

Approach your exams the IB way

Psychology

IB DIPLOMA PROGRAMME



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IB Prepared

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IB learner profile

The aim of all IB programmes is to develop internationally minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world.

IB learners strive to be:

Inquirers	They develop their natural curiosity. They acquire the skills necessary to conduct inquiry and research and show independence in learning. They actively enjoy learning and this love of learning will be sustained throughout their lives.
Knowledgeable	They explore concepts, ideas and issues that have local and global significance. In so doing, they acquire in-depth knowledge and develop understanding across a broad and balanced range of disciplines.
Thinkers	They exercise initiative in applying thinking skills critically and creatively to recognize and approach complex problems, and make reasoned, ethical decisions.
Communicators	They understand and express ideas and information confidently and creatively in more than one language and in a variety of modes of communication. They work effectively and willingly in collaboration with others.
Principled	They act with integrity and honesty, with a strong sense of fairness, justice and respect for the dignity of the individual, groups and communities. They take responsibility for their own actions and the consequences that accompany them.
Open-minded	They understand and appreciate their own cultures and personal histories, and are open to the perspectives, values and traditions of other individuals and communities. They are accustomed to seeking and evaluating a range of points of view, and are willing to grow from the experience.
Caring	They show empathy, compassion and respect towards the needs and feelings of others. They have a personal commitment to service, and act to make a positive difference to the lives of others and to the environment.
Risk-takers	They approach unfamiliar situations and uncertainty with courage and forethought, and have the independence of spirit to explore new roles, ideas and strategies. They are brave and articulate in defending their beliefs.
Balanced	They understand the importance of intellectual, physical and emotional balance to achieve personal well-being for themselves and others.
Reflective	They give thoughtful consideration to their own learning and experience. They are able to assess and understand their strengths and limitations in order to support their learning and personal development.

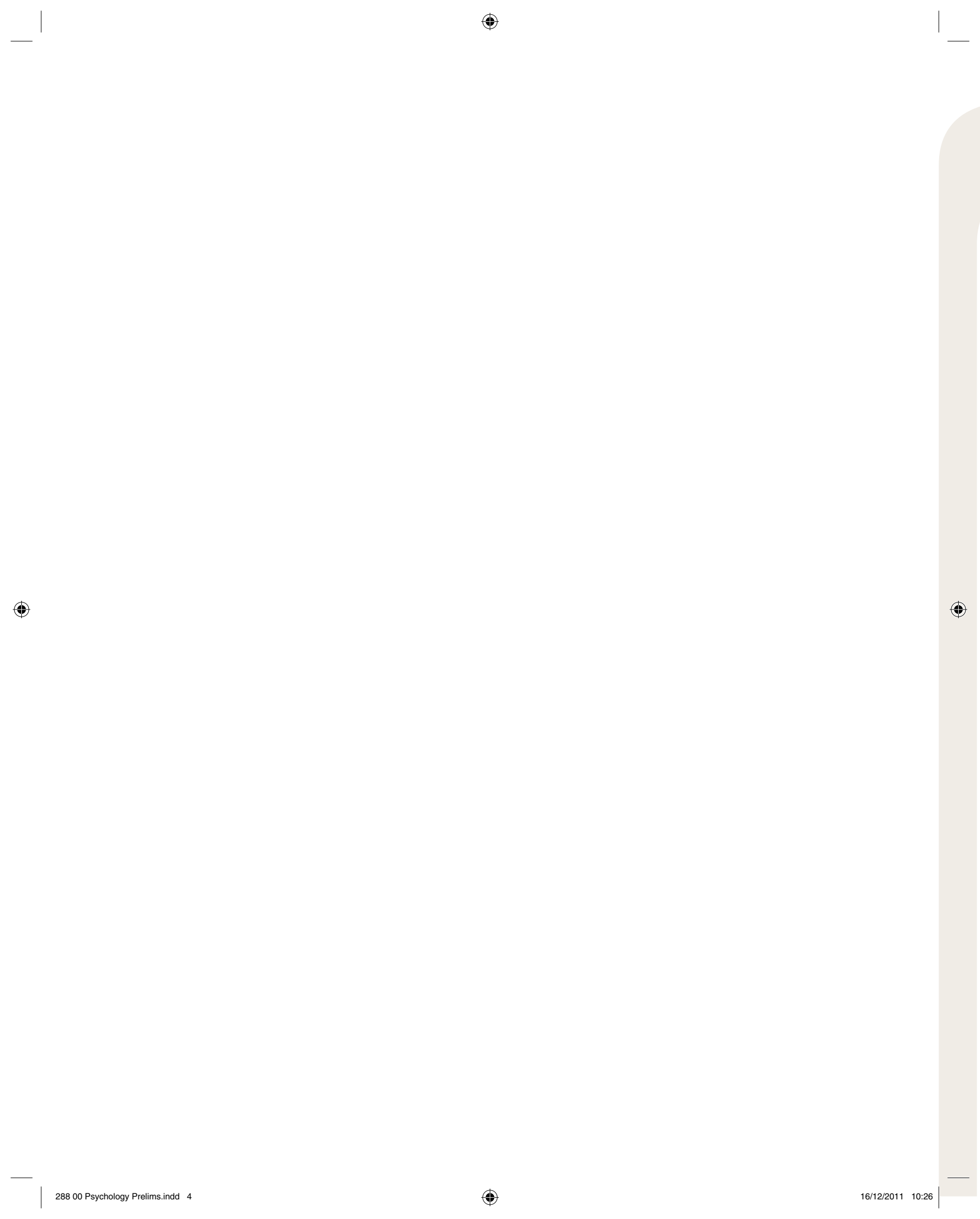


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1. Introduction

The goal of this book is to help you prepare for your exams after having studied the course for two years. It is not meant to be a substitute textbook.

How to use this book

The focus of this book is to give you advice on how to approach the questions that may be asked on the IB psychology exam papers. There are samples of real student answers from past exams accompanied by examiner comments and marks to help you to better understand the expectations of examiners. Simply reading through this text is not enough – it is important for you to attempt to answer the questions yourself to see if you are on the right track.

What is in this book?

- **Chapter 2** focuses on the structure of the exams. Among other useful information, we explain the assessment criteria and the way in which marks are awarded for each of the three exam papers to help you understand what is expected on each of the papers.
- **Chapter 3** explains a selection of command terms. These are key words used in exam questions that tell you what is expected in your written responses.
- To do well in psychology it is important that you do not simply memorize a lot of material and then write it all down in the exam; it is important that you focus your answer and demonstrate critical thinking and analysis as well. **Chapter 4** focuses on different strategies for evaluating research and theories in order to help you develop your critical thinking skills.
- **Chapter 5** provides “top tips” for maximizing your success in the exams. These tips reflect common errors that examiners see on exam papers, as well as what impresses examiners.
- **Chapters 6–9** examine the “core” of the curriculum which is the basis for paper 1. Both HL and SL students are required to study and understand the levels of analysis: biological, cognitive, and sociocultural. Each chapter gives advice on how to approach the learning outcomes and makes links to the various options in order to reduce the amount of content you need to master for the exams. In addition, there are marked sample responses with examiner feedback.
- **Chapters 10–15** discuss the optional units of study which make up paper 2. There are five options: abnormal psychology, developmental psychology, health psychology, the psychology of human relationships and sport psychology. Each chapter gives advice on how to approach the learning outcomes. There are also marked sample responses. For the abnormal psychology option this book gives three examples of student responses because it is the most popular option. The other options have one sample each in order to give you an example of a good response.

- Qualitative research methodology is the focus for paper 3. In **Chapter 16** we look at the learning outcomes for this higher level (HL) component of the course and we discuss how to approach the stimulus piece. There are also samples in this section to clarify the expectations of the examiners.
- Finally, in **Chapter 17** you will find further examples of exam questions, allowing you to see exactly what to expect during the exams, and to put into practice what you have learned in this book.

Please remember that this book alone is not enough to do well in the exams. Regular reading about psychology is the best way to improve the breadth of your knowledge as well as your ability to critically evaluate research. We do hope that this book will take away any “mystery” from the exams.

We wish you low stress and high success on your exams, hoping that this book will prove valuable in your preparation.

2. Get to know your exam papers

General

Standard level (SL) psychology students sit two papers. First you will sit a two-hour paper (paper 1) on the levels of analysis. This is worth 50% of your overall mark. Then you will sit a one-hour paper (paper 2) on the option that you have prepared. This paper is worth 25% of your mark. The remaining 25% comes from your internal assessment work.

Higher level (HL) psychology students sit three papers. First you will sit a two-hour paper (paper 1) on the levels of analysis. This is worth 35% of your overall mark. Then you will sit a two-hour exam (paper 2) in which you will write two essays – one from each of the options that you have prepared. This paper is worth 25% of your mark. Finally you will sit a one-hour exam (paper 3) on qualitative research methods. It is worth 20% of your mark. The remaining 20% comes from your internal assessment work.

At the start of each exam you will have five minutes of reading time before you can write any response. It will be important that you use this time to decide which questions to answer and begin developing a strategy.

Paper 1

This paper is exactly the same for HL and SL students. You will have two hours for this paper. There are two sections to this paper.

- Section A consists of three short-answer questions (SAQs). There is one question on each of the three levels of analysis. Each question is worth eight marks. You must answer all three questions.
- For section B you are required to answer one essay question from the three that appear on the paper. Each essay reflects a learning objective of one of the three levels of analysis. This section is worth 22 marks.

It is expected that you will spend approximately 20 minutes on each SAQ and one hour on the essay question. The SAQs may ask you to describe or explain a research or theory. The essays are looking for evidence of more critical thinking – that is, you are expected to show your skills in evaluating theories and studies. It is important for the second part of the paper that you go beyond basic description.

The following tables illustrate the assessment criteria used by examiners.

Markbands for paper 1: Section A

Markband	Level descriptor
0	The answer does not reach a standard described by the descriptors below.
Low	There is an attempt to answer the question, but knowledge and understanding is limited, often inaccurate, or of marginal relevance to the question.
Mid	The question is partially answered. Knowledge and understanding is accurate but limited. Either the command term is not effectively addressed or the response is not sufficiently explicit in answering the question.
High	The question is answered in a focused and effective manner and meets the demands of the command term. The response is supported by appropriate and accurate knowledge and understanding of research.

Strategies for reaching the top markbands for section A

Notice the key ways that you are assessed on the short-answer questions.

- You must directly answer the question and write a focused response. **It is a good idea for the first sentence of your response to be a direct answer to the question.**
- You must respond appropriately to the command term – that is, if the question asks you to explain a theory, then you should not simply describe the theory.
- Knowledge of the level of analysis needs to be accurate. You are expected to use **one** theory or study to answer each SAQ. It is not recommended that you use more than is required by the question. **If the question asks for only one theory and you provide more than one, only the first theory mentioned will be assessed by the examiner.**

Assessment criteria for paper 1: Section B

A Knowledge and comprehension

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below.
1–3	The answer demonstrates limited knowledge and understanding that is of marginal relevance to the question. Little or no psychological research is used in the response.
4–6	The answer demonstrates limited knowledge and understanding relevant to the question or uses relevant psychological research to limited effect in the response.
7–9	The answer demonstrates detailed, accurate knowledge and understanding relevant to the question, and uses relevant psychological research effectively in support of the response.

B Evidence of critical thinking: Application, analysis, synthesis, evaluation

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below.
1–3	The answer goes beyond description but evidence of critical thinking is not linked to the requirements of the question.
4–6	The answer offers appropriate but limited evidence of critical thinking or offers evidence of critical thinking that is only implicitly linked to the requirements of the question.
7–9	The answer integrates relevant and explicit evidence of critical thinking in response to the question.

C Organization

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below.
1–2	The answer is organized or focused on the question. However, this is not sustained throughout the response.
3–4	The answer is well organized, well developed and focused on the question.

Strategies for reaching the top markbands for section B

For criterion A

- You must directly answer the question and write a focused response. This means you should identify key facts and provide generally accepted definitions and/or explanations relevant to the specific question. For example, when writing about the Asch study, you would define the independent and dependent variables, define “confederates”, and write a clear statement of the results.
- Don’t forget to provide evidence to support your response. It would be good to be able to mention at least two theories or studies, unless otherwise stated in the question. However, make sure you read the question carefully. If the question explicitly asks for only **one** theory or research use your time wisely to give the most accurate and informative account of the one topic which you are asked to address.

For criterion B

- Regardless of the specific question each piece of evidence that you use in section B should provide evidence of “application”, “analysis”, “synthesis” or “evaluation”.
- “Application” could be defined as the practical use of an idea, theory or research findings. For example, you could state that drugs that raise the level of serotonin in the synapse help some people suffering from depression or that the Sabido Method is an application of social learning theory.
- “Analysis” means that you can break down a theory or model into its essential elements. In other words, you explain the principles or other theories upon which it is based. An example of analysis would be breaking down social learning theory into its basic elements of attention, retention, reproduction and motivation.
- “Synthesis” means that you bring together two ideas/theories or approaches to create an even more powerful or comprehensive explanation. Currently many psychological explanations provide a synthesis in order to fully explain psychological phenomena. An example of synthesis could be the diathesis–stress model in which both sociocultural and biological factors are combined to explain a disorder such as depression.
- Finally, “evaluation” can be demonstrated by offering strengths and limitations.

For criterion C

- You should respond appropriately to the command term and directly answer the question.
- You should write a well developed and focused response.
- Everything you mention in the response should be made relevant to the exam question. In other words, demonstrate only knowledge of what you are asked; don’t write more than you are asked to do or less than you are asked to do. When addressing an argument try to discuss it fully in one paragraph rather than splitting your discussion of the same issue in different places within the answer.
- Write a short and clear conclusion at the end.
- Although style and language of the essay is not directly assessed, poor language use may make it difficult for the examiner to understand the argument, resulting in a lower mark being given.
- It is also important that you structure your essay by providing a clearly stated introduction, good supporting paragraphs, and a simple conclusion.

Paper 2

Although this paper looks exactly the same for both HL and SL there is a significant difference. SL students answer **one** essay in one hour while HL students answer **two** essays, taken from two different option topics, in two hours. It is expected that you will spend one hour on each essay.

As on paper 1, you are expected to use two or more pieces of research and evaluate the studies/theories that you are using to support your argument, unless otherwise stated in the question.

Notice that the rubric is the same as for section B of paper 1.

Assessment criteria for paper 2

A Knowledge and comprehension

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below.
1–3	The answer demonstrates limited knowledge and understanding that is of marginal relevance to the question. Little or no psychological research is used in the response.
4–6	The answer demonstrates limited knowledge and understanding relevant to the question or uses relevant psychological research to limited effect in the response.
7–9	The answer demonstrates detailed, accurate knowledge and understanding relevant to the question, and uses relevant psychological research effectively in support of the response.

B Evidence of critical thinking: application, analysis, synthesis, evaluation

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below.
1–3	The answer goes beyond description but evidence of critical thinking is not linked to the requirements of the question.
4–6	The answer offers appropriate but limited evidence of critical thinking or offers evidence of critical thinking that is only implicitly linked to the requirements of the question.
7–9	The answer integrates relevant and explicit evidence of critical thinking in response to the question.

C Organization

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below.
1–2	The answer is organized or focused on the question. However, this is not sustained throughout the response.
3–4	The answer is well organized, well developed and focused on the question.

- You should apply the same strategies for reaching the top markbands as the ones suggested for paper 1 (pages 3–7).

Paper 3 (HL only)

Paper 3 is only for HL students. There will be a stimulus piece, that is, a simple and short description of a qualitative research study that you have not seen before. The study does not come from any particular part of the curriculum and it does not assume any knowledge of theories or content relevant to the study. Paper 3 only assesses you on your understanding of qualitative research methods. The stimulus piece will be followed by three short-answer questions. Each question is worth between 8 and 12 marks, with a total of 30 marks available for the paper.

Markbands for paper 3

Markband	Level descriptor
0	The answer does not reach a standard described by the descriptors below.
Low	There is an attempt to answer the question, but knowledge and understanding is limited, often inaccurate, or of marginal relevance to the question. The response makes no direct reference to the stimulus material or relies too heavily on quotations from the text.
Mid	The question is partially answered. Knowledge and understanding is accurate but limited. Either the command term is not effectively addressed or the response is not sufficiently explicit in answering the question. The response makes limited use of the stimulus material.
High	The question is answered in a focused and effective manner and meets the demands of the command term. The answer is supported by appropriate and accurate knowledge and understanding of qualitative research methodology. The response demonstrates a critical understanding of qualitative research methodology applied to the stimulus material.

Strategies for reaching the top markbands for paper 3

Notice the key ways that you are assessed on your responses.

- You must respond appropriately to the command term and directly answer the question.
- You must answer the questions by making direct reference to the stimulus piece, that is, the study. You may refer to line numbers in the text in order to support your response.
- Knowledge of qualitative research methodology must be accurate and well applied.

Danger Zones

There are several mistakes that students often make that lessen their overall performance on the exam papers. Read through this section carefully and think about each of these points while studying for the exams.

- **Poor time management:** It is very important that you plan your time carefully for each of the papers. Nothing is worse than running out of time in your exam!
 - On paper 1 you need to be careful to spend only 20 minutes on each of the SAQs. There is no advantage to spending a lot of time on one of the questions and then rushing through the rest. You need one hour for the essay. You may want to start with the essay to help you pace yourself better.
 - On paper 2 you should use the five-minutes reading time to choose the one (SL) or two (HL) essay questions that you are going to answer. Be sure to make a quick outline of the response before you begin, and do not spend more than one hour on a question.
 - On paper 3 it is important that you use the reading time to read the stimulus piece. When the exam begins, read the three questions and then give yourself five minutes to reread, highlight, and/or annotate the study. You should spend roughly 15 minutes on each of the questions.
- **Not directly answering the prompt:** When writing an SAQ response, make your first sentence a direct response to the question. If it asks you to discuss one study that demonstrates the interaction between physiology and cognition your first sentence should be: “One study that demonstrates the interaction between physiology and cognition is...” It needs to be 100% clear to the examiner how you plan to answer the question. In essay questions, a short introduction should quickly answer the question and show how you are going to develop your argument by identifying the studies and/or theories that you will use.
- **Imprecise use of psychological terminology:** A significant part of the IB assessment is that you “think like a psychologist”. It is important that you use the terminology of research that is used by psychologists and that you correctly identify theories. For example, when describing a study make sure that you correctly identify the research method used. Do not use the term “experiment” unless you are sure that the study is really an experiment; this means that in the study an independent variable is manipulated and all other variables are held constant.
- **Defining terms:** It is important that you define and apply terms correctly. It is not enough, for example, to say “a study lacks ecological validity”. You should always follow such terms with a clarification, for example, because the study was overly controlled and artificial, making it uncertain that it predicts what happens in the real world.
- **Lack of examples/giving poor examples:** It is not enough just to write about a topic, you must give examples of research and theories. You cannot receive top marks without them. When using a study, it is important to outline the **aim**, **procedure** and **results** of the study.
- **Overload of information:** The facts that you provide have to be relevant to the focus of the question. You should not just dump all of your knowledge of the general topic into your essay. If you mention a study or theory, you need to explain how it relates to the question. Also, fewer studies with more analysis are better than showing that you can outline 25 studies!
- **Lack of link between research and the question:** It is important that when you have finished describing a study, you connect it back to the question. So, after you have described a study, you might write: “This study is an example of an experiment.” And then show why it is so.
- **Overly descriptive – no true analysis or evaluation:** For the essays it is important that you always include critical thinking at some level. Simply describing studies is never enough for a top mark.
- **Stating the obvious:** Use of evaluation strategies that are always true are of little value. For example, avoid statements such as: “The sample could have been larger or this study would have to be done again to see if it is reliable”.
- **Using absolutes:** Avoid words like “prove”, “always”, “never” and “in all cases”.
- **Writing one long paragraph:** Finally, well developed arguments use well developed paragraphs. Writing one long paragraph for your essay is a poor writing strategy. It is often confusing for the examiner to read and tends to be rather unfocused.

