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Cambridge Pre-U Certificate

PSYCHOLOGY

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Paper 2 Methods, Issues and Applications

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MARK SCHEME

Maximum Mark: 60

Published

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This document consists of **11** printed pages.

Methodology

Question	Answer	Marks
1(a)	<p>Describe <u>two</u> conclusions from the study by Wang et al. on stress.</p> <p>Possible conclusions include:</p> <ul style="list-style-type: none"> • Ventral right prefrontal cortex (RPFC) activation is specifically associated with psychological stress, and this activity persists even beyond the stress-task period. The persistence of the ventral RPFC activation, even after completion of stress tasks, may reflect a prolonged state of heightened vigilance and emotional arousal elicited by stressors. • Data suggest a mechanism whereby peripheral stress hormone may reciprocally affect the central stress response through enhanced neural activity in the ventral RPFC, along with anterior cingulate cortex (ACC) and other brain regions. • The joint correlations of baseline cerebral blood flow (CBF) changes in the ventral RPFC with perceived stress, cortisol, and heart rate suggest that sustained regional brain activation after stressors may be a characteristic feature of stress. • Given the observed temporal coincidence of RPFC CBF increase and stress-hormone elevation, cortisol might be a mediator of the lasting effect of central stress response. However, this hypothesis needs to be tested further by using cortisol-receptor blockers or giving exogenous cortisol to the subjects. • Although perfusion reductions in this positive-reward system were not significantly correlated with measures of stress responses in individual subjects, these results nevertheless suggest an inhibition of brain regions supporting appetitive and hedonic goals during psychological stress. • The localisation of brain regions related to emotion, vigilance, and goal-directed behaviour within the RPFC suggests that this region serves a central role in coordinating a range of biological and behavioural responses to stress. <p>NOTE: any appropriate conclusion can receive credit; the hints are for guidance only.</p> <p>2 marks per conclusion. Conclusions do not need to be supported by findings but the addition of findings to support a conclusion can receive credit.</p> <p>A maximum of 1 mark if candidates only describe findings and fail to draw conclusions.</p>	4

Question	Answer	Marks
1(b)	<p>Outline ways in which the dependent variable was measured in this study and suggest an alternative way of measuring the dependent variable.</p> <p>The dependent variable was measured in the following ways:</p> <ul style="list-style-type: none"> • Self-report of stress and anxiety level (on a scale of 1 to 9) • Saliva samples (using a cotton swab placed in the mouth for 2 minutes) were collected right after the subjects entered the MR scanner and after each MR scan. • Subjects were also required to report the level (on a scale of 1 to 9) of effort, frustration, and task difficulty after the low- and high-stress tasks. • Throughout the experiment, heart rate was recorded every 2 minutes, based on a pulse-oxymetry reading. • A non-invasive neuro-imaging technique, arterial spin-labeling perfusion MRI to measure cerebral blood flow changes. <p>Alternative ways of measuring the dependent variable include:</p> <ul style="list-style-type: none"> • Behavioural measures such as observation of body language that indicates stress. • Different type of scientific equipment such as PET scans. • Using a polygraph to measure blood pressure, respiration rate and galvanic response. • Blood or urine samples can be assessed for the level of hormones that the adrenal glands secrete. <p>Candidates are required to mention at least two ways in which the dependent variable was measured.</p> <p>Candidates need to fully describe the alternative way of measuring the dependent variable in this study in a fully replicable way.</p>	8

Question	Answer	Marks
1(c)	<p>Using examples from research, debate the use of scientific equipment when investigating stress.</p> <p>Strengths and weaknesses need to be closely related to the area of stress through the use of examples that can come from any relevant study.</p> <p>Strengths and weaknesses need to be fully explained and not merely identified.</p> <p>Weaknesses include:</p> <ul style="list-style-type: none"> • Equipment might be affected by human error and influenced by those operating it. • Participants might feel uncomfortable and this might lower the ecological validity of the study. • Data obtained might be open to misinterpretation. <p>Strengths include:</p> <ul style="list-style-type: none"> • Allows the collection of objective data, free of subjective bias. • The use of equipment enables reliability. • The complexity of data obtained might be impossible without the use of equipment. <p>NOTE: any appropriate evaluation point can receive credit; the hints are for guidance only.</p>	8

