive image of each pair. Unknown to the participants, the words were organised into cue-target pairs. Later, participants were provided another list of word pairs. Depending on whether participants were allocated into the control group or experimental group, participants were either shown pairs related to the original list (e.g., COTTON-PRINT) or pairs unrelated to the original list (e.g., REAL-VASE).

Finally, a recall test was conducted where the original cue word was paired with the beginning stem of the original target word to see if participants could correctly recall the original list (e.g., COTTON-PR\_\_\_\_\_).

Participants who saw the unrelated pairs of words accurately recalled more of the original target words than the group who were shown cue-target pairs related to the original list.

1. Assess which type of interference Eakin and Smith (2012) are investigating in this study.

(4 marks)

|  |  |
| --- | --- |
| Retroactive (interference) | 1 |
| When new information prevents the recall of new information | 1 |
| The similar nontarget words in the experimental condition prevent the recall of the target words | 1-2 |
| Total | 4 |

Prior to the analysis of the results, researchers removed data from 32 participants as a manipulation check had indicated that they were aware of the true concepts of the experiment and the concepts aimed to be measured.

Explain why the researchers removed this data from the investigation.

(3 marks)

|  |  |
| --- | --- |
| To remove demand characteristics | 1 |
| Demand characteristics are cues that participant pick up on that suggest what the true purpose of the study is/what the researcher expects the results of the study to be | 1 |
| This could potentially affect the data as participants may behave in a way to support the hypothesis | 1 |
| Total | 3 |

1. (i) Outline the sampling technique that this study utilised.

(2 marks)

|  |  |
| --- | --- |
| Convenience Sampling | 1 |
| A sample that consists of those people who are readily available to the researcher. | 1 |
| Total | 2 |

(ii) Assess whether the results of this study can be generalised discussing how the sampling technique may impact the validity.

(5 marks)

|  |  |
| --- | --- |
| In order for results to be generalised:  • the sample needs to be representative of the population (1)  • extraneous and potential confounding variables must be controlled (1)  • measures must be reliable and valid (1) | 3 |
| Convenience samples may lack external validity as they may not be representative (1) and, therefore, the results cannot be generalised (1) | 2 |
| Total | 5 |

1. Burns et al (1999) studied the effects of an oral medication called Donepezil in the treatment of Alzheimer’s Disease (AD) through a multinational trial. Their sample consisted of 818 participants with mild to moderately severe AD.

Participants were assigned by a computer enrolment program to receive either 5mg/day of Donepezil, 10mg/day of Donepezil, or a placebo, with participants being unaware of which group they have been assigned to.

Data was collected through the ADAS-Cog test, which is an Alzheimer’s assessment test that uses multiple types of questions, and a Clinician’s Interview Based Impression of Change.

1. Alzheimer’s disease is considered a degenerative disease and is characterised by brain atrophy. Describe the features of Alzheimer’s that cause brain atrophy.

(3 marks)

|  |  |
| --- | --- |
| Lists Amyloid plaques | 1 |
| Lists neurofibrillary tangles | 1 |
| Notes leading to reduction of neurons (atophy) | 1 |
| Total | 3 |

1. Describe the technique utilised to collect data in this research study.

(3 marks)

|  |  |
| --- | --- |
| Mixed methods design | 1 |
| It collects quantitative data through ADAS-Cog (1) and qualitative data through semi-structured interviews (1) | 1-2 |
| Total | 3 |

1. Outline one strategy that has been implemented into the research design to minimise the effect of extraneous and confounding variables.

(4 marks)

|  |  |
| --- | --- |
| Identifies a method to minimise the effects of extraneous and confounding variables used in this study (random allocation or single blind procedure) | 1 |
| Outlines the method identified | 1 |
| States how this method minimises the effects of extraneous and confounding variables | 1 |
| States an example from the scenario | 1 |
| Total | /4 |