3. Command the command terms

Command terms are the words in the question that tell you what type of answer you should write. It is important that you can distinguish between the different instructions, so that you can determine how much depth you should provide in an answer.

Below is a list of command terms that are used on the psychology exam papers, along with a detailed explanation of what each term means. It is a good idea to always highlight the command term on the exam paper to help you understand the question.

Any command term may be used for any section of the three papers, with the exception of paper 1, section A. In section A, only level 1 and level 2 command terms will be used.

Level 1 command terms

Level 1 command terms are associated with assessment objective 1: Knowledge and comprehension.

Define	You should write no more than one or two sentences in which you give the precise meaning of a term or concept used in psychology. You may want to include an example to illustrate your definition. All three papers could have sub-questions asking you to define terms or concepts.
Describe	You should write a detailed account on the topic of the question. When describing make sure you address the main features (characteristics) of the concept, theory or research study in sufficient detail. A description suggests that you communicate a mental image (representation) of something. This is a lower order command term so you should report to the reader what is happening without analysing or explaining why this is so. Describe simply asks, "What is _____?" Examples of descriptions that you could be asked to give would include a description of a theory, research study or method, strategies for coping with stress or symptoms of a disorder.
Outline	You should write a brief description (account) or give the main points of something. Paper 1, section A could have short-answer questions asking you to outline one or two principles, terms, research studies or theories. Paper 2 could have sub-questions within the essay question asking you to outline something. In paper 3 you could be asked to outline how you would conduct a qualitative study.
State	If you are asked to state a term or concept it is enough to write a specific name or other brief answer without any description or explanation. For example, on paper 3 you could be asked: "State which qualitative research method was used in this study."

Level 2 command terms

Level 2 command terms are associated with assessment objective 2: Application and analysis.

Analyse	Analysis asks for more than just a description; it includes breaking down complex concepts or terms into their essential parts and describing how these parts relate. Usually this command term asks you to recognize the underlying assumptions. You could be asked to analyse a phenomenon, concept or theory/model in psychology within any exam paper. When thinking about analysis, think “how does this work?” For example, if looking at serotonin as a basis for depression, analysing the theory would involve explaining neurotransmission. You could be asked to analyse the effect of certain factors (for example, biological or cognitive factors, a neurotransmitter, genetic inheritance, stereotypes or emotion) on human behaviour. You could do this by breaking down the answer into three parts: cause, interaction and consequences. Also, paper 1, section B or paper 2 could have sub-questions within the essay question asking you to analyse something.
Apply	This command term asks you to use the knowledge you have about a principle or method and make clear when and where it is used. For example, you could be asked how a particular method is applied in research at the cognitive level of analysis.
Distinguish	If you are asked to distinguish you need to show that you understand the differences between two or more concepts or terms in psychology.
Explain	If you are asked to explain something, you should go beyond mere description and provide complete information including background information or reasons for a phenomenon or type of behaviour. An explanation requires you to answer the question: “What is _____ and why does it happen?” When the command term explain is paired with advantages and disadvantages, you should state and outline advantages and disadvantages and provide background information as to why they are considered positive or negative.

Level 3 command terms

Level 3 command terms are associated with assessment objective 3: Synthesis and evaluation.

These command terms could be used in all exam papers; however, on paper 1 they may only be used in section B. You will not see these command terms in SAQs in paper 1, section A.

Compare	This command term asks you to identify, describe, explain and discuss how two or more concepts, research methods or theories are similar to each other. You should provide information that goes beyond pure description and include reasons why certain concepts are similar and a discussion of the extent of this similarity.
Compare and contrast	This command term asks you to identify, describe, explain and discuss how concepts or theories are both similar and different. You should provide information that goes beyond pure description and include reasons why certain concepts are similar and different and a discussion of the extent of this similarity and difference. If you are asked to compare and contrast you could start with a description and then continue with a discussion of similarities and differences.
Contrast	This command term asks you to identify, describe, explain and discuss how two or more concepts or theories are different. You should provide information that goes beyond pure description and include reasons why certain concepts are different and a discussion of the extent of this difference.

Discuss	This command term asks you to give a balanced review offering evaluative comments about the issue you are discussing. Your opinion and conclusions should be given clearly and supported by relevant knowledge and appropriate evidence. If you are asked to discuss a model/theory you could answer the question in several different ways. • You could state strengths and limitations of a model/theory and support your opinion with empirical evidence. Don't forget to evaluate the quality of these empirical studies. • You could discuss the usefulness of a certain theory by discussing possible applications of a theory and discussing how effective and universal these applications are. • You could describe the theory and then compare it to an alternative theory. • You could discuss the extent to which the theory is universal – are the explanations provided by the theory specific to a culture or gender? Is the theory based on findings that are methodologically questionable? If the question asks you to discuss advantages and disadvantages of something, you should provide a clear judgment about whether the advantages or disadvantages are most significant and then explain reasons for your opinion.
Evaluate	This command term asks you to give judgment and opinion about something. When you evaluate you should make clear comments about how important, useful, accurate, or applicable something is. You should do this by discussing strengths and limitations. It is important that you discuss both strengths and limitations, though the discussion does not have to be evenly balanced between the two. You might be asked to evaluate a theory or model. Essentially, this question is similar to the command term “discuss” on the same topic. You would explain the theory/model and provide an opinion about how accurate and useful it is. You should support your judgments with relevant research studies and findings. You could also provide information about the extent to which the theory is specific to a culture or gender. If you are asked to evaluate a research study you could answer the question in several different ways. • You could discuss strengths and limitations of the research methodology. • You could judge the validity and reliability of the study. • You could discuss how the sample was selected and relate this to the issue of generalizability of findings. • You could assess if the research study has cultural, ethical and gender considerations. For more examples of strategies for evaluation, see chapter 4.
Examine	This command term asks you to closely look at a model, concept or theory by giving detailed information that reveals underlying assumptions or the interaction of various factors. You should make some judgment about the points you are examining and discuss the relative importance of different factors to the basic term/concept under consideration. “Examine” requires a detailed description accompanied by a clear, thorough, and organized reflection of the matter in the question. If the question asks you to examine a model/theory you should distinguish the components of a certain theory and discuss how they relate to one another. You could also discuss principles underlying the theory and how the use of specific research methods influences data collection. If the question asks you to examine how certain factors influence human behaviour you should describe these factors, judge their relative importance and discuss their interaction.
To what extent	This command term could ask you to discuss the validity of an argument. You should give both sides of the argument and provide a judgment by emphasizing the strengths of some arguments over others. You should give some judgment on the relative importance of factors, that is, biological, cognitive, or sociocultural, on the theory or behaviour. How important are these factors? Why are they important? Is the relevance of these factors specific to a culture or gender? Opinions and conclusions should be presented clearly and supported with appropriate evidence.

4. How to evaluate a theory or study

In order to achieve high marks on the IB psychology exam papers, it is important that you are able to show critical thinking skills with regard to research and psychological theories. Students who achieve high marks are those who tend to use a breadth of evaluative strategies and show a firm understanding of the strengths and limitations of psychological study. Before you can apply evaluative strategies, you have to make sure that you know what you are evaluating.

- A **theory** is a collection of related statements whose principal function is to summarize and explain observations made by researchers.
- A **model** is a representation of how things may be. It is like a pattern or a blueprint.

Evaluating theories

Here is a summary of some of the most basic evaluative strategies.

- **Descriptive value:** Is the theory consistent with existing behavioural, physiological, neuroscientific and other empirical data?
- **Heuristic value:** This is the degree to which a theory stimulates investigators to do further research. Does it support “common sense thinking”? Theories vary in their capacity to fulfill this goal. Good heuristic value implies that the theorist defines his/her concepts operationally. An operational definition of concepts requires some statement as to how the behaviour will be measured and/or defined.
- **Falsifiability value:** Does the theory employ concepts and definitions that can be tested? For example, is it not really possible to verify the theory because of the assumptions underpinning it? Many early Freudian theories were not **falsifiable**, that is, it was impossible to refute the theory scientifically. Some studies of depression are problematic because not all of the participants may have the same type or severity of depression. In other words, there is a problem with **construct validity** – the variables being studied have not been carefully and consistently defined.
- **Breadth:** Can the theory be applied to a broad diversity of phenomena or is it limited in both the range and the variety of psychological phenomena it can explain?
- **Applicability:** Does the theory help psychologists understand everyday human behaviour?

Evaluating studies

The goals of psychology as a science are to describe, explain, predict, and perhaps influence psychological processes or behaviour. In order to do this, psychologists conduct **psychological studies**.

When describing a study to support your argument, it is important to always outline the aim, procedure, and findings of the study. Whenever possible, it is a good idea to identify the **research method** used, that is, experiment, observation, interview or case study. In the case of experiments, it is a good strategy to always identify the independent and dependent variables, as well as any variables that were controlled.

Here is a summary of some of the most basic evaluative approaches to research studies.

- Are there advantages/disadvantages to the **research method** being used? For example, Festinger used a covert naturalistic participant observation to study the Doomsday cult. What are the strengths and limitations of this method?
- **Artificiality:** Is the lab situation too controlled to allow us to understand human behaviour outside of the lab? If a study is too artificial, it may lack **ecological validity**, that is, it may not predict what happens outside of the lab. It is important to remember that the only way to find out whether a study has ecological validity is to see what really does happen in a naturalistic setting. Not all lab studies automatically lack ecological validity. Another way to look at artificiality is to determine whether a study has **mundane reality**, that is, are the participants doing something that they might experience in real life? Sometimes, even though a study supports a theory, the procedure is so far-fetched that it is doubtful whether it really does predict human behaviour.
- How good are the measures used to record the data? For example, if the study used a questionnaire, was it a standard one widely accepted by psychologists? Is the measure culturally sensitive? Was data recorded immediately or did the researcher record the data later? If it was recorded later, how could reconstructive memory have played a role in the final results?
- Does the study have **predictive validity**, that is, does the study consistently and accurately predict human behaviour? For example, although Bandura's social learning theory states that we must identify with a model in order to imitate and eventually learn their behaviour, not everyone who identifies with a model does so. Another example is that some tests – like the American SAT – may be a good predictor of university performance, but they are not a good predictor of happiness or future professional success.
- Could there be **researcher bias**? Sometimes this is because researchers want to support their theories and thus find what they are looking for. More often, it is because of a lack of appropriate controls. In order to avoid researcher bias a **double blind procedure** is used in which the associates working with the experimenter do not know what the aim of the study is. In addition, when data is collected, the researcher does not know which data was from which group.
- Could **demand characteristics** have affected the outcome of the study? For example, the participants could have figured out the aim of the study and then acted in a way that they thought they were expected to act, demonstrating **expectancy effect**. Or they could have performed better than usual simply because they were being watched, that is, **social facilitation effect**. Or in an interview the participants could have said things simply to avoid looking inappropriate or foolish, something called the **social desirability effect**.
- In addition to demand characteristics, **order effects** may play a role in the validity of the results of a study. In a repeated measures design, did the repetition of the task alert the participants to the aim of the study? Did the participants do better the second or third time around simply because they had now practised the skill? This is called **maturation**. This is especially problematic when participants must be trained to do something before the study begins. This can be prevented by **counterbalancing**, that is, the participants are divided into two groups and one group is treated with condition A, followed by condition B, and the other is treated with condition B followed by condition A.
- When studies are done over a period of time, there is the chance that **contamination** takes place, that is, that information from outside the study affects the results. This can be because the individual did some research on the internet, spoke to someone that was already in the study, or that personal life experiences affected the participant's behaviour.
- Is there a chance that the **placebo effect** occurred? That is, could the behaviour observed simply be because the participant received a treatment and expects to see a change in behaviour, but that the treatment did not cause the behaviour? This can be controlled by having a group that receives a placebo, a treatment with no known therapeutic value.
- Was the research carried out by a team of researchers? If so, how was inter-rater reliability established? Was the team trained? Was a **pilot study** done, that is, was a "trial run" done before the actual research began?
- Is the study supported by other studies? Has it been replicated and found **reliable**, that is, it gets the same results. If it is a qualitative research study, are the findings **transferable**, that is, can they be applied to situations other than those in the original study? Or are there other studies that appear to contradict the study or theory?
- Is the sample **representative**? For example, many studies only use university students. There are several problems with this, making it difficult to generalize results when applying them to the general population. How diverse is the sample? Is there a **gender bias** or **class bias**?

- Is there **cross-cultural support** for the study? Are the researchers adopting an **etic** approach, that is, comparing one culture to another? Etic researchers decide what to study and how to analyse it before they arrive in the field. They tend to visit cultures, collect data, and then draw conclusions. Or are they adopting an **emic** approach? Emic researchers apply their findings to the culture that they are studying without a goal of comparing to another culture. They carry out research that is informed by local knowledge in collaboration with local people. They begin collecting data after becoming familiar with the culture. In etic research there is the danger of **ethnocentrism**, that is, imposing concepts and methods from the researchers' culture onto the culture being studied. On the other hand, in emic research there is the danger of a loss of objectivity.
- A limitation of much correlational research is **bidirectional ambiguity**, that is, it is unclear if x causes y, y causes x, or if there is no causal relationship at all. For example, if there is a correlation between students using a social networking site and being less social in school, you have to wonder if the use of the social networking site has caused social withdrawal or whether students who were already socially withdrawn started using a social networking site. You must also consider the possibility that there is really no true cause and effect relationship between the two factors.
- How do other levels of analysis look at the same problem? What are the significant differences in their approaches? For example, how does the biological level of analysis contrast with the cognitive level of analysis in explaining depression? Do they support each other in any way? Are there important explanations that a theory overlooks?
- Is the study **ethical**? Was **informed consent** obtained? Were the results of the participants kept confidential? Were the participants subjected to undue stress or harm? Were participants **debriefed** and allowed to withdraw their data? Were they allowed to withdraw from the study at any time? It is important that if you are unsure about the details you do not assume that ethical considerations were not met.

5. Top tips

Here are some tips that will help you throughout your exams. Some of them are obvious, but these are sometimes the ones that students forget.

Before the exam

- When reviewing your notes, try to focus on **conceptual understanding**, that is, you need to understand and be able to apply main concepts in psychology rather than simply memorizing huge amounts of facts. Once you have a clear idea of what concepts mean it will be easier to memorize the facts.
- Try to cover **all parts** of the syllabus. Exams are carefully constructed to make sure that you have to address every part of the syllabus so it is vital that you revise all of the main topics in the course. You will certainly find some parts easier than others and therefore you will find you can answer questions on those parts more easily; but don't count on these being on the exam paper.
- Make sure that you review the material that you are **most unfamiliar with**. It is easy to review the material that you already know. It makes you feel good, but it doesn't help you to be more prepared for the exam.
- Work hard to learn relevant definitions, studies and theories. **Practice discussing studies and theories** – what are their main advantages and disadvantages? How are they similar or different to other theories/studies? Are biases present? Does the study provoke ethical concerns? What are the possible applications?
- **Don't overdo it** by learning more than is necessary. If a learning objective asks you to explain one theory, there is no reason to study more than one in depth because you won't get a chance to show your knowledge on the exam paper.
- Use past papers or similar examples of questions to **practice writing answers** to questions in the actual time that will be available, without referring to your notes or a textbook. Practice taking one hour to do an essay from paper 1, section B or paper 2 and give yourself approximately 45 minutes to answer 3 SAQs from paper 1, section A. This will help you gain experience of what we call "exam conditions".
- For practice **answer as many questions as possible**. It would be good to answer all the questions from previous sessions. Some questions tend to reappear. Even if the questions are not repeated in the same words, quite often the questions are similar across the levels of analysis or options. Writing skill develops through practice.
- Check and make sure you completely understand **how examiners allocate marks** to answers and what the requirements for a high mark are. If you have a chance, mark your own or someone else's answer. This exercise will put you in the shoes of the examiner. As an examiner what would you like to see in an answer? Is appropriate and accurate knowledge present? Is there evidence of critical thinking that is clearly related to the command term stated in the question? Through this experience you might understand better how to avoid potential weaknesses of an essay.

- Highlight the mistakes that you tend to make while answering practice questions. Do not overlook them and do not fool yourself that “it was a silly mistake”. Also **analyse your mistakes** thoroughly. What was your main problem? Did you neglect essential parts of the question? Did the answer reflect a lack of conceptual understanding or was it a result of forgetting the facts? Master your weaknesses after analysing them.
- **Do not postpone studying.** Waiting until the last minute to study puts you in the position of needing to cram before the exam. Even when using memory tricks such as mnemonics, you need time to put all the facts into place. Allow yourself plenty of time before the exam for studying, and try to repeat the main topics several times.
- It isn't enough to memorize definitions and facts and retell them during the exam. **Knowledge has to be applied** when writing answers. The more you practice your critical thinking skills the better answers you'll be able to write.

During the exam

- You should **read all the questions carefully** and look for key words which will guide you when writing your answer. Essential parts of the question are the command term and the body of the question. You should link these two in your answer, for example, evaluate a theory, discuss a relationship, analyse a model, examine a relationship.
- Many students miss out on marks because they don't read the question carefully enough. After reading the question and underlining the main parts **make a list of the main points** you should cover to gain marks. Make a short plan before answering the question. This way you can ensure your answer is well thought out and well structured rather than just a collection of thoughts written down. Make sure all your notes address essential parts of a question. When writing your answer start off with the issues that are most important for your question. Try to integrate the statement of the question somewhere in your answer. Either begin with it or end with it. This makes your answer focused and well constructed.
- Try to **include definitions of important concepts** in your answer.
- For paper 1, section A **answers should be short and precise**. Don't exceed a limit of 500 words in short-answer questions.
- For paper 1, section B and paper 2 remember to **include reference to theories and studies in your essay**.
- **Write like a psychologist.** You have spent many long hours learning psychology and now is a chance to show someone else what you have learned. Use precise vocabulary.
- Do not simply make statements using psychological vocabulary – **clarify your answer**. For example, do not simply write that there was a problem with ecological validity. Explain what you mean by the term and how it relates to the study that you are discussing.
- Good writing skill doesn't necessarily mean using complex, sophisticated vocabulary. It means you should **express ideas clearly** and **focus on the question**. There should be no ambiguity in your answers.
- **Use time wisely.** Make sure you know well in advance the duration of every exam. The exam will be timed, so you must budget your time. First answer the questions you know the answer to. After you have answered all the questions you are sure of, go back to the questions you skipped and try to address those aspects of the question you understand and know.
- **Never leave a test early.** You can always check your answers over one more time.

6. Paper 1: Core areas of study

Paper 1 assesses your knowledge and understanding of the core areas of study – the levels of analysis. The three levels of analysis are:

- biological level of analysis
- cognitive level of analysis
- sociocultural level of analysis.

The paper is exactly the same for both SL and HL students.