Question	Answer	Marks
1(c)	<p>Debate (balance of positive and negative points) is comprehensive. Quality and depth of argument (or comment) is impressive. Selection and range of arguments is balanced and competently organised into issues/debates, methods or approaches. Effective use of appropriate supporting examples which are explicitly related to the question. Analysis (valid conclusions that effectively summarise issues and arguments) is evident throughout. Evaluation is detailed and quality of written communication is very good. Understanding and usage of psychological concepts, issues and approaches is extensive.</p>	7–8
	<p>Debate (positive and negative points) is very good. Quality and depth of argument (or comment) is clear and well developed. Selection and range of arguments is balanced and logically organised into issues/debates, methods or approaches. Good use of appropriate supporting examples which are related to the question. Analysis (key points and valid generalisations) is often evident. Evaluation is quite detailed and quality of written communication is very good. Understanding and usage of psychological concepts, issues and approaches is competent.</p>	5–6
	<p>Debate (positive and negative points) is good. Quality and depth of argument (or comment) is reasonable. Selection and range of arguments may be imbalanced with some organisation into issues/debates, methods or approaches evident. Reasonable use of appropriate supporting examples which are related to the question. Analysis (key points and valid generalisations) is sometimes evident. Evaluation has some detail and quality of written communication is good. Understanding and usage of psychological concepts, issues and approaches is good.</p>	3–4
	<p>Debate (positive and negative points) is reasonable. Quality and depth of argument (or comment) is adequate. Selection and range of arguments is often imbalanced with attempted organisation into issues/debates, methods or approaches evident. Some use of appropriate supporting examples which are often peripherally related to the question. Analysis (key points and valid generalisations) is discernible. Evaluation has little detail and quality of written communication is adequate. Understanding and usage of psychological concepts, issues and approaches is sufficient.</p>	1–2
	No or irrelevant answer.	0

Issues, Approaches, and Perspectives

Question	Answer	Marks								
2(a)	<p>Using examples from research, describe <u>two</u> assumptions of the behaviourist perspective in psychology.</p> <p>Assumptions can include:</p> <ul style="list-style-type: none"> • All behaviour is learned and shaped by the environment. • Manipulation of stimulus response is needed to alter behaviour. • People have no free will as their environment determines their behaviour. • We are born with a tabula rasa. • Observable behaviour can be objectively measured and as a result is more scientific than other approaches. <table border="1" data-bbox="300 696 1326 1167"> <tbody> <tr> <td data-bbox="300 696 1235 880">Description of the two assumptions is accurate, includes most aspects and has elaboration. The candidate clearly understands what they have written. Effective use of appropriate supporting examples which are explicitly related to the question.</td> <td data-bbox="1235 696 1326 880">5–6</td> </tr> <tr> <td data-bbox="300 880 1235 996">Description of the two assumptions is accurate, has some elaboration, and some understanding. Good use of appropriate supporting examples which are related to the question.</td> <td data-bbox="1235 880 1326 996">3–4</td> </tr> <tr> <td data-bbox="300 996 1235 1113">Description of the two assumptions is basic with little or no elaboration, with little understanding. Reasonable use of appropriate supporting examples which are related to the question.</td> <td data-bbox="1235 996 1326 1113">1–2</td> </tr> <tr> <td data-bbox="300 1113 1235 1167">No or irrelevant answer.</td> <td data-bbox="1235 1113 1326 1167">0</td> </tr> </tbody> </table> <p>If only one assumption is described then up to 3 marks can be awarded.</p>	Description of the two assumptions is accurate, includes most aspects and has elaboration. The candidate clearly understands what they have written. Effective use of appropriate supporting examples which are explicitly related to the question.	5–6	Description of the two assumptions is accurate, has some elaboration, and some understanding. Good use of appropriate supporting examples which are related to the question.	3–4	Description of the two assumptions is basic with little or no elaboration, with little understanding. Reasonable use of appropriate supporting examples which are related to the question.	1–2	No or irrelevant answer.	0	6
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No or irrelevant answer.	0									