There is no one set of studies that needs to be covered in order to do well on this paper. In fact, many of the studies that you do in your options may also be used on paper 1 to meet the learning objectives. For example, you may use a twin study that investigates the role of genetics in the origin of depression to answer one of the biological level of analysis questions.

The focus in this section of the text is on **how to approach the learning outcomes**. To help you make links between the options and paper 1, several of the learning outcomes have suggested studies from the options that could be used to write a response. Although some studies/theories are presented, the emphasis is on the strategies for interpreting and responding to the question. It is important that you use what you have learned in your class, as well as in your main texts, in order to use the strategies that are outlined in this section. Please do not get anxious about the list and feel that you must learn the studies that are given as examples!

Remember that on paper 1 there are three SAQs that are mandatory – you must answer all three. For each SAQ you must remember the following points.

- Make appropriate use of one study or theory. You should not overload your answer with studies, but it is important that you have research to support your claims.
- Write a well developed argument based on the question.
- You should not focus on evaluation. This is only required for the essay questions.
- You should spend approximately 15 minutes on each SAQ.

For the essay questions, remember the following points.

- Make appropriate use of studies/theories. You should not overload your essay with studies, but it is important that you have research to support your claims. All aspects of the theory/study are not always necessary, so only provide the information about the theory/study that is relevant to the question.
- Demonstrate critical thinking. This does not mean that you have to evaluate every study you use, but that you should show clear analysis and/or evaluation as relevant to the question.
- Write a well developed argument based on the question.

In order to give you a sense of how the SAQs and the essays are assessed for the core, you will see a high, mid, and low range essay for each level of analysis. All samples will also have examiner comments and there will be advice on how the question should be approached.

For more information on paper 1, please refer back to chapter 2.



7. The biological level of analysis

The biological level of analysis focuses on how the anatomy and physiology of our nervous system, endocrine system and genes affect behaviour.

Researchers from the biological level of analysis claim we cannot completely understand our thoughts, feelings and behaviour without referring to their biological context. Development of technology has enabled researchers to monitor and map brain activity of individuals while carrying out particular behaviours. Current research is also investigating chemical substances involved in different psychological processes.

Biology also influences behaviour through mechanisms of heredity set by genetic principles. Human behaviour is a result of complex interactions between genes, physiological processes and environmental triggers.

Although psychologists working at the biological level of analysis primarily focus on biological factors, they do not ignore the relevance of other variables on human behaviour. Scientists nowadays try to explain human behaviour by uncovering how our physiology and genes interact with cognitive and sociocultural factors.

Learning outcomes

The learning outcomes for this core area of study are given below. They state what you should be able to do after studying this core area.

General learning outcomes

- Outline principles that define the biological level of analysis.
- Explain how principles that define the biological level of analysis may be demonstrated in research.
- Discuss how and why particular research methods are used at the biological level of analysis.
- Discuss ethical considerations related to research studies at the biological level of analysis.

Physiology and behaviour

- Explain one study related to the localization of function in the brain.
- Use one or more examples to explain effects of neurotransmission on human behaviour.
- Use one or more examples to explain effects of two hormones on human behaviour.
- Discuss two effects of the environment on physiological processes.
- Examine one interaction between cognition and physiology in terms of behaviour.
- Discuss the use of brain imaging technologies in investigating the relationship between biological factors and behaviour.

Genetics and behaviour

- Discuss with reference to relevant research studies, to what extent genetic inheritance influences behaviour.
- Examine one evolutionary explanation of behaviour.
- Discuss ethical considerations in research into genetic influences on behaviour.

Essential definitions

Brain plasticity is the ability of the brain to react adaptively to different inputs. Environmental stimulation during learning causes changes in neural networks and these may change biochemical and physiological characteristics of the brain.

The diathesis–stress model is an approach primarily used in the study of abnormal behaviour that states a genetic predisposition for certain behaviour is inherited but that the behaviour will only occur when triggered by environmental stressors.

Evolutionary explanations of behaviour suggest that certain human behaviours are the result of psychological adaptations that have evolved over time to help maximize our species' chance of reproduction and survival.

Environmental stressors are changes in the environment that may cause a person to experience stress. Environmental stressors may either be sensory (noise, extreme temperature), physical (crowding, being attacked) or perceived (stress in the workplace, deadlines).

Genetic inheritance is the biological transmission of characteristics from one generation to the next. We inherit genes from our parents. These genes influence physiological processes and these tend to guide our behaviour. Human behaviour is often the result of complex interactions between genes, physiological processes and environmental triggers.

Hormones are chemical substances that are released by specialized endocrine glands. They are carried through the bloodstream to different organs where they gradually affect body functions and influence behaviour.

Localization of function refers to evidence from studies suggesting that different parts of the brain are associated with different mental processes. Localization of higher functions, such as problem-solving skills, may be distributed in multiple areas of the brain.

Neural transmission is a process that is triggered by a neuron being stimulated either by the environment or by chemical information from other cells. Transmission occurs when one neuron (nerve cell) influences the activity of an anatomically neighbouring neuron. An electrical charge passes through the neuron, causing the terminal buttons to release neurotransmitters into the synapse.

Neurotransmitters are substances that transfer information between two neighbouring neurons via synapses. Neurotransmitters in the nervous system have specific and highly localized effects that tend to be short-lived. Different chemicals can affect behaviour by imitating natural neurotransmitters, increasing the secretion of natural neurotransmitters or blocking natural neurotransmitters.

Physiological processes are all physical and chemical functions occurring in a living organism or any of its parts.

Suggestions for addressing the learning outcomes

Principles of the biological level of analysis

Patterns of behaviour can be inherited.

- Animal research may inform our understanding of human behaviour.
- Cognitions, emotions and behaviour are products of the anatomy and physiology of our nervous and endocrine systems.

Link to health psychology option: Joseph Brady “Stress in Executive Monkeys” (1958). Principle: Animal research may inform our understanding of human behaviour. Research method: Experiment with animals

In an independent samples design experiment Brady found that monkeys from the experimental group, who had to press a lever on a fixed schedule to avoid electric shock, died from ulceration. In contrast, a control group of passive subjects – monkeys that got the same number of shocks as their worker companion but who did not have to work on a schedule – didn’t develop ulcers. Brady concluded that the ulcers were caused by the continuous stress of making decisions. The findings of this study can help us understand how stress relates to human behaviour and human physiological processes.

Research methods used at the biological level of analysis

- Experiments.
- Correlational studies: including twin research, adoption studies and pedigree studies.
- Case studies.
- Meta-analysis is a statistical analysis that summarizes results from many studies with the same research question.
- Brain imaging techniques (EEG, PET, fMRI, CAT) are recently developed techniques to directly or indirectly observe the structure and functioning of the brain. They may be used as part of an observation, experiment, or case study. **By themselves they are not a research method!**

Ethical considerations at the biological level of analysis

Ethical considerations are relatively the same at each level of analysis, although there are a few that are particular to the biological level of analysis.

- Inflicting pain and death in animals in order to draw correlations to human behaviour.
- The use of brain lesioning and other irreversible techniques.
- Confidentiality of genetic information.
- Deception in the use of placebos.
- Gaining informed consent.

Localization of function in the brain

- Broca (1861).

In 1861 Paul Broca conducted a case study on a 51-year-old man who lost the ability to produce speech after a head injury. A post-mortem autopsy suggested that the cause of the man’s deficit was damage to a specific part of the brain – the left frontal lobe. The findings of this study tend to be used as confirmation of localization of function, connecting a specific behaviour (speaking ability) to a specific brain area. Current investigations suggest that this area of the brain seems to be responsible for language comprehension as well as production.

Link to abnormal psychology option: The role of the hypothalamus in eating disorders.

Link to cognitive psychology option: The role of the hippocampus in memory, for example, the case study of HM.

Effects of neurotransmission

Link to abnormal psychology option: Delgado and Moreno (2000) did a correlational study finding lower levels of noradrenaline and serotonin in patients with major depression. Correlational research indicates that there is a relationship between neurotransmitter levels and depression, but it does not demonstrate a cause and effect relationship.

Link to cognitive psychology option: Martinez's study on the role of acetylcholine in memory.

Link to psychology of human relationships option: Fisher: The role of noradrenaline, dopamine and serotonin in falling in love.

Effects of hormones

Link to psychology of human relationships option: Ditzen et al (2007): Oxytocin increases positive communication between couples.

This study was a double blind experiment. 47 adult heterosexual couples who were married or had been cohabiting for at least 1 year participated in the study. Participants received oxytocin or a placebo intranasally. The couple then participated in an experimentally induced conflict discussion in the laboratory. The conflict session was videotaped and afterwards coded for verbal and non-verbal interaction behaviour (for example, eye contact, non-verbal positive behaviour and self-disclosure). Results suggested that oxytocin significantly increased positive communication behaviour in relation to negative behaviour during the experimentally induced conflict discussion.

Link to abnormal psychology option: The role of melatonin in seasonal affective disorder (SAD).

Link to developmental psychology option: The role of oxytocin in attachment.

Link to health psychology option: The role of cortisol on memory.

Effects of the environment on physiological processes

Link to health psychology option: Hans Selye (1974) General Adaptation Syndrome.

Hans Selye claimed stress has a negative effect on the health of an individual because chronic stress provokes a series of chemical changes in our body. The typical reaction of the body is called the General Adaptation Syndrome and can be broken down to three distinct phases. First is the alarm stage, also known as the fight or flight response. During this phase stressors trigger the nervous system of the organism so that it starts to produce hormones. Stress hormones cortisol, adrenaline, and noradrenaline are released to bring immediate energy to the body. These hormones cause quicker heart rate, higher blood pressure, more frequent breathing. The second phase is resistance – if the stressors are still present, the body secretes more hormones that tend to raise blood sugar level in order to provide additional energy and raise blood pressure. The final stage is exhaustion. This stage is the most dangerous for the organism. Chronic stress causes damage of nerve cells in organs. The hippocampus section of the brain is especially vulnerable; problems in thinking and memory are likely to occur and the person becomes prone to anxiety and depression. Additional stress-related illnesses are high blood pressure, heart attack, arthritis and migraine headaches. Prolonged, strong and frequent stress reactions can induce permanent disorders and may eventually lead to death.

Link to the biological level of analysis: Rosenzweig on brain plasticity.

Link to abnormal psychology option: The diathesis–stress model of depression.

Link to developmental psychology option: Rutter et al on children's responses to profound institutional privation.

The interaction of cognition and physiology and its effect on behaviour

Link to health psychology option: Medical University of Wisconsin (2009).

Patients with coronary heart disease who practiced the stress-reducing Transcendental Meditation technique had nearly 50% lower rates of heart attack, stroke and death compared to non-meditating controls, according to the results of a study carried out by the Medical University of Wisconsin (2009).

The nine-year, randomized control trial followed 201 African American men and women, average age 59 years old, with narrowing of arteries in their hearts who were randomly assigned to either practice the stress-reducing Transcendental Meditation technique or to participate in a control group which received health education classes in traditional risk factors, including dietary modification and exercise. All participants continued standard medications and other usual medical care.

The study found a 47% reduction in the combination of death, heart attacks and strokes in the participants. There was a clinically significant reduction in blood pressure associated with decrease in clinical events and significant reductions in psychological stress in the high-stress subgroup. This research is correlational in nature and does not establish a clear causation between the meditation and the effects on physiological processes.

Link to abnormal psychology option: Explanations of panic attacks.

Link to cognitive psychology option: The role of Alzheimer's disease on memory.

The use of brain imaging technologies

Link to health psychology option: Wang et al (2007): Men and women respond differently to stress.

Researchers investigated stress reactions of 32 men and women in a controlled laboratory setting. They induced moderate performance stress by asking participants to conduct a stressful maths task. For every participant the researchers measured heart rates, cortisol levels, their subjective accounts and the candidates' regional cerebral blood flow (CBF). These measures were taken before, during and after performing the stressful task. Completed fMRI scans indicated differences between men and women.

Men responded to stress with increased blood flow to the right prefrontal cortex which is responsible for "fight or flight". Women responded with increased blood flow to the limbic system, which is associated with nurturing and friendly response.

Link to psychology of human relationships option: Fischer et al (2003) on the nature of passionate love.

Link to social psychology option: Fiske (2007) on the nature of prejudice and the brain.

The link between genetic inheritance and behaviour

Link to abnormal psychology option: Nurnberger and Gershon (1982) did a meta-analysis of studies of genetics as the origin of depression. They found that the concordance rate for major depression was consistently higher for MZ twins than for DZ twins. This seems to support the idea that there is some genetic basis for the etiology of depression.

Link to health psychology option: Garn et al (1981) on the origins of obesity.

Link to cognitive psychology option: Bouchard et al (1990): Minnesota twin study of intelligence.

Evolutionary explanations of behaviour

Link to psychology of human relationships options: Trivers on parental investment theory.

Natural selection favours behaviours that maximize the number of offspring during an organism's lifetime. Parents must invest a certain amount of energy to increase the chances of survival of their offspring. Each parent has to decide how much energy to invest in either offspring survival or their own survival.

According to parental investment theory men and women should be attracted to sexual partners who are the most likely to create healthy and strong offspring. So, attractiveness is a result of reproductive fitness.

- Buss et al (1992).

Buss et al (1992) asked participants to imagine scenes of infidelity (cheating) and at the same time measured their GSR (galvanic skin response) which can be used to measure stress levels. The results tended to indicate that men showed higher levels of stress response than women. This suggests that these findings support the parental investment theory – men want their women to be faithful so that they can take care of their offspring and try to increase their chances of survival.

Link to abnormal psychology option: Evolutionary explanations of depression.

Link to sociocultural level of analysis: Evolutionary arguments of prejudice.

Ethical considerations in research into genetic influences

As behavioural genetics grows as a field, researchers are finding that there are ethical considerations in carrying out genetic research that are presenting new issues for research.

- Consent and recruitment of research participants, particularly with regard to the question of “informed consent”. Do participants really understand what the results will mean?
- Privacy of genetic data, for example, should findings be shared with doctors or insurance companies? As another example, genetic information may be demanded by a court of law.
- Anonymization of samples, that is, DNA samples should not be identified by names, only by coding.
- The undue stress that findings may cause participants, either by predicting disease or revealing information such as the fact that one is adopted or not the child of the father in the family.

Explain how **one** hormone influences human behaviour.

[8 marks]

[Taken from paper 1, section A, May 2011]

How do I approach the question?

- First, it is important that you can correctly identify one hormone, for example, cortisol, melatonin, testosterone, estrogen or oxytocin. Then, it is very important that you link it to human behaviour, for example, aggression, depression, stress, mating behaviour or criminal behaviour. A general account providing how hormones affect the physiological system won't gain you many marks if it's not connected to a specific form of behaviour.

Once you have made your choice, the question asks that you explain, that is, give a detailed account of how the chosen hormone influences the chosen human behaviour. In order to earn the top marks, you need to show “understanding of research”. In order to do this, you should have knowledge of one study or theory that helps to demonstrate the role of the hormone on behaviour.



This answer achieved 3/8



Hormone is identified and its function is stated.



Student correctly links one hormone to human behavior.



Behaviour identified.



Student provides some vague description about the link between melatonin and depression but there is no explanation.

One of the hormones that influences human behavior is melatonin. Melatonin helps the body to regulate sleep. It is most often used when you travel to another country with a different time zone then it is hard to regulate your sleep and it takes time. Therefore it can be good to use melatonin. Too much of melatonin could cause depression, that is why the body has to balance the amount of melatonin it has. The melatonin we have in our bodies is affected by the changes of seasons. So when it is summer we get tired faster and the reason behind this is because the day is longer and we get tired because our bodies will be used to the winter season. Anyhow, these hormones also gets 'turned on' so to say when you enter a dark room.



Student provides an everyday example but there is no reference to a relevant study or theory.



Examiner report

The actual function of the hormone is not well described. Both the hormone and the behaviour (depression) are identified, but there is no evidence to support the claim. The student has only used anecdotal information.



This answer achieved 5/8



Hormone identified.



The student correctly links one hormone to behaviour.



A general account of the relationship between testosterone and aggression is supported with reference to gender differences.

Hormones are chemical messengers that send messages around the body and cause behaviour. The hormone that I will investigate is testosterone and its effect on aggression.

It is apparent from the outset that testosterone may have a role in aggression because aggression is a typically male behaviour and males have the testosterone whereas women have negligible amounts.

The extent to which this can be true can be assessed by considering research studies. For example Beeman in 1947 investigated how testosterone affected aggression in rats. He castrated rats and found their aggression to drop. He then gave them injections of testosterone and found that their levels of aggression rose again. This showed cause and effect relationship. He also found that the amount of testosterone he injected made no difference to the degree of aggression that they showed. This suggested that perhaps it has solely a permissive effect. One issue with this study is that it is an animal study and there are issues with generalizing to humans as we are physically qualitatively different.

Mazur and Booth conducted a study on athletes and suggested that it was merely a dominance-seeking hormone as athletes produce it before races. This is evidence against it solely having an effect on aggression. However Berhardt in 1997 found a positive correlation between levels of testosterone and aggression in men found in low socio-economic areas. This is supported by Cohen, who found the same thing. However we cannot be sure that the correlation is cross-cultural without research from other cultures.

The proposition that testosterone has an effect on aggression appears to true as many studies support the idea.



There is no need to mention so many studies in responses to SAQs. It would be better if the student described one relevant study and clearly explained how it supports or refutes the relationship.

! Examiner report

The student has shown good knowledge of testosterone, but the first study is not linked to human behaviour, as stated in the question. The function of testosterone, that is, why it would be linked to aggression is not noted. Referencing fewer studies and focusing more on explaining the function would make this a stronger SAQ response.

! This answer achieved 8/8

↑ Definition of hormones is provided. Testosterone identified as example.

↑ Behaviour identified and defined.

↑ Accurate and focused account of the link between testosterone and aggression provided and supported with empirical evidence.

↑ Evidence contradicting the existence of a link between testosterone and aggression.

↑ Clear conclusion provided.

Hormones are chemical messengers, part of the endocrine system, that are sent throughout the body in the bloodstream to initiate specific changes. An example of a hormone is testosterone, which is thought to be linked to aggressive behaviour. Aggression can be defined as any sequence of behavior that seeks to dominate or harm another individual. Testosterone is necessary for males in production of sperm (gametes) and also it is needed for the development of secondary sexual characteristics; thus testosterone is present in much higher quantities in males, and it accounts for the fact that men are usually seen as the more aggressive sex.

Christiansen and Winkler were interested to find out whether the link between testosterone and aggression was cross-cultural i.e. it is not a product of either our ethnicity or social environment. In order to test this they measured testosterone levels of male members of the South African Khoi-San tribe, as well as carrying out observations to note aggressive behavior. Their results supported the theory, as they found that the members with the highest levels of testosterone tended to be the most aggressive.

Beeman (1947) tested the effect of testosterone on rats, by first castrating them, where he noticed a drop in levels of aggression, and then injecting them with testosterone, which reinstated their aggressive behavior.

Despite the supportive evidence, some psychologists have argued that the testosterone may not cause aggression as such, but instead it may be connected to competitive behaviour. Both athletes and chess players have been found to have high levels of testosterone before a race or match, and so this makes more sense to be regarded as competitive behaviour.

Sapolsky also challenged the theory of testosterone causing aggression, stating that testosterone may simply have a permissive effect, meaning that its mere presence allows for aggressive behaviour, and that an exact causal link should not be seen as correct.

Despite the counter-evidence, an evolutionary perspective would suggest that testosterone does cause violence, and this is necessary in males for them to seek an appropriate mate (e.g. stags fighting over females) and also to protect their young.

! Examiner report

The student shows an excellent understanding of the link between testosterone and behaviour, noting why it would make sense for testosterone to be linked with aggression.

Discuss the use of brain imaging technologies to investigate the relationship between biological factors and behaviour.

[22 marks]

[Taken from paper 1, section B, time zone 2, May 2011]

How do I approach the question?

This question is very broad and allows you to discuss any brain imaging technologies used to study any area of psychology. Remember that brain imagining technologies include CAT, PET and the fMRI. Your essay should focus on how the technology is used to investigate the relationship between biological factors and behaviour.

The question uses the plural, *technologies*, and when planning out this essay, it is important for you to have two to three examples of how technology is used by psychologists in research. Be sure to carefully describe the study, focusing on how the technology was used. You may want to consider the studies that are outlined in this chapter, including Ramachandran's study of phantom limb pain, the use of PET scans in diagnosing Alzheimer's disease, autism and/or schizophrenia, Fiske's research on the role of the amygdala in prejudice responses or studies of localization of function.

Along with describing studies that demonstrate how imaging techniques are used, it is important that you demonstrate critical thinking with regard to the use of imaging techniques. It is very important that you do not simply evaluate the studies, but that you evaluate *the use of brain imaging technologies*. As part of that evaluation you may want to consider the following points.

- Advantages and limitations of brain imaging technologies.
- Questions of ecological validity.
- When some techniques are more appropriate than others, for example, CAT and MRI show structural features of the brain, whereas the PET and fMRI demonstrate brain function.
- Ethical considerations in using brain scanning.



This answer achieved 5/22



The introduction focuses on diagnosis, which is not the focus of the question.

The use of brain scans is very common in establishing a diagnosis within medicine, but is also useful when it comes to psychology. While a person's behaviour may be attributed to purely psychological disturbances, it may also be caused by underlying biological factors. With the help of brain scanning these biological factors can be found.

While psychological diseases such as schizophrenia generally is not caused by an underlying biological factor, a change in a person's behaviour and personality may be purely biological. Tumors in the brain, for example, which are located in certain areas, may cause behaviour which would not be present otherwise, such as extreme anger or similar. This can be established with brain scanning, and a psychological cause can be ruled out. The basis for this, Broca established in 1861 when he discovered that different parts of the brain controls different things, for example, the speech, which was the case for Broca's patient, who had a speech emparement[sic] from a head injury.



This is a good link, that brain scanning allows researchers to do research without having to wait to do a post-mortem.

While Broca did establish the theory of localization, it could not be done before he was able to perform a post-mortem examination on the patient's brain. However, nowadays, with brain scanning, an injury like the one Broca's patient suffered from, can be established before the patient has died, and then perhaps get treatment.

While brain scanning can help to establish if there's a biological factor playing a part in someone's behaviour, brain scanning may also work the opposite way. If a person experiences a change in his/hers behaviour, one may suspect that there's a biological factor to it. However, a brain scan may conclude that there's nothing wrong with the brain itself, and that there's nothing biological/physical that is causing the change in a person's behaviour.



Only the advantages of brain imaging techniques are addressed.

The use of brain scanning today is a great advantage when it comes to giving diagnosis for all sorts of conditions, may it be tumors causing a specific behaviour or any other injury or condition to the brain. (328 words)

! Examiner report

Knowledge and comprehension: There is no description or discussion of two distinct techniques, that is, CAT, PET, fMRI or MRI. There is also no research to demonstrate how technology is used to investigate the link between biology and behaviour. (2/9)

Critical thinking: There is a link to ways of improving how we do research, but otherwise there is no evidence of evaluation or analysis. (1/9)

Organization: The response does not stay focused on the question. The student should have focused on the strengths and limitations of using brain scanning techniques, rather than focusing on the Broca study. (2/4)

! This answer achieved 12/22

↑ A fairly good introduction, but could use more focus on the link between biology and behaviour.

↓ The use of the word “patient” makes it sound like an essay on diagnosis/treatment rather than on research.

↓ This is not completely accurate. Animal studies are still conducted today.

↓ Not truly brain imaging. EEG methods record the electrical activity of the brain using electrodes placed on the scalp.

↑ Ethical consideration for use of PET scan.

↑ Demonstrates a basic understanding of how the PET works, and makes a very brief reference to how it could be used to determine the effect of biology on behaviour.

The methods scientists use to investigate the relationship between biological factors and behaviour have changed dramatically. Before, they would cut out, lesion, or scar brain tissue and then monitor the effects it had on human behavior. However, now we have much more advanced and less invasive methods which do not harm the patient.

An example of an older method of trying to investigate the relationship between biological factors and behaviour is a study by Hetherington and Ranson in 1942. They lesioned the hypothalamus region in rats brains. They found that the rats intake of food had dramatically increased and they had doubled in size. They deduced from these results that hypothalamus acted as a ‘break’ on eating. However, this was deemed untrue with later scientific research.

It is methods like these that are no longer allowed to be performed due to many ethical considerations. The biggest of which, is protection. Performing such experiments were often permanent and were damaging rather than helpful.

However, as scientific research advances, our brain imaging technologies, have too. We had an EEG machine which gave us print outs of brain waves, this helped us understand new thinking patterns, however EEG’s do not allow us to see and understand deeper regions of the brain. Although EEG’s have helped diagnose disorders such as phobias.

Perhaps a better brain imaging technology would be PET scans. They give us coloured maps of the brain, they are fantastic as they can record brain activity over time – therefore they monitor brain activities such as thinking. Hence they can be used to help doctors/psychologists understand what the brain is doing when someone has a panic attack due to a phobia, for example. PET scans can be used to diagnose tumors and cancer, but due to the fact that they can be monitor brain activity over time, they are often used to diagnose Alzheimer’s – so they can catch protein deposits early. Despite all previously stated – they are particularly invasive. They work by the patient being injected with radio active glucose in a very small dosage and the scanner picks this up. This is not harmful to the patient. The patient must be enclosed in a ‘capsule’ like machine, which of course can cause claustrophobia, which could potentially harm the patient. Again, if the patient is particularly overweight they may not be able to use the PET scan, simply because it would not be safe for them to try to fit inside the machine.

Another brain imaging technology would be the fMRI or MRI scanner. These have one of the same problems as the PET scanner – again patients must be enclosed in the machine – potentially causing a panic attack due to claustrophobia or of the patient is overweight – they may not be able to use it. However – they produce 3-D brain maps which are a much higher resolution than PET scans – which is an added bonus. fMRIs can be used to detect such disorders or mental conditions such as Autism as fMRI scan can detect brain activity in specific regions of the brain. An added bonus with fMRIs is that they do not require the patient to be injected with any substance – unlike the PET scan.

In conclusion it can easily be noted that over the years the way we have viewed the brain in the context of the relationship between biological factors and behaviour have changed dramatically from the harmful invasive techniques, cutting out or scarring brain tissue to the totally no invasive fMRI scanners. From all of the different technologies mentioned they all investigate different behaviours due to biological factors. For example the PET scans – they are most commercially used to detect tumours and changes in the brain – for example protein deposits developing which leads to Alzheimer’s disease. Or fMRI scanners which are commonly used to detect mental conditions such as Autism and Schizophrenia. Then lastly, the most simple EEG, which is just a printout of brain waves can detect phobias – panic attacks. Each brain imaging technology has its positive and negative criticisms, however, by them showing scientists diseases like Alzheimer’s early – there is more time for us to try to slow the progression of these down. (708 words)



Examiner report

Knowledge and comprehension: There is some description of the techniques, but it could be more precise. There is some link to behaviour, but no research to support claims. (4/9)

Critical thinking: There is some evidence of critical thinking, but it is not always linked directly to the question. It would have been better to discuss the reliability and validity of brain scanning in research. (5/9)

Organization: The response is reasonably well focused, but does not clearly address the use of scanning in research. (3/4)



This answer achieved 18/22



A clear link to the question regarding “investigating the relationship between biology and behaviour”.

Brain imaging technologies are examples of non-invasive procedures which can be used to measure brain activity, look at brain structures and discover the functions of brain areas. These techniques are very useful to psychologists because they allow study of the brain which is possible within the ethical guidelines prescribed by the British Psychological Society and international equivalents. The alternatives to these kinds of non-invasive procedures are invasive ones. In the 21st century these cannot be done on humans in the name of research because of their nature as being very dangerous and somewhat crude in certain cases. These invasive procedures include electroconvulsive therapy (ECT) and psychosurgery. For ECT, an electric shock is given through electrodes on either side of the head. This is done in the hope of resetting the brain. Psychosurgery includes lobotomies and lesioning by which sections of the brain are removed and behaviour before and after is compared.



Overstated. ECT is still used in the treatment of severe depression. It also is not usually used for research.



A very good clarification. This comment indicates that EEGs just indicate the existence of brain waves while brain imaging techniques help in determining the location of injuries and precise nature of the problem.

The three most common non-invasive brain imaging techniques used today are electroencephalogram (EEG), positron emission topography (PET) and magnetic resonance imaging (MRI). EEG cannot fully be described as a brain imaging technique because it does not provide an image of the brain, but merely shows electrical activity, or “brain waves”. As a procedure it can be conducted very easily. In research it has been useful in measuring general brain activity during certain tasks such as sleeping and conducting memory tasks. It does have some limitations as a procedure, for example, it cannot show brain structures and so the electrical activity cannot be located to a particular point in the brain. Similarly, it can only show surface brain regions, giving no access in terms of electrical activity to deep structures such as the corpus callosum.



The imaging technique is clearly described.

PET, on the other hand, can provide information concerning brain structures. This technique works by injecting radioactive glucose solution in the brain. The radioactivity acts as a kind of tagging mechanism. As the glucose passes through the blood stream, it is taken into brain cells where it can be metabolized and used as energy.

The presence of the glucose in these brain regions is detected by a reader which picks up the radioactive particles emitted. The glucose mixture sounds dangerous but it is actually harmless, so from an ethical point of view, PET scanning has no major faults. Research into behaviour using PET scanning was conducted by Raine et al. (1997) who aimed to find any differences in brain metabolism between murderers and “normal” people. The results of the experiment were very interesting, as they showed differences, with murderers having particularly active right hemispheres and prefrontal cortex, with underactivity in the corpus callosum. This was analysed by the researchers as part of the study and the suggestion was made that as the right hemisphere is particularly involved in emotion, its overactivity suggested an excess of emotion and the underactivity of the corpus callosum would not allow communication with the left hemisphere which would analyse and rationalize this emotion. There could be no comparison, however, with people before they committed murders in order to determine whether the crime was the result of the physiological changes or a result.



Incorrectly identified methodology. Better to just use the term “study” when unsure.



Excellent examples of the use of PET scanning, but no evaluation of its use.

Gun et al. (1995) used PET scanning to determine that men have higher activity in the primitive brain centres which control aggression, the results of this research into brain imaging suggests a reason as to why men are more aggressive than women.

Mosconi et al (2005) found changes in brain activity which could be the characteristic of Alzheimer's disease before its onset. If underactivity is found in these certain brain areas then treatment can begin before the actual onset of the disease, so it is now used as a screening process for Alzheimer's disease.

MRI scanning is a technique which relies on the principle of nuclear magnetic resonance by which radiowaves can be passed through the brain in order for hydrogen ions to be detected by magnetic fields. The result is that substances such as fats and water and other substances can be seen and an image can be generated as a result. This is possible the most useful of the brain imaging techniques because it is of a much higher resolution than PET scanning. There are very few ethical implications involved due to the harmless and non-invasive nature of the technique.

Research into brain plasticity was done by MacGuire et al. (2001) involving comparing structural brain MRI scans of taxi drivers with at least two years of experience with those of a control group. All participants were right-handed males in order for variables to be reduced. The scans found that the hippocampus was larger in the brains of the taxi drivers. It is an area which is associated with spatial memory and navigation. The grey matter in the posterior hippocampus in particular was very dense compared to the control. This showed how the brain can be adapted and shows how behaviour can be genetically based, but as well, the brain will adapt to meet its environment so that it can carry out necessary tasks.

The case study of the H.M. is one which was largely conducted before MRI and other similar techniques had been invented and brought into use. Milner et al. (1968) initially focused on the assumption that 2/3 of the hippocampus and parts of the amygdale and temporal lobes were what had been removed from H.M.'s brain. The partial retrograde and local anterograde amnesia were then studied and conclusions were drawn about how the episodic and declarative memories must have been located within the regions which were removed. 44 years after his initial psychosurgery at the age of 26, an MRI scan of H.M.'s brain was conducted. It made certain exactly which areas of the brain had been removed during the surgery and to a great extent it displayed the crude nature of psychosurgery when it was done. The results of the scan were able to reveal possibilities as to why H.M. ended up with such severe amnesia after he underwent a surgical procedure which was only supposed to alleviate his epileptic fits.

In terms of the principles of the biological levels of analysis, these brain imaging techniques allow a great deal of research into the effects of anatomy, physiology and the endocrine and nervous systems on behaviour. They take pressure off the need to conduct animal research as fewer and fewer invasive procedures become necessary. They can be used to investigate brain structures, and any changes in such things provide insight into the extent to which behaviour is innate, coming from genetic basis, and to what extent it is a result of environmental factors which can be seen through brain plasticity. These procedures/imaging techniques provide a much lower risk and lower stress alternative to the invasive techniques which seem very old fashioned in the 21st century. (1132 words)



Unclear how this is shown in the study.



Mostly advantages of brain imaging techniques provided.



Examiner report

Knowledge and comprehension: The student demonstrates a rich understanding of brain scanning techniques and their use in psychological research. (9/9)

Critical thinking: Some good analysis but it is not consistent. Fewer examples of studies with more focus on the limitations of using brain imaging techniques would have made for a stronger essay. (5/9)

Organization: The response is focused on the question and well developed. (4/4)



8. The cognitive level of analysis

Cognitive psychology revolves around the notion that if we want to know why people behave the way they do, we have to figure out what processes are actually going on in their minds. In other words, psychologists from this level of analysis study **cognition** which is the mental act or process by which knowledge is acquired. They focus on the way humans process information, looking at how we treat information (stimuli) and how this treatment leads to responses. In other words, they are interested in the variables that intervene between stimulus/input and response/output. The main areas of study in cognitive psychology are: perception, attention, memory, problem-solving and language.

Learning outcomes

The learning outcomes for this core area of study are given below. They state what you should be able to do after studying this core area.

General learning outcomes

- Outline (at least) two principles that define the cognitive level of analysis. Explain how and why these principles are connected to the research at this level of analysis.
- Discuss the use of at least two research methods in psychological research at the cognitive level of analysis using specific research as examples. Explain why these methods are used.
- Discuss ethical considerations of research studies at the cognitive level of analysis.

Cognitive processes

- Evaluate schema theory using examples of research studies.
- Evaluate two models or theories of one cognitive process with reference to research studies.
- Explain how biological factors may affect one cognitive process.
- Discuss how social or cultural factors affect one cognitive process.
- With reference to relevant studies, discuss to what extent one cognitive process is reliable.
- Discuss the use of technology in investigating cognitive processes.

Cognition and emotion

- Discuss to what extent cognitive and biological factors interact in emotion.
- Evaluate one theory of how emotion may affect one cognitive process.

Essential definitions

Attention is a cognitive process that explains how we actively concentrate on certain aspects of sensory stimuli present in our environment or mental experiences.

Cognitive dissonance is a feeling of inner tension caused by having conflicting thoughts simultaneously. Cognitive theorists argue that we have a motivational drive to reduce this feeling of dissonance. In order to do this, we change our attitudes, beliefs or actions.

Emotions are often called “feelings.” Emotions consist of three components: physiological changes, such as a faster heartbeat or sweating; an individual’s subjective feeling, such as happiness; and a behaviour, such as smiling or crying.

Encoding is the process of transforming sensory information into memory. The actual processes by which this takes place is a major area of study in cognitive psychology.

Engram was the idea that memories were located in specific locations in the brain, that is, that memory is localized. The existence of neurologically defined engrams is not significantly disputed, though their exact mechanism and location has been a focus of persistent research.

Episodic memory is the memory of personal experiences, for example, your graduation day.

Flashbulb memory is a special kind of emotional memory which refers to vivid and detailed memories of highly emotional events that appear to be recorded in the brain as though with the help of a photograph.

Heuristics are short cuts that help us to make decisions. For example, we might choose a certain brand of breakfast cereal because the packaging makes it look healthy. This is the representativeness heuristic. We use heuristics because we are cognitively conservative: we don’t have time to do the research; we don’t know enough to make a decision; and we don’t care enough to use up energy thinking about it.

Perception is the process of making sense of environmental stimuli received by senses.

Procedural memory is non-conscious memory, also called implicit memory, for skills, habits and actions. It is the kind of memory that shows that we “know how to do” something.

Reconstructive memory is the idea that memories are not stored in complete units, but that memories are recalled by linking together several bits of information, thus reconstructing a memory by rebuilding a collection of smaller memories.

Schema are mental representations that are used to organize our knowledge, to assist recall, to guide our behaviour, to predict likely happenings and to help us to make sense of current experiences. Schemas are cognitive structures that are derived from prior experience and knowledge.

Semantic memory is a form of explicit memory that is fact-based knowledge that can be easily retrieved. This is the kind of memory that shows we know what, where, or when.

Suggestions for addressing the learning outcomes

Principles of the cognitive level of analysis

- Mental processes guide behaviour.
- The mind can be studied scientifically.
- Cognitive processes are influenced by social and cultural factors.
- We do not have to be passive responders to our environment. We are active processors of information. However, we are cognitive misers, we do not want to use up a lot of energy thinking, so we often allow ourselves to be influenced by our environment or use previous schemas and ways of thinking.

Link to abnormal psychology option: Molianen (1993) on schema and depression. Principle: Mental processes guide behaviour. Research method: Correlation – self-reported data on questionnaires.

According to Beck's influential cognitive theory, individuals who hold negative self-schemas when otherwise well are vulnerable to developing depression in the future. A study by Molianen (1993) looked at the effect of negative self-schema on college students. This study showed that students' current depressive states were consistently found to be related to their negative self-schema. That is, the students' cognitive thoughts were shown to be affecting them, and as a result they developed symptoms of depression.

Research methods used at the cognitive level of analysis

- Experiments: Several memory studies are simple experiments, for example, Loftus's study on reconstructive memory of an automobile crash.
- Interviews and questionnaires: Neisser's study of reconstructive memory was a combination of gathering information by questionnaire and then carrying out a series of interviews.
- Correlational studies: These are often based on self-reported data. For example, studies on the correlation between wealth and happiness.
- Observations: Much research on the activity of the brain during cognition is observed while the individual is undergoing an MRI.
- Case studies: There are several famous case studies in the study of memory, for example, HM, Clive Wearing and, for language development, the study of Genie.

Ethical considerations at the cognitive level of analysis

Ethical considerations are relatively the same at each level of analysis, although there are a few that are particular to the cognitive level of analysis.

- Historically, lesioning was used on animals to determine its effect on memory.
- The use of case studies of people with brain damage or who have experienced severe personal trauma. Issues of consent and the maintenance of a professional and objective relationship between the researcher and the individual have sometimes been an issue. The case study method enables the researcher to obtain personal information. The researcher should make sure that the participant consents to the publication of some personal information.
- Deception is often used to hide the aim of the study and prevent demand characteristics.
- The manipulation of an individual's personal memories. For example, the "mall study" in which Loftus created false memories in her participants.
- Some research has been accused of "objectifying" participants by taking too reductionist an approach to human behaviour.