Question	Answer	Marks								
2(b)	<p>Compare the use of children with the use of animals when investigating problem solving.</p> <p>The question requires not only knowledge of why children and animals are being used but also the ability to compare. Further than this, it requires candidates to apply their knowledge to problem solving.</p> <p>Possible points include:</p> <ul style="list-style-type: none"> • Similarities and differences in ethical treatment, e.g. cannot ask for informed consent from either children or animals. Children’s parents/guardian can provide informed consent for children to participate in research. • Animals allow for greater control and objectivity than children. • It is difficult to generalise research conducted on animals onto humans as genes and brain structure are different although some animals are closely related to humans and research can be beneficial. • More practical to carry out research on animals as some research cannot be conducted on humans. <table border="1" data-bbox="300 891 1326 1361"> <tr> <td data-bbox="300 891 1235 1041">Comparisons are appropriate. Description of comparisons is accurate and detailed. Investigation of problem solving to the comparisons is explicit. Understanding is full.</td> <td data-bbox="1235 891 1326 1041">5–6</td> </tr> <tr> <td data-bbox="300 1041 1235 1160">Comparisons are attempted. Description of comparisons is generally accurate with good detail. Investigation of problem solving to the comparisons is evident. Understanding is good.</td> <td data-bbox="1235 1041 1326 1160">3–4</td> </tr> <tr> <td data-bbox="300 1160 1235 1310">Comparisons are attempted. Description of comparisons is evident with some detail. Investigation of problem solving to comparisons is evident in parts. Some understanding is evident.</td> <td data-bbox="1235 1160 1326 1310">1–2</td> </tr> <tr> <td data-bbox="300 1310 1235 1361">No or irrelevant answer.</td> <td data-bbox="1235 1310 1326 1361">0</td> </tr> </table>	Comparisons are appropriate. Description of comparisons is accurate and detailed. Investigation of problem solving to the comparisons is explicit. Understanding is full.	5–6	Comparisons are attempted. Description of comparisons is generally accurate with good detail. Investigation of problem solving to the comparisons is evident. Understanding is good.	3–4	Comparisons are attempted. Description of comparisons is evident with some detail. Investigation of problem solving to comparisons is evident in parts. Some understanding is evident.	1–2	No or irrelevant answer.	0	6
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No or irrelevant answer.	0									
2(c)	<p>Using examples from psychological research, discuss the strengths and weaknesses of the behaviourist perspective.</p> <p>Any relevant research will be credited. Research can be taken from key studies, from further research or from ‘explore more’. Research can be taken from a Paper 3 option. The choice of research will reflect the synoptic nature of the whole 2-year course.</p> <p>Possible strengths include:</p> <ul style="list-style-type: none"> • It is scientific as it focuses on observable behaviour. • It is possible to use the experimental method to measure cause and effect. <p>Possible weaknesses include:</p> <ul style="list-style-type: none"> • Reductionist, does not take other factors into account, such as genetics. • Determinism, it assumes that all behaviour is a result of learning and does not take free will into account. • Does not take into account individual differences and cognitive abilities. 	8								

Question	Answer		Marks
2(c)	<p>Strengths and weaknesses are accurate and use of psychological terminology is comprehensive. Description of knowledge (theories/studies) is accurate, coherent and detailed. Understanding (such as elaboration, use of example, quality of description) is very good. Apposite examples are used throughout. The answer is competently structured and organised (global structure introduced at start and followed throughout). Quality of written communication is very good.</p>	7–8	
	<p>Strengths and weaknesses are mainly accurate and use of psychological terminology is competent. Description of knowledge (theories/studies) is mainly accurate, coherent and reasonably detailed. Understanding (such as elaboration, use of example, quality of description) is good. Appropriate examples are used throughout. The answer has structure and organisation. Quality of written communication is good.</p>	5–6	
	<p>Strengths and weaknesses are basic and use of psychological terminology is adequate. Description of knowledge (theories/studies) is often accurate, generally coherent but lacks detail. Understanding (such as elaboration, use of example, quality of description) is reasonable. Peripherally relevant examples are used throughout. The answer has some structure or organisation. Quality of written communication is good.</p>	3–4	
	<p>Strengths and weaknesses and use of psychological terminology is evident. Description of knowledge (theories/studies) is sometimes accurate, has coherence and is brief. Understanding (such as elaboration, use of example, quality of description) is discernible. Examples are used occasionally. The answer has discernible structure or organisation. Quality of written communication is adequate.</p>	1–2	
	No or irrelevant answer.	0	

Applications

Question	Answer	Marks
3(a)	<p>Describe psychological evidence and/or theories that could be relevant to the issues raised in the source.</p> <p>Candidates can use any appropriate evidence from any other key theory and study or from any key application and 'the explore more' section.</p> <p>Possible studies/theories include:</p> <ul style="list-style-type: none"> • The study by Loftus and Palmer on eyewitness testimony • The study by Piliavin et al. on bystander behaviour. • The theories of cost-benefit analysis, diffusion of responsibility and pluralistic ignorance. • Psychoanalytic theory of repression and the study Anderson and Green on the suppression of unwanted memories. • Causes and symptoms of post-traumatic stress disorder. • The further research by Harvey on the use of cognitive behavioural therapy for post-traumatic stress disorder. • Theories on non-adherence to medical advice. 	10

Question	Answer		Marks
3(a)	<p>Description of knowledge (theories/studies) is accurate, coherent and detailed. Use of terms is accurate and use of psychological terminology is comprehensive. The theories/studies described are wide-ranging. Understanding (such as elaboration, use of example, quality of description) is very good. The answer is competently structured and organised (global structure introduced at start and followed throughout). Quality of written communication is very good.</p>	8–10	
	<p>Description of knowledge (theories/studies) is mainly accurate, coherent and reasonably detailed. Use of terms is mainly accurate and use of psychological terminology is competent. The theories/studies described cover a reasonable range. Understanding (such as elaboration, use of example, quality of description) is good. The answer has some structure and organisation. Quality of written communication is good.</p>	7–5	
	<p>Description of knowledge (theories/studies) is often accurate, generally coherent but lacks detail. Use of terms is basic and use of psychological terminology is adequate. The theories/studies described cover a range. Understanding (such as elaboration, use of example, quality of description) is reasonable. The answer has some structure and organisation. Quality of written communication is good.</p>	3–4	
	<p>Description of knowledge (theories/studies) is sometimes accurate, has some coherence but is brief. Use of terms and use of psychological terminology is discernible. The theories/studies described cover a narrow range. Understanding (such as elaboration, use of example, quality of description) is sufficient. The answer has a little structure and/or organisation. Quality of written communication is adequate.</p>	1–2	
	No or irrelevant answer.	0	