Schema theory

Link to cognitive level of analysis: Brewer and Treyens (1981)

Brewer and Treyens (1981) wanted to see how schema would affect participants' memory for objects in an office. Participants were asked to wait in an office for 35 seconds. Those items that fit in one's "office schema" were well remembered. Those objects that were not part of a typical office schema were not. Some participants falsely recalled objects that were not in the room, but which would logically be part of an office schema.

Link to the sociocultural option: Gender schema affected the behaviour of the participants in Bandura's classic "Bashing Bobo" study.

Link to cognitive level of analysis: Bartlett's "The War of the Ghosts" study.

Link to abnormal psychology option: The role of negative schema on depression.

Models of one cognitive process

- Atkinson and Shiffrin (1968): The multi-store model (MSM).

This model of memory had three components: the sensory buffer, the short-term memory store (STM) and the long-term memory (LTM) store. External stimuli went into the sensory buffer by means of attention; information went from the STM to LTM by a process of rehearsal. Memories were lost from STM by a process of displacement and from LTM by a process of decay. This model has some support but primarily served as a springboard for other theories.

- Craik and Lockhart (1972): Levels of processing model and Baddeley and Hitch (1974): working memory model.
- Attention models: Broadbent's filter theory; Treisman's Attenuation Theory.
- Language development: Piaget, Bruner, Vygotsky.

Some strategies for evaluation of models

- Look at what the model is unable to explain. For example, the MSM cannot explain reconstructive memory. More biologically based models can. It also cannot explain multi-tasking which the working memory model can.
- Look at research that confirms or supports the model, for example, the HM case study or Glanzer and Cunitz's study of serial position effect.
- Is gender or cultural bias present in the model?
- Compare and contrast it to another model. In what ways are the models similar and different?
- Examine whether the model is useful in explaining things in real life.

Biological effects on one cognitive process

- Newcomer et al (1999): The effect of cortisol on memory.

This study was an experiment with three experimental conditions. The high cortisol group was given a tablet containing 160 mg of cortisol per day. The participants in the low level of cortisol group were given a tablet containing 40 mg of cortisol per day. The third group was a placebo group.

All participants were asked to listen to and recall parts of a prose paragraph. The results were that the participants who received the highest level of cortisol also showed the worst performance in verbal declarative memory. The performance of participants in the high cortisol condition returned to normal after they stopped taking the hormone tablet. According to the researchers, these results demonstrate a clear link between levels of cortisol and remembering.

- The role of sleep on memory or attention.
- The role of the hippocampus on memory, for example, HM.
- The role of acetylcholine on memory, for example, Martinez and Kesner (1991).
- The role of beta-amyloid proteins on development of Alzheimer's disease.

Social or cultural effects on one cognitive process

- Cole and Scribner (1974): The effect of schooling on memory strategies.

Cole and Scribner compared the recall of a series of words among both American and Kpelle (Liberian) children. They found that the Kpelle children could not recall a list of words as well as American children unless the children had attended school for several years. The number of words that they remembered did not increase, even with practice. They did not demonstrate evidence of chunking. However, when the words were placed into a narrative story, there was a significant increase in the number of words remembered. Schooling appears to play a role on how we remember.

- Rogoff and Wadell (1982) on the use of dioramas in Guatemala.
- Deregowski (1972) on depth-cues and perception.
- Wagner (1980) found primacy strongest in schooled Moroccan children.
- Allport and Postman (1947) on how cultural stereotypes distort memory.

The reliability of one cognitive process

- Loftus and Palmer (1974) on reconstructive memory.

In this classic study, Loftus and Palmer had participants watch a film of a car accident and then estimate the speed of the car in the film. Participants were asked: "How fast was the car going when it hit the other car?" The intensity of the verb was changed on different questionnaires given to the participants. The word *hit* was substituted with collided, smashed, contacted or bumped. The researchers found that the more "intense" the wording of the question, the higher the speed estimates. This shows that memory is easily manipulated and not as reliable as we would like to believe.

- Bartlett (1932): "The War of the Ghosts" study.
- Neisser and Harsch (1992) on memory distortions of the Challenger disaster.
- Crombag et al (1996) on memory of a Dutch Boeing 747 crash.

The use of technology to investigate cognitive processes

- Kilts (2003): The role of the brain in product preference.

Kilts carried out a series of experiments using MRI scanners to see the role of the brain in product preference. When participants were shown products and asked to rate them for "attractiveness", Kilts observed more activity in the medial prefrontal cortex, an area that is associated with our sense of self and personality. This may indicate that we are attracted to products when we see them as part of our identity.

- Caramazza (2009) found that from the visual cortex, information about living and non-living objects is shuttled to different parts of the brain so as to trigger appropriate reactions, even in blind participants.

- Van Veen et al (2009) had participants describe an uncomfortable environment as comfortable while in an MRI. The dorsal anterior cingulate cortex and anterior insula appear to be active during this cognitive dissonance.
- Kim and Hirsch (1997): Research using MRI on bilingualism and language processing.

The interaction of cognitive and biological factors in emotion

- Singer and Schachter (1962): Cognitive and physiological determinants of emotion.

Singer and Schachter carried out an experiment to determine the interaction between physiological and cognitive factors in emotion. Participants consented to receiving an injection of what they thought was a vitamin supplement in order to test their visual skills. In reality, the injection was adrenaline.

They were in one of four groups: adrenaline ignorant (no information about side effects), adrenaline informed (they were told of the effects of adrenaline, although they still believed it was a vitamin); adrenaline misinformed (they were told that the side effects were numb feet and a headache); and a control group which received an injection that would have no effect.

Participants then waited in a room with a confederate who carried out a number of silly tasks designed to amuse the participant. The misinformed participants were happier than all the others. The second happiest group was the ignorant group. This demonstrates that these participants were more susceptible to the confederate because they had no explanation of why their bodies felt as they did. The informed group felt the least happy because they understood why they felt as they did.

- LeDoux's (1999) model of emotions in the brain.
- Research from abnormal psychology on positive feedback loops and panic attacks.
- Speisman et al (1964) on cognitive appraisal.

The effect of emotion on one cognitive process

- Brown and Kulik (1977): Flashbulb memories.

Brown and Kulik administered a series of questionnaires to 80 American participants, asking them how they learned of public events. They found that memories were most vivid for events that were unexpected and personally relevant. The researchers concluded that the combination of surprise and consequentiality lead to "flashbulb memories." There is, however, much research that challenges this theory.

Link to health psychology option: State-dependent memory and alcohol use.

Link to abnormal psychology option: The effect of depression on memory retrieval.

Link to sport psychology option: The effect of arousal on attention.

Outline **one** theory of how emotion may affect **one** cognitive process.

[8 marks]

[Taken from paper 1, section A, time zone 2, May 2011]

How do I approach the question?

The first step is to identify the cognitive process that you have prepared for the exam, that is, memory, attention, language, problem-solving or perception.

Then you need to recall one theory that shows how emotion may affect that cognitive process, for example, Brown and Kulik's flashbulb memory theory, the effect of depression on memory recall, state-dependent memory theory, Frank's theory of the role of passion on decision-making or the effect of arousal on attention.

The question asks you to outline one theory and focus on one cognitive process. This means that you should give a brief description of the theory, showing clearly how emotion affects the cognitive process. Research (theories or studies) should be used to support your response. Since the question specifically asks for only one theory, make sure you do not provide more than this. Instead use the time to give the most accurate and informative account of this one theory.



This answer achieved 2/8



A very basic definition. To score higher marks, a more complete outline of the theory is expected.

One theory of how emotion affects memory, a cognitive process, is the concept of a flashbulb memory as something which enhances memory in times of heightened emotion.

This theory was put forward by Brown and Kulik and helps explain why people remember more about emotional events. Often in the circumstances it is not just basic things which are remembered, in the case of Princess Diana's death, or the 9/11 attacks, particularly in America now the death of Bin Laden, people tend to be able to recall where they were at the time. However this theory has come under much scrutiny.



This is evaluation of the theory which is not what the question is asking for.

Neisser proposed that people were able to remember events such as those above better due to increased rehearsal. For memories to enter the LTM in the multi-store memory model proposed by Atkinson and Shiffrin (68), rehearsal is a vital process which must take place. Neisser et al argued this theory as well saying that although confidence over a topic increases with heightened emotion, accuracy when recalling it dropped.

To conclude, as the flashbulb method described by Brown and Kulik may be present, given they have no raw evidence on this matter and there are studies which oppose this, it may not be the best explanation yet.



Examiner report

The theory is not adequately described or supported. The student has attempted to evaluate the theory, but that is not what the command term is asking for.



This answer achieved 4/8



A relevant theory is correctly identified and some outline is provided.

Many psychologists believe that emotion may affect cognitive processes. One theory of how emotion may affect cognitive process is Kulik's Flashbulb memory theory. The theory states that when an event causes significant emotional distress or arousal, then the memory of that event will be particularly vivid. As if a photograph, or a snapshot of the event, had been imprinted onto the mind. This is reasoning behind why people remember traumatic events to such a great extent, such as the death of Princess Diana.



A description of a study is provided but it's very vague. It is unclear what the aim, procedure, or results of the study really were.

A study was performed which showed that information remembered about traumatic events was better remembered than non-traumatic events. This suggests that the emotions felt at the time of the incident serve to help store information better. The theory also suggests that the memory is retrieved better as well, due to the 'emotional cues' which aid memory retrieval.



This is inaccurate. The cognitive interview is based on schema theory.

The theory forms part of the cognitive interview process performed by the police to interview witnesses. They attempt to get the witness to recall not only the main periods of the incident, but also the aspects of their environment at the time, as these points serve to act as cues to help retrieval.



Although this comment is correct it is not necessary because the question asks you to only outline one theory.

However this theory has been criticized, as it is argued that while often more is remembered in events with high emotional response or trauma, it may just be because the person rehearses the event a large amount in their minds, which relates to many theories involving rehearsal in memories, such as the multi-store model (Atkinson and Shiffrin 68).

Furthermore, it has been found that while much information may be recalled from events creating powerful emotional responses, a study showed that accuracy was not overall better in 'Flashbulb' events.

Finally, it is believed that many memories, even Flashbulb memories may be distorted by mental schemas (networks of knowledge and belief). A study was performed which showed that when remembering back on old marriages, after a divorce, many divorced people saw them in a more negative light. This shows the effect of a negative scheme, distorting emotional 'Flashbulb' memory.



Examiner report

The student shows some understanding of flashbulb memory theory, but both the theory and its support should be more carefully described. The evaluation is not necessary and it does not add anything to the response. It would have been better if the response focused on the command term.



This answer achieved 8/8



Theory correctly identified and outlined.



This is an explanation of the basis of the theory.



Empirical support for the theory is provided.

One theory of how emotion affects memory, a cognitive process, is flashbulb memories. This theory was coined by Brown and Kulik (1977). Flashbulb memories are extremely vivid, detailed emotional memory of a highly emotional event that are formed when an event is unexpected or important, recorded by the brain as by a camera's flash. The assumption is that flashbulb memories are more accurate and better remembered than ordinary memories. The explanation suggested for this is that there is a special neural mechanism involved that triggers an emotional arousal because the event contains an element of surprise or importance. This has been supported by modern neuroscience, including the role of the amygdala – but there has also been much criticism to flashbulb memories (for example Neisser (1982) and Neisser & Harsch (1992)).

The theory of flashbulb memories was based on Brown & Kulik's (1977) research. The researchers conducted interviews on participants' recall of important public occurrences, such as the death of John F Kennedy. The results were that most participants had very clear ideas of where they were, what they were doing and what they felt at the time of the important public occurrence. In addition, it was found that 73 of 80 participants reported to share flashbulb memories of shocking personal events, such as the death of a relative.



Examiner report

The student has given a well developed and focused outline of the theory and presented research that appears to support the theory.

To what extent is **one** cognitive process reliable?

[22 marks]

[Taken from paper 1, section B, time zone 2, May 2011]

How do I approach the question?

This question asks you to examine “to what extent” one cognitive process is reliable. That means that you need to present a range of arguments supported by appropriate evidence. As with the SAQ, your first step is to determine which cognitive process you are going to examine.

Then it is important that you think about the question of reliability, that is, can that cognitive process be trusted? For example, can we really rely on our memories and/or eyewitness testimony? Whenever you answer a “to what extent” question, you should consider both sides of the argument. Is memory **totally** unreliable? What evidence is there that it is reliable?

When describing studies, it is important that each one is linked to the question of reliability, and that any distortions are explained, that is, why may these distortions be happening?

- Remember that for essays it is essential to demonstrate critical thinking. For this question you could simply provide an analysis of relevant theories that address reliability of a cognitive process. Also you could provide information about the practical use of theories or research findings relevant to the reliability of one cognitive process. When evaluating research or theories, always make sure that the evaluation is clearly linked to the demands of the question, that is, the reliability of the cognitive process, and not simply a general evaluation of each study/theory.

This answer achieved 9/22


The introduction does not link to the question of “reliability of memory”. Always try to link the introduction directly to the question.



Evaluation is attempted, but is not clarified as to why ecological validity is an issue.



Some indication of findings of the second study is provided but needs to be more accurate. What was the aim of the experiment?



Some link to the question is made but it needs to be more explicit: how did the researchers explain their findings? How are these findings linked to the reliability of memory?



Once again, an attempt at evaluation, but not well developed or explained. It would be better if the student clarified why the experiment lacks ecological validity.



This paragraph on memory models is not made relevant to the question of reliability, that is, the trustworthiness of memories.



This paragraph is also not relevant to the question.



An attempt is made to show the precision of memory, but it is not well developed.

Memory is one of the cognitive processes that has been studied thoroughly, and strategies for remembering have been suggested, for example schemas, chunking and Flashbulb memory.

The one who first suggested schemas in cognition as a strategy/way of remembering was Bartlett, his theory was that what we have in our minds is an outline of the memory and that we then fill in the outline with necessary information at retrieval. He attempted to demonstrate this through the study of “the war of ghosts” where he let his participants read a story (Native American) to then re-tell the story over and over in order to replicate the process of rumour-telling or oral stories. The story did not only become shorter with each telling but also became more conventional to the western standards of the participants, they had filled it out with information fitting by their own schemas. The conclusion drawn from this is that memory is not always a reliable process. However, as this was a laboratory study ecological validity is an issue. His findings are supported by other studies, and Loftus and Palmer (1974) also they came to the conclusion that memory is unreliable as they investigated the effect of loaded words on eye-witness testimony.

Loftus and Palmer used three groups, all of who were shown a video of a car crash, the first group got the question ‘at what speed did the cars hit?’, in group 2 the word was instead ‘smashed’, group three was a control group. They found that group 2 estimated higher speeds than group 2 or 3, indicating that the adjective had effected estimations, and when asked whether glass had been present at the crash group 2 members were more likely to say yes even though no glass had been present. This again demonstrates how easily memory can be manipulated by external factors, and due to this study criticism of eyewitnesses is better applied, and convictions are not made on this alone. There are naturally also criticism of the study, ecological validity of laboratory experiment and the participants’ ability to correctly judge speed for example.

However Loftus not only claims that existing memories can be manipulated but also that false memories can even be created. She has conducted studies on children undergoing therapy and has demonstrated that as many therapists assume something must be wrong with the child they unintentionally, by leading questions etc, create traumatic memories. This is a frightening example of the extent of memory unreliability.

Several models have been made to demonstrate memory process, and also they indicate the flaws of memory. Atkinson and Schiffren suggested the multi-store model of memory where we take in sensory input from environment, but only that which we pay attention to, it is then, transported to the short term memory for a few seconds, where much information is lost but some retained through repetition and stored in what is believed to be the infinite long term memory where some information is also displaced due to lack of use, but from where it can be retrieved. Badley and Hitch criticized the model for its simplicity and developed the working memory model where the STM is divided into the visuospatial sketchpad, the phonological loop and the episodic buffer, however this model also realized that displacement occurs in memory.

There is also evidence for primacy and recency effect in memory, studies show that when read a list subjects usually best remembers the first and last items, which gives a clue to the nature of memory and how we could improve our memory through repetition, and perhaps through practice and schooling make it more reliable, studies between uneducated Kpelle of Siberia and educated Kpelle show that those schooled have much better memory.

Flashbulb memory is also a theory that concerns itself with the reliability of memory, it shows that under traumatic and significant events we often are able to retain more detailed information due to the emotional involvement at the event. However emotions may also distort a memory as one might remember what one wants to in order to shield from disturbing emotions.

To conclude, most studies and models of memory show the large flaws our memory is subject to, but it is also demonstrated the large capacity we have for remembering information. Many factors influence whether or no memory is reliable, but through caution and critical thinking we can help memories from becoming false or distorted and through learning and strategies such as chunking information into reasonable groups we can improve our memory. (754 words)



Examiner report

Knowledge and comprehension: There is some sound understanding of research and theory, but ideas should have been more developed. (4/9)

Critical thinking: The student has attempted to evaluate research, but there is no real explanation of the terms that are used. Better to write out why ecological validity is lacking. (3/9)

Organization: The response does not stay focused on the question and only minimally addresses the question of “to what extent”. (2/4)



This answer achieved 13/22



A good clear introduction.



However, introductions do not need to be this long and can waste valuable time in an exam.



Providing a counter-example is a good way to include critical thinking in your essay.



The actual results of Pickel's study are not clearly stated.



This is overstated. Clearly, both studies have been very important in psychology. This type of evaluation is not helpful to the essay.



Student has applied the phenomenon to everyday experiences.



Description of relevant study is clear and relevant.



Here is an attempt at evaluation, but it is not well done. Better to state that in a real accident situation there would be different emotions than when watching a video and thus the study could lack ecological validity.

Eyewitness testimony is an area in which memory is vital. A witness' memory of events could influence such things as court cases and imprisonments; and as such, if the memory is incorrect and unreliable innocent people could face injustice. It is worrying to hear then that memory can in fact be very fallible, especially as we often like to believe that our memories of events are unclouded and correct. A number of psychological concepts accounting for this unreliability have been proposed, and in this essay I am going to both explain them and discuss their relevant strengths and weaknesses.

Firstly the concept of weapon focus suggests that in a criminal situation involving the use of a weapon of some kind (e.g. a gun), the individual is likely to pay a lot of attention to the weapon, presumably out of fear, causing them not to have a strong memory of important details such as the face of the criminal. Loftus et al conducted a lab experiment in which participants were asked to watch a number of slides involving a criminal wielding a gun, while their eye movements were tracked. The results showed that participants tended to focus on the weapon for a lot of the time, seemingly supporting the study. Pickel (1999) conducted a counter-study, similar to Loftus et al's original, however in the study the man wielded a stick of celery instead of a gun. Surprisingly the results from tracking the eye movements were very similar, leading Pickel to state that any unusual object would have such an effect, drawing witnesses' focus because of its irregularity. Despite these studies providing interesting and insightful evidence, their lab experiment settings mean that the ecological validity is very low, especially when considering that a real-life situation involving a weapon would bring about great emotion and secretion of hormones such as adrenaline, which is completely neglected in the two studies, proving them to be highly reductionist and of very little use.

A second psychological concept related to eyewitness testimony is leading questions. These are questions which are more likely to elicit a certain response due to their wording; and they are especially pertinent in the questioning of witnesses, where care should be taken to avoid using them so as not to influence the witness' memory and answers. An example of a leading question would be: "did you see the briefcase?" as opposed to the much more ambiguous, "was there a briefcase?". This subtle change in wording can have a profound effect on recall, as shown by Loftus and Palmer (1974) in their study which involved participants watching a video of a car crash, and estimating the speed of the impact. Participants were asked "at what speed did the two cars crash?" however the verb was changed each time from crash to bump to smash etc. The experiment was independent measures in design and thus each participant was only questioned once. The results showed that there was a great disparity in speed estimations, with the word 'smash' leading to higher values on average than 'crash', and even lower than that, 'bump'. The study appears very conclusive but yet again its ecological validity is fairly low due to the lab experiment setting.

Memory conformity is a concept related to what is called informational conformity, and it proves how easily our memories can be altered, and even added to through mere conversation with another witness. The theory is that when one witness relates their story to another and vice-versa, over time their stories become more and more similar. Wright et al. (2000) asked participants to watch a video of a woman stealing a man's

wallet at a bar. Eventually, when the idea of an accomplice to the thief was introduced, the participant would adapt their story to include the detail, assuming that they had forgotten or simply not noticed. For this reason, police try to prevent the various witnesses from talking to each other prior to questioning, so that they can hear the witnesses' uninfluenced stories as much as possible.



This is neither developed nor clearly linked to the question. This could have been left out.

The concept of schema theory (Bartlett, 1932) may also be of relevance in relation to memory distortions. As was found in Bartlett's study "The War of the Ghosts", people will often adapt a story, or in this case their memory, if the change causes it to make more sense e.g. a pole may become a ladder in later recallings.

As can be seen from the various concepts and evidence discussed, memory can be very unreliable at times, and so it is all important that certain measures are taken, such as how the police deal with memory conformity, in order to provide the most accurate retelling of events. (780 words)



Examiner report

Knowledge and comprehension: Sometimes "less is more". The student should have used fewer studies and explained them more carefully. (6/9)

Critical thinking: Though there is some evidence of critical thinking, it is not carefully linked to the question. Attempts that are made are not well developed. (4/9)

Organization: Although there is an attempt at some counter-evidence, the discussion of "to what extent" memory is reliable is not fully developed. (3/4)



This answer achieved 19/22



Excellent opening.



First factor identified.



Clear description of empirical evidence.



Here is a clear explanation of the issue of ecological validity with regard to the study.

The cognitive process of memory, particularly in relation to eyewitness testimonies, may be affected by several factors which reduce its reliability. The first of these is **weapon focus**, where the individual focuses during a crime on the weapon held by the perpetrator, making any description of other aspects, such as the appearance of the perpetrator, unreliable. This is supported by a study by Loftus et al in which participants were shown slides of either a customer handing a cashier a cheque or pointing a gun at the cashier. It was found that participants spent large amounts of time staring at the gun, and in the slides with the gun, the descriptions of other features of the slide were less detailed. It was concluded that witnesses focused on the gun because they were aroused by it. However, the ecological validity of the study is questionable, since this was only a laboratory experiment. While this means that variables can be controlled, the setting is unnatural and the participants were not in any real danger. Kramer also found that individuals showing weapon focus showed no self-reported arousal. Pickel suggested that the weapon attracted attention because it was 'unusual' to the setting. A study was conducted where participants' descriptions of the person carrying the gun were more accurate when the setting was a place where guns are expected, such as a shooting range. Descriptions were also less accurate when the person was seen to be holding a stick of celery instead of a gun in unusual places.



Further development and clarification of the weapon focus.



Second factor identified.



Rather good description of relevant studies supporting the idea that leading questions affect reliability of memory.



Counter-evidence helps to develop the question of “to what extent” memory is reliable. This study could be further developed.



Third factor identified.



Good outline of relevant empirical evidence supporting the concept of memory conformity.



This part of the response addresses the question of “to what extent”.



Short and clear conclusion provided.

Another factor which may affect the accuracy of recall is leading questions. These are questions which may suggest an idea to the witness and consequently change their recall. This was demonstrated in a study by Loftus and Palmer in which participants were shown footage of a car crash. Participants were then asked how quickly the car was seen to be moving, but the verb in the question was changed. For example, they may have been asked how fast they thought the car was moving when it ‘crashed’ or ‘collided’. Higher estimations were generally given when the verb used was more evocative of speed, such as ‘crashed’. A later study by Loftus and Zanni had a similar procedure but the independent variable was the use of the definite or indefinite in asking if they saw ‘a’ or ‘the’ broken headlight. Even though there was no broken headlight, a significant amount more from ‘the’ group answered yes than participants from the ‘a’ group. These studies were again laboratory experiments so variables could be controlled but they have low ecological validity. Yuille and Cutshall found that witnesses of a real crime recalled the event accurately and were not persuaded by leading questions.

Memory conformity, where a witness changes their recall of an event to match how another witness recalled it, may also influence eyewitness testimony. Memon and Wright observed how witnesses of the Oklahoma bombing who initially recalled seeing one person involved later recalled seeing a second person after there was a media exposure on a ‘John Doe’. This was a natural experiment, meaning that it is ecologically valid, but lacks control of the variables. This limitation is somewhat corrected by a laboratory experiment by Wright in which participants were shown images of a woman stealing a man’s wallet. Half of the participants were shown a male accomplice to the woman in these images. Participants were then put into pairs, one from each of the two groups, to recall what they saw. A significant number of the participants who had seen no male accomplice later reported seeing one when asked on their own. Although this laboratory experiment lacks ecological validity, this issue is addressed by the natural experiment, meaning that the two studies together provide a strong case for memory conformity affecting memory.

It is often believed that emotional memories, such as memories of a crime, may in fact be more reliable than other memories. For example, Brown and Kulik claimed that emotional memories are accurate representations of the event, calling these memories flashbulb memories. However, this claim has been disputed by Talarico and Rubin, who claimed that emotion led to more confident recollection but not necessarily more accurate. This is supported by a study from Neisse and Harsch in which witnesses to the Challenge space shuttle disaster were interviewed one day and then two years after the event. Despite witnesses being confident, later recollections tended to differ noticeably from earlier ones. This was a natural experiment, giving it ecological validity although there would have been a lack of control of the variables, especially considering the large time scale.

Eyewitness testimonies are often considered a reliable source of information. However, such evidence indicates that accuracy can be difficult to determine, factors such as weapon focus, leading questions, memory conformity and flashbulb memory should be taken into account when determining the reliability of a memory. (813 words)



Examiner report

Knowledge and comprehension: The student demonstrates a good breadth and understanding of the research. (9/9)

Critical thinking: The student tends to apply the same evaluative strategy but also compares findings of different studies. Some ideas could be a bit better developed. (6/9)

Organization: The response addresses the question of “to what extent” and is well developed. (4/4)



9. The sociocultural level of analysis

Human behaviour can be fully understood only in the social context. Sociocultural research studies how people think about themselves and other people. The main areas of study in social psychology are:

- cognitive habits that lead people to make errors and biases in their judgments
- how and why we conform to social norms
- how individuals behave in groups
- the effect of culture on the behaviour of the individual
- how we learn from our environment.

Learning outcomes

The learning outcomes for this core area of study are given below. They state what you should be able to do after studying this core area.

General learning outcomes

- Outline principles that define the sociocultural level of analysis.
- Explain how principles that define the sociocultural level of analysis may be demonstrated in research.
- Discuss how and why particular research methods are used at the sociocultural level of analysis.
- Discuss ethical considerations related to research studies at the sociocultural level of analysis.

Sociocultural cognition

- Describe the role of situational and dispositional factors in explaining behaviour.
- Discuss two errors in attributions.
- Evaluate social identity theory, making reference to relevant studies.
- Explain the formation of stereotypes and their effect on behaviour.

Social norms

- Explain social learning theory, making reference to two relevant studies.
- Discuss the use of compliance techniques.
- Evaluate research on conformity to group norms.
- Discuss factors influencing conformity.

Cultural norms

- Define the terms “culture” and “cultural norms”.
- Examine the role of two cultural dimensions on behaviour.
- Use one or more examples to explain “emic” and “etic” concepts.

Essential definitions

Attribution is how individuals explain causes of events, others' behaviour, and their own behaviour.

Compliance means adapting one's actions because of perceived pressure to respond to a request.

Conformity is the process by which a member of a group will adjust their attitudes and behaviours to fit the views of the group although the situation doesn't exert direct pressure. There are many reasons why people conform including a need to be accepted by the group or avoiding criticism from others.

Cultural dimensions are distinct value constructs that serve to distinguish one culture from another. The cultural dimensions model developed by Hofstede was based on an extensive study of how values in the workplace are influenced by culture.

Culture is usually defined as a cumulative set of knowledge, experiences, beliefs and behaviours shared by a group. Culture provides an ordered system of meaning and symbols that helps human beings interpret their experience and guide their social interaction.

Cultural norms are shared and integrated patterns of beliefs and practices that characterize a cultural group. They are transmitted across generations and regulate behaviour in accordance with the group's unique system.

Dispositional factors are internal factors that help us explain human behaviour by focusing on characteristics within the individual, for example, an individual's attitude or personality.

Emic concepts are accounts, descriptions and explanations used to understand a culture the way its members understand it, to learn the concepts they use and to try to see the world in the way they do.

Errors in attribution tend to arise because people tend to prefer certain explanations when trying to understand why things happen in the social world.

Etic concepts are accounts and explanations used to understand a culture in scientific terms, by comparing the culture to others and addressing the universals of human behaviour.

Group norms are important regulators of human behaviour since members of a group tend to agree with the group norm. Norms can be defined as a generally accepted way of thinking or behaving in the group.

Situational factors are outside factors coming from the environment or culture that help us explain human behaviour, for example, rewards coming from the immediate environment or indirect pressure to follow the majority.

Social identity theory suggests all individuals belong to a group and are likely to derive their sense of identity, at least in part, from that group. Individuals try to improve their self-esteem by making comparisons with out-groups.

Social learning theory assumes people can learn by observing the behaviour of others and the outcomes of those behaviours, without necessarily repeating those behaviours.

Stereotypes are schemas stemming from applying generalized characteristics or motives to a group of individuals, giving the same characteristics to all people in the group, regardless of the individual characteristics actually present.

Suggestions for addressing the learning outcomes

Principles of the sociocultural level of analysis

- As human beings we are constantly influenced by other people or by requirements of society, even when we think we are acting independently.
- Human behaviour is explained by both social factors and dispositional factors.
- Human beings are social animals and need others for survival.
- Humans have an individual and social identity.
- Tajfel's Kandinsky or Klee study (1971). Principle: Humans have an individual and social identity. Research method: Experiment, independent samples design.

Tajfel presented a group of boys aged 14–15 years old with 12 slides representing different paintings. Half of the pictures were painted by Kandinsky and the other half by Klee. The boys were asked which paintings they preferred. In an independent samples design experiment, Tajfel randomly assigned 48 boys to 2 groups. The boys thought the grouping was based on their preference for the art of Kandinsky or Klee. Every boy was asked to award points to two boys, one from their own group and one from the other group. Tajfel found that the boys generally awarded more points to members of their own group and tended to make choices that maximized the difference between the profits of the two groups, favouring members of their group. These results suggest boys tended to identify with their group and created a positive social identity by giving their group more points.

Research methods used at the sociocultural level of analysis

- Experiments: Sherif's autokinetic effect illusion study; Asch's study (1951), Bandura et al (1961); Cialdini et al (1974) on the effect of low-balling in a university setting; Parke et al (1977) on the effect of media violence.
- Interview: Mead interviewed 68 young females aged from 9 to 20 on Samoa. Findings from interviews suggested that the passage from childhood to adulthood (adolescence) is a smooth transition.
- Observations: Karen O'Reilly's (2000) qualitative study of British residents on the Costa del Sol in which she used overt observation as one of the methods in her study to gain information about the interaction with Spanish people as well as naturally occurring discussions about integration and language learning; Leon Festinger's (1956) covert observation of a religious cult that believed the world would come to an end.
- Case study method: Janis's study of groupthink (1971). He studied retrospective accounts of individuals close to the decision-making process in several policy decisions.

Ethical considerations at the socio-cultural level of analysis

Ethical considerations are relatively the same at each level of analysis, although there are a few that are of particular relevance to the sociocultural level of analysis.

- In some studies participants have experienced high levels of stress that could have been avoided.
- Carrying out covert observations violates the participants' right to informed consent.
- Researchers sometimes use deception about various aspects of the study. Deception is necessary in studies examining socially sensitive topics in order to combat biases such as the social desirability bias and demand characteristics, and to produce valid results. Often, participants are misled about what they believe will happen to them. The consequences of deception can be benign, but can also be extremely stressful.
- The common use of focus groups can lead to problems with confidentiality of a participant's response.
- Reporting findings from etic studies may lead to stereotyped images of certain cultures.

Role of situational and dispositional factors in explaining behaviour

One of the great debates of social psychology is to what extent one's behaviour is determined by dispositional factors, such as one's personality, or determined by situational factors. Often we attribute one's behaviour to dispositional factors, when in fact situational factors may play a more important role. For example, a student may not be doing poorly in class because he is lazy (a disposition), but because he is having problems at home (situational).

- Hartshorne and May (1928).

The researchers conducted a study on honesty in schoolchildren. Children were put in a number of situations in which they had a chance to be dishonest and believed they would not be detected. For example, they were given money to play with that they could have kept; they were asked to report about work done at home; or they were observed taking tests to see who would cheat and who would not. The children were neither consistently honest nor consistently dishonest. This argues that honesty is not a dispositional factor, but is rather influenced by the situation.

- Asch (1951).
- Zimbardo's Stanford prison study.
- Piliavin's (1969) Good Samaritan study.

Errors in attribution

For your exam you have to prepare two errors in attribution. There are several possible attribution errors that you could study but the most common are actor–observer bias, defensive attribution bias, fundamental attribution error and self-serving bias.

- Harre, Brandt and Houkamau (2004): Examination of the actor–observer effect in young drivers' attributions for their own and their friends' risky driving.

Open-ended questions were used to obtain the attributions of 70 young drivers for their own as well as their friends' risky driving behaviour. The aim of the study was to determine if there were self–other differences consistent with the actor–observer effect.

Results indicated that dispositional attributions, for example, showing off or acting cool, was used significantly more for friends than for oneself. On the other hand, situational attributions such as “I was in a hurry” or “I was running late” were used significantly more often to explain one's own behaviour. Participants rated their friends as taking more risks than themselves.

- Jones and Harris (1967): Fundamental attribution error.
- Ross et al (1977): Fundamental attribution error in game show contestants.
- Johnson et al (1964): Self-serving bias in student tutors
- Bond, Leung and Wan (1982): Cultural differences in self-serving bias.

Social identity theory

Henri Tajfel claimed that people strive to improve their self-image by enhancing their self-esteem. This can be done through personal achievement or through affiliations with successful groups. The theory is based on three components: social categorization, social comparison and internalization of the values and norms of the group.

- Cialdini et al (1976): Basking in Reflected Glory.

This study is a field experiment conducted at seven universities with powerful football teams. It was predicted that students at these schools would be more likely to announce publicly their connection with their universities after their football teams had been successful than after the teams had not been successful. The obtained findings tend to demonstrate the BIRG phenomenon by showing a tendency for university students to more frequently wear school-identifying signs after their school's football team has won than after they have lost. In the second part of the experiment he phoned students several days after their college American football team played. When the team lost a game most students used the pronoun "they" when describing the game. They used psychological distancing to cope with the defeat. They tended to use "we" after their team won.

The command term in the guide asks that you be able to evaluate social identity theory (SIT). Looking at the strengths of the theory, SIT has been applied to a wide range of social conflict and inter-group situations. It is an integrative approach that looks at both psychological and social factors, and does not attribute conflict simply to dispositional factors. However, it also has its limitations. The theory makes the existence of prejudice and inter-group conflict look almost inevitable. Much of the research that has been conducted has been done in artificially constructed experiments, so the ecological validity of the support is in question. Finally, we have many social identities. The theory does not explain why a particular social identity would become prominent and then lead to a behaviour. The theory is not reliably predictive of behaviour, as individual identity will sometimes outweigh the influence of group identity.

- Reicher and Haslam (2006): BBC prison experiment on SIT.
- Sherif (1961): The Robbers Cave Experiment.
- Tajfel et al (1971): Kadinsky versus Klee experiment.
- Bem's theory on the origin of sexuality (1996).
- Maass et al (2006) on the role of SIT in sexual harassment.

Formation of stereotypes

- Staats and Staats (1958).

The researchers told participants to learn word pairs: a nationality name paired with another word. In one group, Dutch was always paired with a favourable word, and Swedish with an unfavourable word. This was reversed for the other group. When participants were asked to rate national groups, this related to the learned pairings.

- Hamilton and Gifford (1976): Illusory correlation.
- Snyder and Swann (1978) in the role of confirmation bias.
- Rogers and Frantz (1962) on conformity to group norms in study of length of residence and race attitudes of Europeans in Rhodesia.
- Campbell (1967) on the role of gatekeepers.

The effect of stereotypes on behaviour

- Snyder, Tanke, Berscheid (1977).

University of Minnesota students were recruited for a study on “the acquaintance process”. Men were given fake snapshot and biographical information about their partners. After that they were asked to get acquainted with their partners by phone. Their expectations influenced how they talked to their partners. After the telephone conversations, independent judges listened to tapes of the women’s conversations and had to judge the attractiveness of the women. Women who had been talked to as if they were beautiful tended to sound attractive. They became confident, and socially skilled. Those who had been treated as if they were unattractive soon became withdrawn, lacking in confidence and awkward.

- Allport and Postman (1947) or Cohen (1981) on how stereotypes influence recall.
- Aronson (1995) on stereotype threat and African American performance in standardized testing.
- Spencer et al (1977) on stereotype threat and female performance in maths proficiency exams.

Social learning theory

- Gergely et al (2002).

An adult model pretended to be cold and wrapped a blanket around her shoulders before performing an odd head action. In an independent samples design 14-month-old human infants were divided into two conditions.

Hands-occupied condition – model performed the odd head action while using her hands to hold the blanket around her shoulders.

Hands-free condition – model performed the odd head action with her free hands clearly visible on the table.

Results of the study indicated that 69% of the infants in the hands-free condition imitated the head action whereas only 21% of the infants performed the head action in the hands-occupied group.

- Bandura et al (1963): Bashing Bobo experiment.
- Sabido annual report (2005): Ethiopia: A Case Study Using the Sabido Methodology for Sexual Health.
- Sprafkin et al (1975): Children’s willingness to help can be increased by viewing a televised example of prosocial behaviour.
- Eron’s (1986) longitudinal study of correlation between television viewing and aggression.

Compliance techniques

- Moriarty (1975).

The experiment used an independent samples design. A confederate put a towel on a beach and listened to a radio. Then the confederate left the towel to stroll down to the water. Another confederate came along and stole the radio. In this scenario, 1/20 people risked stopping the crime. When a person was asked to please keep an eye on the radio, then the rate of helping went up to 19/20. In other words, once commitment was made, people were more likely to intervene.

- Cialdini et al (1975) on the door-in-the-face technique for student counsellors.
- Dickerson et al (1992) on the effect of foot-in-the-door technique on water conservation.