Question	Answer	Marks										
3(b)	<p>Explain the issues raised in the source using the evidence and/or theories you described in part (a).</p> <p>Candidates are required to apply their knowledge of the studies and/or theories described in part (a) to explain the events raised in the source. At least two events need to be explained with the evidence explicitly applied to the source.</p> <table border="1" data-bbox="300 483 1326 1944"> <tbody> <tr> <td data-bbox="300 483 1216 869"> Quality of explanation and depth of argument is impressive. Application of knowledge (theories/studies) described in part (a) is accurate, coherent and detailed. Use of terms is accurate and use of psychological terminology is comprehensive. Understanding (such as elaboration, use of example, quality of description) is very good. The answer is competently structured and organised (global structure introduced at start and followed throughout). Quality of written communication is very good. Relationship to the events raised in the source is explicit. </td> <td data-bbox="1216 483 1326 869">8–10</td> </tr> <tr> <td data-bbox="300 869 1216 1220"> Quality of explanation and depth of argument is very good. Application of knowledge (theories/studies) is mainly accurate, coherent and reasonably detailed. Use of terms is mainly accurate and use of psychological terminology is competent. Understanding (such as elaboration, use of example, quality of description) is good. The answer has some structure and organisation. Quality of written communication is good. Relationship to the events raised in the source is evident. </td> <td data-bbox="1216 869 1326 1220">7–5</td> </tr> <tr> <td data-bbox="300 1220 1216 1572"> Quality of explanation and depth of argument is competent. Application of knowledge (theories/studies) is often accurate, generally coherent but lacks detail. Use of terms is basic and use of psychological terminology is adequate. Understanding (such as elaboration, use of example, quality of description) is reasonable. The answer has some structure and organisation. Quality of written communication is good. Relationship to the events raised in the source is evident in parts. </td> <td data-bbox="1216 1220 1326 1572">3–4</td> </tr> <tr> <td data-bbox="300 1572 1216 1895"> Quality of explanation and depth of argument is basic. Application of knowledge (theories/studies) is sometimes accurate, has some coherence but is brief. Use of terms and use of psychological terminology is discernible. Understanding (such as elaboration, use of example, quality of description) is sufficient. The answer has a little structure and/or organisation. Quality of written communication is adequate. Relationship to the events raised in the source is implicit. </td> <td data-bbox="1216 1572 1326 1895">1–2</td> </tr> <tr> <td data-bbox="300 1895 1216 1944">No or irrelevant answer.</td> <td data-bbox="1216 1895 1326 1944">0</td> </tr> </tbody> </table>	Quality of explanation and depth of argument is impressive. Application of knowledge (theories/studies) described in part (a) is accurate, coherent and detailed. Use of terms is accurate and use of psychological terminology is comprehensive. Understanding (such as elaboration, use of example, quality of description) is very good. The answer is competently structured and organised (global structure introduced at start and followed throughout). Quality of written communication is very good. Relationship to the events raised in the source is explicit.	8–10	Quality of explanation and depth of argument is very good. Application of knowledge (theories/studies) is mainly accurate, coherent and reasonably detailed. Use of terms is mainly accurate and use of psychological terminology is competent. Understanding (such as elaboration, use of example, quality of description) is good. The answer has some structure and organisation. Quality of written communication is good. Relationship to the events raised in the source is evident.	7–5	Quality of explanation and depth of argument is competent. Application of knowledge (theories/studies) is often accurate, generally coherent but lacks detail. Use of terms is basic and use of psychological terminology is adequate. Understanding (such as elaboration, use of example, quality of description) is reasonable. The answer has some structure and organisation. Quality of written communication is good. Relationship to the events raised in the source is evident in parts.	3–4	Quality of explanation and depth of argument is basic. Application of knowledge (theories/studies) is sometimes accurate, has some coherence but is brief. Use of terms and use of psychological terminology is discernible. Understanding (such as elaboration, use of example, quality of description) is sufficient. The answer has a little structure and/or organisation. Quality of written communication is adequate. Relationship to the events raised in the source is implicit.	1–2	No or irrelevant answer.	0	10
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