Cialdini et al (1974) on low-balling for getting students up early to lectures.

Evaluate research on conformity to group norms

The classic study of conformity was done by Asch (1951). The Asch paradigm has been used for many later studies of conformity. This learning outcome asks you to be able to evaluate research on conformity. Remember to consider the questions of artificiality and ecological validity in the experimental setting as well as the fact that the predictive validity of the studies are questionable. There are also many different variables that may affect one's conformity to the group (see the next learning outcome). Finally, you might consider the cultural and historical factors that may have influenced the results of the studies. For a list of studies, see the next learning outcome.

Discuss factors influencing conformity

There are several factors that may influence conformity: the unanimity of the group, one's self-esteem, one's desire to be part of a group, gender, and/or cultural dimensions.

- Bond and Smith (1996).

A meta-analysis of 133 studies from 17 countries was conducted to investigate if conformity levels to Asch's paradigm have changed over time and if there were cross-cultural differences. Analysis of US studies indicated that conformity levels had decreased since the 1950s. Analysis of cultural variables tended to show higher levels of conformity in collectivistic cultures than in individualistic cultures.

- Jenness (1932).
- Sherif's study with autokinetic effect (1936).
- Asch's study (1951).
- Crutchfield (1955).
- Berry (1967) study of the Temne (Sierra Leone) and Canadian Inuits.
- Moscovici and Lage (1976) on minority influence.

The role of cultural dimensions on behaviour

For the exam you need to know two cultural dimensions. The most common ones studied are: individualism versus collectivism, power distance, masculinity versus femininity, uncertainty avoidance and time orientations.

- Petrova et al (2007).

This study was a field experiment aimed at studying how individualism/collectivism has an impact on the level of compliance. The study involved over 3,000 participants. Almost half of them were American students and the rest were Asian students studying at the same university. Results indicated that when participants complied with the initial request this had a stronger impact on subsequent compliance of American participants than on Asian participants.

- Bond and Smith (1996): Effect of individualism/collectivism on level of conformity.
- Levine and Norenzayan (1999): Time orientation and individual behaviour.
- Whiting (1979) on differences in helping behaviour in individualistic versus collectivistic societies.

“Emic” and “etic” concepts

An **etic** approach to cross-cultural research looks for universal behaviour. The approach decides what is to be studied before arriving in the new culture. Etic approaches study the behaviour from an ethnocentric viewpoint with the goal of comparing cultures. An **emic** approach is looking to understand a culture in and of itself. After getting used to a culture, emic researchers then decide how to carry out their research with the help of indigenous researchers.

- Bolton (1999).

Bolton carried out research in Rwanda to determine the level of PTSD and depression among the local population after the genocide. Initial reports by aid workers had determined that the overwhelming majority of the population suffered from the disorder. Bolton worked together with local people to determine a symptom list for what the locals determined to be “abnormal grief responses”. When looking at PTSD through the diagnostic regime of the Rwandan community, levels of PTSD and depression fell to much lower levels.

Other examples of emic studies are:

- Manson (1985): Studies of “depression” and “heartbrokenness” among Hopi Indians.
- Becker (2002): Food phobia in the diagnosis of eating disorders.

Cross-cultural studies use an etic approach, for example:

LeVine (1990s) on cross-cultural differences in helping behaviour.

Berry (1967) on differences in conformity.

Cole and Scribner’s (1974) studies of memory strategies.

Describe **one** theory or study on the formation of stereotypes.

[8 marks]

[Taken from paper 1, section A, time zone 2, May 2011]

How do I approach the question?

This question asks you to look at how stereotypes are created and developed. Notice that it is only the first half of the learning outcome “explain the formation of stereotypes and their effect on behaviour”. It is important for this question that you only address formation and **not** the effect of stereotypes on behaviour.

There are several theories and/or studies that you can choose from. These include Rogers and Frantz, Tajfel’s (1969) social categorization theory, Hamilton and Gifford’s illusory correlation theory, Staats and Staats classical conditioning or Campbell’s theory of gatekeepers. Describing more than one theory or study will not help you gain more marks so spend your time describing just one.

When describing a theory, be sure to describe why it may work as well. For example, when describing Campbell’s theory of gatekeepers, you may want to talk about social learning theory and how we learn from media, parents or peers. When describing a study, be sure to address the aim, procedure and findings.



This answer achieved 2/8



This is not about the formation of stereotypes, but how they affect our behaviour.

The formation of stereotypes is a particularly relevant area of psychology as it explains people’s behaviour when they adopt prejudices and discriminate. The theory that I will study is Confirmation Bias by Snyder and Swann. This theory states that when someone knows of a stereotype, whether they wish to or not, they will often search for the behaviour in what they see and ignore other disproving behaviours. For example if someone heard that women are bad at maths and then looked at a class of women who had bad scores they would assume the stereotype to be true, whilst ignoring a class of boys who got poor marks in the same test. This theory is supported by empirical evidence from Snyder and Swann who conducted an experiment on stereotype formation. They told participants that the person they would meet would be an introvert or an extrovert, and to prepare questions to ask them. They then saw that people had made questions that assume what they have heard and seek to prove it. For example with the introverts, the questions would be ‘why don’t you like parties?’ and for the extroverts, ‘what would you do to liven up a party?’



Evaluation of the study and theory is not necessary for the stated question.

Whilst this study appears to support the theory very well, it is important to note that it was conducted in a lab environment, and while it gets a good cause-effect relationship, it isn’t representative of real-life and therefore has low ecological validity.



The conclusion is only marginally relevant for the stated question.

Further criticisms of the theory are that it doesn’t accommodate for cultural differences and it is prudent to solely use this theory in the culture in which it was invented.

However, it is very relevant as it studies stereotypes, which we know exist and the applications of the study are good in that it can be used to reduce stereotyping and prejudice which is a good thing.



Examiner report

The student has not addressed how stereotypes are formed, but rather how they affect our behaviour. Confirmation bias makes stereotypes resistant to change. Some knowledge of stereotyping is demonstrated, but it is not directly relevant to the question.



This answer achieved 5/8



Theory is correctly identified.



A good general description of social identity theory is provided.



However, only the last line of the response explicitly refers to stereotyping.

A stereotype can be described as a generalization of a group which is then attributed to all the members of that group.

One of the theories about why stereotypes are formed is that of 'social comparison' which is mentioned in Tajfel's social identity theory. This theory suggests that people may strive to improve their self-image by trying to enhance their self-esteem through affiliation with various groups. Moreover, when people become a part of groups, they tend to engage in 'social comparison' where they compare the benefits of being in an in-group versus being in the out-group. A strong and collective identity is formed where the group is seen as superior. Hence, it is easy to judge other groups and they may have a social, or collective, identity as well, which makes it easy to form a stereotype where you think that all members of that group are the same (in their behaviour as well as appearance, intelligence and so on).



Examiner report

A good description of social identity theory is given, but it is not well linked to how stereotypes are formed. A more developed response clearly giving evidence of SIT's role in stereotyping would make this a stronger response.



This answer achieved 8/8



Clear definition of stereotypes provided.



Theory is correctly identified.



An excellent example which supports the theory.



An explanation of why this theory may work.

Stereotypes are classified by Katz and Braly as being erroneous, often negative assumptions about individuals of a group which are then generalized to apply to the whole group (e.g. all women are bad drivers). There are many theories as to how stereotypes form, which tie in with the socio-cultural principle that as human beings, our views are resistant to change. The theory I would like to examine here is that of Gatekeepers.

Gatekeepers, defined by Campbell, are sources of information which are either subversively influential or generally trusted which serve, due to their specific content, to entrench stereotypes in the human mind. Examples of gatekeepers may be news, television, music and even our parents. Anything which we trust as a source of information and views can serve to form stereotypes in our minds. For instance, if all films tend to depict Japanese tourists as constantly taking snapshots on Polaroid cameras, then one will eventually find it difficult to imagine a Japanese tourist doing anything else, despite the fact that many of them do not engage in this type of behaviour at all.

This theory was supported by a study into the stigma and generalizations which surround people with mental health problems. Scottish television was monitored for a certain amount of time, and it was seen that in depictions of people with mental health problems, only 12% were sympathetic whilst 60% of scenes involved violent action. This study demonstrates the way in which media gatekeepers can serve to promote an erroneous, but stereotypical perception (in this case, that mentally ill people are dangerous).

Though one could potentially criticize these studies for suggesting that the media dictates our opinions, it does seem to have relevance.

Social Learning Theory (Bandura) can help to explain the concept of gatekeepers. The principles of SLT are Attention, Retention, Reproduction, Motivation. This is relevant to the development of stereotypes as gatekeepers receive our attention (they are 'models'), we will eventually retain the information that they promote, at some point we may reproduce it (e.g. mockingly imitating a stereotype) and possibly receive yet more motivation to perform in such a way (the laughter and approval of friends who share the stereotype for example).

Therefore it is clear that the presence of gatekeepers is an excellent theory for explaining the formation of stereotypes.



Examiner report

This is an outstanding response to an SAQ providing both support and explanation of the theory that is identified. A clear link to the formation of stereotypes is given.

Discuss factors influencing conformity.

[22 marks]

[Taken from paper 1, section B, May 2011]

How do I approach the question?

First, please notice that this is not a general question about the nature of conformity, but rather a focused question about which factors actually determine how much one will conform. It is important that you don't just tell "all you know" about conformity in general. Since the word "factors" is plural, you want to discuss at least two factors in your essay. There are two ways to approach a question of this type. One way is to discuss a small number of factors in as much depth as you can. The other strategy is to discuss a larger number of factors in somewhat less depth. Both of these approaches are equally acceptable.

There are a number of factors influencing conformity that can be discussed, including culture, unanimity, group size, minority influence, cultural dimensions or self-esteem.

In order to show critical thinking you could evaluate studies that examine these factors. In addition to evaluating research studies, you may also consider the problems of conformity research.

You can also show evidence of critical thinking through synthesis, because factors influencing conformity are rarely isolated. A fuller explanation of conformity could provide information about how several factors are combined to influence conformity.



This answer achieved 6/22



This comment is not accurate. The student hasn't made clear how this study is relevant for peer pressure.

Peer pressure is one of the things that influence conformity and we always see it in school or outside it could be when friends pressure each other to smoke or anything else one would most often conform because their friend tells them to do so, but it could also happen without peer pressure. One example of conformity with no peer pressure is done by Asch, 1951. What he did was he told participants that they should compare the length 'x' to one of the lines in a, b, c. The difference between the lines were very obvious. Between the participants there was 6 confederates who already know the aim of the experiment. They were the people who should answer wrong to see if other participants would conform. The confederates were dressed as business men. What Asch came up with was that people would conform because we as human beings need to belong. So even though there was obvious difference between the lines a, b, c and it was obvious to see which one matched x, they still conformed with no peer pressure.



General information about conformity provided. It is unclear from this paragraph what the factor was that influenced the level of conformity. Moscovici argues that it is the "consistency of the minority opinion" that influences the majority and not the minority opinion alone.

Furthermore there was another study made to see whether or not minor groups influences majorities. There was two confederates and 4 participant. The participants was shown slides with colors. One of the color was blue-green; the confederates were to answer that this color was green. When they did answer with green some of the participants also answered with green. 36% at least answered wrong once. Even after that the confederates had left the room, the participants were to continue and they would still answer wrong. This shows as that it doesn't always have to be that majority controls minority but vice versa could always work.



Group thinking is identified as a relevant factor influencing conformity.

Another thing that also influences conformity is group thinking and that is when one group is talking about something one of the members might say something that another one doesn't then the one who did not know the fact from before would conform because they believe that friend and also don't have the knowledge themselves. Or it would be that the person motivates their fact very well that it is easy to conform.



However, there is no evidence to support claims.

A last study on how factors influences conformity is Bandura. He used 36 boys and 36 girls as participants. These kids were to watch adults either hitting a "Bobo doll" or verbally abusing the doll. They were then put in another room with toys for a while. The adults then called the kids and put them in the room by themselves with the Bobo doll to observe whether or not they would conform and do like the adult did depending on the group they were in. Results showed that the first group with the hitting the Bobo doll occurred the kids did the same thing, they conformed and so did the second group. Why this is seen as conformity is because the kids are not peer pressured to do like the adult but they themselves choose to do so.



This study is not relevant to the question.

Some weaknesses in this study would be that maybe because they are kids they don't really know if it is how they should behave. They might have thought that since the adult is doing do they also should because that is what they want.



A very vague conclusion is provided. It does not relate to the stated question.

What we can see in this essay is that not only adults would conform but so do kids also. Even though it is not always conformity happens, these studies show that it does happen many times. (579 words)



Examiner report

Knowledge and comprehension: While there are some relevant studies referenced and some knowledge demonstrated, overall the studies are descriptive without clearly identifying the factor that affects the level of conformity. Some information is inaccurate or irrelevant to the question. (4/9)

Critical thinking: There is no evidence of critical thinking, the essay is only descriptive. (0/9)

Organization: Although there is an adequate structure to the essay, the question is not adequately addressed. (2/4)



This answer achieved 13/22



This background on the nature of conformity is not what the question is asking for. Though it is not "incorrect" it does not focus on the demands of the question.

Conformity is an area of psychology which is prevalent because it affects everyday decisions and is relevant in simple decisions in terms of groups of friends, and in large-scale things such as what clothing is accepted and appropriate in different cultures. I will investigate factors influencing conformity but before I do so it is important to quickly describe the types of conformity it influences. I will first investigate informational and normative influence and then later, group conformity.

Conformity is described as changing one's thoughts to fit those of the group. Kelman proposed that there are 2 types of conformity – internalisation and compliance. Internalisation involves making a public and a private change – that is conforming publicly and actually believing in what you conform to. Compliance involves a public change but no private change for example listening to a type of music in order to fit in but secretly disliking it. Deutsch and Gerard in 1956 proposed 3 ideas pertaining to conformity. Firstly informational influence – this is where someone is faced with an ambiguous task and modifies their behaviour in line with the antecedent behaviours. One person who studied this was Jennes in 1932 studying people's guesses on how many beads there were in a jar. They had a group of people tell them privately a guess and then noted them down. When asked to write down on the sheet their guess, they saw a few guesses at the top (which were fake and had been written by Jennes) which were very high. The participants compromised their original answer and modified it to become more like the previous guesses. This research



Though this student has included dates of the research, they are not required.



Some evaluation of study is provided but needs more clarity and further development.



Incorrect information. Even if it were correct, it is not a very strong evaluation of the study. A more in-depth evaluation would make this a stronger response.



This needs to be clarified. What is meant by “an optimum number for conformity”?



Several factors identified, but not discussed.



Reference to an additional study are provided but results are not stated.



A relevant factor is identified and briefly outlined.



This is inaccurate. Some studies have been conducted in natural settings.



This paragraph should have a stronger topic sentence to help define the factor, which is minority influence.



A conclusion is provided and it is rather relevant although a bit simplistic.



Extreme statements such as “extremely useful” should be avoided.

however is very old and may not have relevance today. Deutsch and Gerard's second idea was that of cognitive dissonance. This is the idea that when one is faced with two conflicting choices or ideas, one feels anxiety and the way to reduce this anxiety is by conforming to other's behaviour in some way. This helps to explain their next idea; normative influence. This is the idea that when faced with an unambiguous task, people will conform to wrong information in order to fit in. Asch studied this in 1951 with his classic 3-line study. He had participants match a test line to one of 3 others by length. The task was very simple. He had many people in a room but only 1 was a participant. The rest were confederates that deliberately gave wrong answers 12/18 times. He found that 75% of participants conformed at least once. Problems with study include the fact that it was a sample of students and therefore cannot be generalized. Asch found many factors affecting conformity rates, one of which was group size. He found that there was an optimum number of confederates for conformity that was 5. He also found that when participants were asked to write their answers down conformity dropped considerably because they didn't have the anxiety about publically disagreeing. He also found that unanimity was a very important factor in conformity. He found that every confederate must give the same answer for the participant to conform.

Perrin & Spencer replicated the study but with engineers and medical students in order to find out whether self-esteem decreases conformity. Stang also conducted a study and found self-esteem to be a leading factor in conformity.

One criticism of this is that there are cross-cultural studies, so in order to allow the theory to be generalisable we must show some. Made and Whittaker conducted a study on the Bantu people and found that their conformity was very high. Kashima and Triandis said that this was because it was a collectivist society and collectivist societies rate conformity high as a characteristic. This is supported by Marcus and Kitayama who said that “in the US it is the squeaky wheel that gets the oil, in Japan it is the tall nail that gets pounded down”. Smith and Bond also found in a large study that collectivist societies conform more.

One issue is that all of the studies above are lab experiments and therefore have low ecological validity or they are unrepresentative of real-life. However, there is a significant amount of empirical evidence to suggest that the theories are valid. One issue with the Asch study is that it had a very low task validity as matching lines is not representative of a real-life issue.

Another factor that affects conformity is groups. One type of group conformity is minority influence. This was studied by Moscovici and Lage and where the minority influences the majority. In their study they had 4 participants and 2 confederates at one time estimate a colour. It was a blue/green but clearly more green. 32% of the time, by giving the answer blue, the confederates made people conform. They found that the confederates must be flexible in their opinions (not appear belligerent) but consistent in their responses (always give an incorrect answer).

It would appear that factors affecting conformity include: group size, anonymity, self-esteem, the culture in which someone lives (particularly dependant on the dimension of individualism/collectivism) and the appearance of the group. However as research in this area are lab experiments and must therefore be viewed prudently to prove a social problem such as conformity as it has low ecological validity. However, some of the research is extremely useful and has been replicated many times such as the Asch study. Many people have replicated it and it even has a theory named after it – the Asch paradigm which describes aspects of conformity. (919 words)



Examiner report

Knowledge and comprehension: Fewer factors with better explanation would make a stronger essay. (6/9)

Critical thinking: There is an attempt at evaluation, but it is not always correct or the evaluation is not well developed. (4/9)

Organization: The response is usually well focused but at times jumps from idea to idea without clear transition. (3/4)



This answer achieved 20/22



Good introduction provided, gives a definition of conformity and addresses the specific question.

Conformity is defined as behaviours whereby an Individual changes his/her beliefs or behaviours so that they match those of a unified majority which surrounds them. Here, I shall discuss factors which influence conformity, beginning by explaining types of conformity and reasons for conforming behaviour, before going on to discuss those things which affect the degree to which a person conforms.



This paragraph discusses the nature of conformity. This is not required, and it does not add to the discussion of the question asked.

Kelman identified two specific types of conformity: internalization (where one's inner beliefs become distorted to match those of the majority) and compliance (where one changes their outward behaviour to match the majority but retains their internal beliefs). These concepts tie directly into the two reasons for conformity suggested by Deutsch and Gerard: normative influence (where one conforms due to social pressure and a desire to fit in – compliance) and informative influence (where one conforms out of the belief that the majority opinion is, in fact, correct, and you should share it – internalization). Festinger suggested that the underlying reason for conformity was the alteration of cognitive dissonance. In other words, we change in order to get rid of the negative feeling we get from being different. This theory ties in with the socio-cultural principle which states that 'human beings have an inherent need to belong' and it is clear that if any of the aforementioned factors were present in a situation then the chances of an individual conforming would increase.

These theories have been supported by empirical research. Informative influence was supported by Jens, who had several participants in the same room guess the number of beans in a jar. It was seen that, as the participants had no idea how many beans there actually were, that their answers tended to be based on that of the first participant to answer, whose informative influence and cognitive dissonance and distortion had lead[sic] them to believe was justified in their guess.

Normative influence was demonstrated by Asch (1951) in his classic 'three line' experiment. Here, 123 young, male participants were placed on their own in a room with 7–8 confederates posing as participants. A researcher then showed the group 4 lines on a board and asked them to estimate which of lines 2, 3 and 4 were closest in length to line 1. All the confederates were told to give the same, wrong answer, and the real participant was made to answer last. It was seen that 75% of participants conformed at least once and that approximately 25% conformed in every situation. This shows how normative influence and cognitive dissonance can be contributing factors in conformity.

This study can, however, be criticized on several grounds. For instance, the sample was small and of a specific gender, age and social group. It can therefore be observed that the findings of the study are not wholly generalized to the public at large. Friend also criticized the study, claiming that there was a bias in the interpretation of results. Friend stated that, in the face of unanimity, it is incredible that 25% of participants did not conform at all, and that it is that statistic that we should analyse.



Appropriate factors are identified.

With this in mind, it is clear that there are other factors present which will influence whether an individual conforms or not. Two of these, group size and the pressure of an ally, were investigated by Asch, who sought to expand his experiment. Asch found that when the participants' belief about the correct line was supported by one other individual, that conformity dropped sharply. This suggests that identification with another individual will reduce normative influence and thus conformity levels (confidence is increased). Asch's second expansion involved the presence of more and more confederates in the room. He found that the rate of conformity increased exponentially: conformity 14% of the time with two confederates but 32% of the time with three. Interestingly, however, rates did not increase significantly beyond this point and actually decreased after 15 confederates. This can be explained in two ways: either deindividuation beginning to take place in a group size of 15 or larger (the participant feels that there are too many people for his different opinion to be noted) or the participants began to become aware of the nature of the experiment, as so many people chose the wrong answer.



Empirical evidence relevant for the question is stated clearly.



Analysis of the results, this is a good example of critical thinking.



Theory addressing factors influencing conformity is correctly identified and outlined.

Stang suggested that self-esteem would play a role in conformity, with those with high self-esteem conforming less. This was confirmed by Perrin & Spencer who replicated the Asch study using engineering students who would be confident of their ability to estimate length: they found that conformity was far less common.



Here the factor affecting conformity is clearly stated.

Yet another factor which can influence conformity is minority influence. This theory states that a minority opinion can serve to change that of the majority. Moscovici conducted a study wherein participants were asked to estimate the colour (blue or green) of a series of slides showing different shades of blue. Two confederates were in the room with a group of participants and were either consistent (calling 'green' 36/36 times) or inconsistent (calling 'green' 26/36 times). Moscovici found that there was a tendency to conform to the minority, but it was increase when the minority was consistent. It was therefore argued that minority influence is at its highest when the minority is flexible, consistent, committed and relevant in regards to the views that they hold.



Further development of minority influences is provided and good explanation is provided.

Two factors which specifically influence minority influence are group identification and social crypto amnesia. The first was investigated by Maass, who showed heterosexual participants a film on gay rights, from either the perspective of a heterosexual minority or a homosexual minority. It was found that they were influenced more by the heterosexual minority as they were able to identify with the group. Social crypto amnesia is the process whereby, in a group discussion, a minority opinion can be subconsciously internalized by a member of the majority group. The idea sits in the mind until they forget where it came from, then interpret it as their own idea and begin to support the minority position. Therefore, minority influence can have a powerful effect on conformity.



One more factor briefly but clearly outlined and its influence is supported with empirical evidence.

The final factor that I would like to discuss is the role of culture in conformity. Hofstede's cultural framework outlines a difference between the cultural dimensions of individualism and collectivism. Individualist cultures focus on the role of the individual and is concerned with personal strength. The opposite is true of collectivist cultures which are focused on community and one's place as part of a whole. Smith and Bond analysed 31 cross-cultural conformity studies and found that people in collectivist cultures (such as Italy (Goodman et al)) were far more likely to conform than those in individualist cultures, showing how culture, as a factor, influences conformity.



A clear conclusion is provided.

In conclusion, it is clear that conformity is a very complex social phenomenon which cannot be explained by one factor alone. In regards to future research, it would be interesting to investigate the reasons why individuals consciously choose to become a minority and to go against the norm (eg punks). In all, conformity is a fascinating and complex subject. (1169 words)



Examiner report

Knowledge and comprehension: The student demonstrates a very strong base of knowledge on the topic. (9/9)

Critical thinking: The student analyses studies and evaluates them as well. This could be more developed if the student did not write unnecessary material. (7/9)

Organization: The response is focused and well developed. (4/4)

10. Paper 2: Optional areas of study

Paper 2 assesses your knowledge and understanding of the optional areas of study. Each of these options goes into depth, examining one specific application of theory and research in psychology. The five areas are:

- abnormal psychology
- developmental psychology
- health psychology
- the psychology of human relationships
- sport psychology.

SL students prepare **one** of the options; HL students prepare **two**.

The amount of information required for this in-depth study would be beyond the scope of this book. The focus in this section of the text is on **how to approach the learning outcomes**. Although some studies/theories are presented, the emphasis is on the strategies for interpreting and responding to the questions. It is important that you use what you have learned in your class, as well as in your main texts, in order to use the strategies that are outlined in this section.

Remember that in order to earn high marks on this paper, you must do the following.

- Make appropriate use of theories/studies. You should not overload your essay with studies, but it is important that you have research to support your claims.
- Demonstrate critical thinking. This does not mean that you have to evaluate every study you use, but that you should show clear analysis and/or evaluation as relevant to the question.
- Write a well developed argument based on the question.

Each separate chapter includes advice for each learning outcome as well as ideas on how you might meet these three goals.

In order to give you a sense of how the essays are assessed for the options, you will see examples of a high, mid, and low range essay for the first option, abnormal psychology. All three samples will also have comments and there will be advice on how the question should be approached.

For the other four options, there will only be one mid range response. This response will also have comments and advice for how to answer the question.

For more information on paper 2, please refer back to chapter 2.



11. Abnormal psychology

One of the keys to success on the IB psychology exam paper is to minimize the number of studies that you need to learn for exam day. As you review these learning objectives, think about how you could use the studies from this option to answer questions on paper 1.

Below is a list of suggestions of how you can link some topics in abnormal psychology to levels of analysis.

- Hormones and neurotransmitters are biological factors that influence abnormal behaviour (biological level of analysis).
- Negative cognitive schemas tend to increase the chances of becoming depressed (cognitive level of analysis).
- Exposure to media tends to positively correlate with the prevalence of eating disorders (sociocultural level of analysis).
- Genetic inheritance of behaviour can be studied through description and evaluation of the diathesis–stress model of abnormality (biological level of analysis).
- Sex stereotypes bias the process of diagnosis (sociocultural level of analysis).
- Emic and etic concepts of normality and abnormality (sociocultural level of analysis).

Learning outcomes

The learning outcomes for this option are given below. They state what you should be able to do after studying this option.

General learning outcomes

- Discuss to what extent biological, cognitive and sociocultural factors influence abnormal behaviour.
- Evaluate psychological research (that is, theories and/or studies) relevant to the study of abnormal behaviour.

Concepts and diagnosis

- Examine the concepts of normality and abnormality.
- Discuss validity and reliability of diagnosis.
- Discuss cultural and ethical considerations in diagnosis.

Psychological disorders

- Describe symptoms and prevalence of one disorder from two of the following groups: anxiety disorders, affective disorders, eating disorders.
- Analyse etiologies (in terms of biological, cognitive, and/or sociocultural factors) of one disorder from two of the following groups: anxiety disorders, affective disorders, eating disorders.
- Discuss cultural and gender variations in prevalence of disorders.

Implementing treatment

- Examine biomedical, individual and group approaches to treatment.
- Evaluate the use of biomedical, individual and group approaches to the treatment of one disorder.
- Discuss the use of eclectic approaches to treatment.
- Discuss the relationship between etiology and therapeutic approach in relation to one disorder.

Essential definitions

Concepts of normality and abnormality refers to a set of assumptions and concepts that help us explain and interpret some aspects of abnormality.

Culture bound disorders are psychiatric and somatic symptoms that are recognized only within a specific culture or group of people.

Diagnosis is a process by which psychologists define the mental health problem of an individual. Based on the diagnosis, an appropriate treatment may be chosen.

Eclectic approaches to treatment refers to instances where the therapist selects concepts, treatments and strategies from a variety of current approaches.

Etiology is a general term used to describe causes of a disorder.

Group approaches to treatment are types of treatments that involve the simultaneous treatment of two or more clients. Some examples are: family therapy, a communications approach, systems approaches and couples therapy.

Individual approaches to treatment involve a systematic application of techniques derived from psychological principles for the purpose of helping one patient.

Medical model is a model that views abnormal behaviour as the result of some underlying disease or biological causes.

The **prevalence** of mental health disorders is defined as the number of people with a disorder that are present in the general population. This is usually expressed as a certain number per thousand people or a percentage.

Reliability of diagnosis means that a diagnosis must yield stable and consistent assessments. Consistency across two or more practitioners is called inter-rater reliability, whereas consistency across time is called test-retest reliability.

Validity of diagnosis means that diagnosis is an accurate reflection of the conditions observed so a clear distinction to be made between patients in one category and those in another.

Suggestions for addressing the learning outcomes

General learning outcomes

The general learning outcomes may be integrated with any of the learning outcomes in this option. That means that you could be asked a question such as “To what extent do biological factors influence one psychological disorder” or “Evaluate one theory related to the study of one psychological disorder”.

Examine the concepts of normality and abnormality

Defining normality and abnormality has been a matter of debate among psychologists. There are several different approaches. Abnormality may be determined as any of the following.

- Statistical deviance.
- Dysfunctional behaviour that makes one unable to carry out daily responsibilities or maintain relationships.
- Deviance from social norms.
- Poor results on inventories (checklists) of optimal behaviours (Jahoda).
- Mental illnesses involving malfunctioning in the body (usually the brain) and suggesting the use of the classificatory systems like the DSM, ICD, or CCMD. Lots of research has been carried out within the framework of the medical model and this has greatly increased our understanding of the possible biological factors underpinning psychological disorders. However, much of the evidence is difficult to interpret. For example, in twin studies, it is difficult to separate the effects of genetics from the effects of environment. It can also be difficult to establish cause and effect between, for example, neurotransmitters and abnormal behaviour.
- Universal (etic) versus culturally defined (emic) symptoms of dysfunction.

When examining the strengths and limitations of different concepts of abnormality, it is also appropriate to discuss the effect that labelling someone as “abnormal” may have. This includes stigmatization, social isolation or a self-fulfilling prophecy. For example, Caetano (1973) carried out an experiment that demonstrated the effect of labels. Good responses should discuss the difficulties of defining the terms, but should also recognize that psychologists use these labels in order to potentially help individuals improve their mental health.

When studying make sure that you can provide a review of concepts of normality and abnormality by referring to issues such as: strengths and limitations, empirical support, appropriateness of concepts to contemporary society, possible cultural considerations and/or problems in describing individual differences.

Discuss validity and reliability of diagnosis

A diagnosis is valid when it accurately identifies the nature of an individual's abnormal behaviour. This is not as straightforward as it seems, as often there is no single symptom that helps in the diagnosis, and there are several common symptoms among several disorders. For example, schizophrenia and bipolar disorder are often misdiagnosed.

Andrews et al (1999) assessed criterion validity by diagnosing individuals using both the DSM-IV and ICD-10. Findings indicated a good agreement on diagnoses of depression, substance dependence and generalized anxiety; moderate agreement was determined for other anxiety disorders, but only there was only 35% agreement on post-traumatic stress. Psychologists using the ICD-10 diagnosed twice as many cases as those using the DSM-IV. Overall, there was 68% agreement between the two systems.

Reliability of diagnosis refers to the agreement among different practitioners that a specific pattern of behaviour is a sign of a particular psychological disorder. Two types of reliability are relevant for diagnosis: test-retest reliability and inter-rater reliability.

- Cooper, Kendall et al (1972): Psychiatric diagnosis in New York and London.

American and British psychiatrists watched the same videotaped interview sessions after which they were asked to provide a diagnosis. Results showed that American psychiatrists tended to diagnose schizophrenia twice as often as British psychiatrists and British psychiatrists tended to diagnose mania and depression twice as often. Researchers suggested that there is a difference in the definition of schizophrenia. In Europe this diagnosis was generally reserved for the severely mentally ill, while in USA it was applied also to milder psychiatric disorders.

When discussing validity and reliability, you may want to address the influence of the following factors on diagnosis.

- Cultural bias of the researcher.
- Cultural differences in symptoms.
- Gender bias in diagnosis.
- The means by which data is gathered for diagnosis.
- Confirmation bias when presented with a previous diagnosis.

Discuss cultural considerations in diagnosis

One central issue in relation to cultural considerations in diagnosis is whether psychological disorders are:

- absolute (found in all cultures in the same form)
- universal (present in some form in all cultures, but cultural influence is a factor in which factors bring them on and how they are expressed)
- culturally relative (unique to every culture).

When looking at cultural considerations in diagnosis, you may want to discuss the following topics.

- Li-Repac: Cultural bias of the researcher.
- Kleinman (1984): Manifestation of symptoms.
- Emic approaches to determining symptoms of unhealthy behaviour.
- Rack: Reporting bias, that is, the lack of seeking assistance in some cultures.
- Culture-bound syndromes.

Discuss ethical considerations in diagnosis

Once a diagnosis is made a label is attached to a person; this might have unfortunate and unintended consequences for the individual. The label tends to suggest that the individual is unpredictable and unable to function normally in everyday life. This label may lead to a negative self-image or even to a self-fulfilling prophecy, that is, they may begin to “live the label”. Labels can also cause others to interpret the behaviour of an individual as abnormal, seeing otherwise normal behaviour as a confirmation of the diagnosis. Finally, if a person enters an institution, depersonalization and a loss of personal identity may occur.

Ogunsemi et al (2008) investigated the effect of a psychiatric label attached to an apparently normal person on the attitude of 144 final year medical students in Nigeria. Students were randomly assigned into two groups. Group A received a description with a psychiatric label attached while group B received the same description without a psychiatric label. The finding indicated that a label of mental illness elicited a negative attitude that resulted in the students wanting to maintain a significant distance from the person that was labelled mentally ill.

In addition to labelling, other ethical considerations may include confidentiality of the diagnosis and the right to full information about the prognosis of the disorder, as well as a clear explanation of the range of options available for treatment.

Describe symptoms and prevalence of one disorder from two of the following groups: anxiety disorders,

affective disorders, eating disorders

When describing prevalence, it is important that you don't just state a statistical rate of occurrence. You may also want to discuss cultural or gender differences, age of onset or the growth in the number of those diagnosed. A sample description of the prevalence of anorexia nervosa might include the following.

- Occurs in 5 to 10% of population.
- Of those affected, 95% are women.
- It is most often diagnosed in adolescence and young adulthood.
- An increased awareness of the disorder through the media and education may be the reason for the increased prevalence of the disorder in the 1990s. It is currently growing in prevalence in China and India, perhaps as a result of the westernization of culture in those countries.
- There is an increased number of males being diagnosed with the disorder.

When describing symptoms, you should consider a range of affective (mood), behavioural, cognitive and somatic (physiological) symptoms. It is not necessary for you to label all symptoms by category, but understand that showing the range of symptoms will make for a more developed response. You may also want to address some of the difficulties in using a symptoms-based approach to diagnosis, or you may want to discuss cultural variation in symptoms.

To discuss the symptoms of anorexia nervosa you might include the following.

- Behavioural symptoms: unusual eating habits, obsessive counting of calories.
- Emotional symptoms: low self-esteem, isolation, fear of gaining weight.
- Cognitive symptoms: distorted body image, denial of seriousness of weight loss.
- Somatic symptoms: absence of menstruation for three consecutive months.
- Cultural differences: Chinese anorexics tend not to show any signs of distorted body image but instead show deep feelings of guilt for not living up to parental expectations. This symptom of "shame" is not typically observed in Western patients.

Analyse etiologies in terms of biological, cognitive and sociocultural factors of one disorder from two of the following groups: anxiety disorders, affective disorders, eating disorders

It is important to understand that for this learning outcome you may be asked about one or more of the levels of analysis, that is, the question may ask only for biological factors, or for both cognitive and biological factors. You may also be asked to discuss factors from "either anxiety disorders or affective disorders". In other words, you may not always be asked about all three groups of disorders. You will always be given two to choose from, but they may not be the two that you have prepared.

When looking at the different levels of analysis, you may want to consider the following.

- Biological factors include genetic predisposition, neurotransmitter deficit or surplus, hormonal imbalance or brain damage/dysfunction.
- Cognitive factors include dysfunctional processing of stimuli, distortion of memory, attentional deficit or distortion or faulty thinking patterns.
- Sociocultural factors include environmental stressors such as poverty or work stress, attributional styles, attachment styles or communication/social skills.

One example is that cognitive theorists like Beck and Ellis suggest that depression results from maladaptive or irrational cognitive processes taking the form of distorted thoughts. These cognitions tend to develop from a lack of experiences that facilitate adaptive coping skills or can be learned through observational learning. Negative thinking causes depressed people to perceive situations as being much worse than they really are.

In a study by Victor et al (2010), fMRI scans provide some support for a model suggesting depression is associated with heightened processing of negative cues from the environment. When shown brief photos of emotion-laden individuals, depressive participants tended to show exaggerated amygdala responses.

Discuss cultural and gender variations in prevalence of disorders

- This learning outcome asks you to consider why there may be differences in the prevalence levels of disorders between the genders and between cultures. Points to consider include the following.
- The role of reporting bias.
- The role of biases in diagnosis.
- Emic versus etic approaches to diagnosis.
- Over- and under-pathologization of some disorders.
- The way in which symptoms may be manifested by the different genders/cultures.
- Some psychological research suggests the vulnerability of females to certain disorders. For example, Nolen-Hoeksema has conducted research on women's tendency to ruminate and its role in depression.
- The difficulties of obtaining and comparing cross-cultural data.

An in-depth discussion of a few points is much better than a superficial description of many different issues.

A relevant study was conducted by Brommelhoff et al (2004). Researchers examined if higher rates of depression in women than in men could be explained partially by the **artifact hypothesis**, that is, when both sexes had the same symptoms, women were more likely than men to be diagnosed with depression. On a sample of 205 women they compared self-reports of depressive symptoms with family reports. The obtained findings were as follows.

- Women were more likely to be reported as depressed by a family member even when the women report themselves as not depressed.
- Family members were more likely to attribute depressive symptoms of females to internal causes.

Examine biomedical, individual and group approaches to the treatment of one disorder

- This learning outcome asks you to give detailed descriptions of three approaches to the treatment of one disorder accompanied by a clear, in-depth discussion of principles/assumptions underlying these approaches to treatment.

When studying make sure that you can provide a review of at least two treatments from each of the three approaches to the treatment of one disorder by referring to issues such as appropriateness of each approach to treatment for the chosen disorder, possible cultural considerations and/or problems with implementing these approaches to treatment for different individuals.

- You can also refer to gender issues relevant to different approaches to treatment. Don't forget to support your claims with relevant theories and psychological studies. When referring to theories and studies do not include material irrelevant for the learning outcome – remain focused on the question asked (helping patients overcome their problems).

Evaluate the use of biomedical, individual and group approaches to the treatment of one disorder

To meet this learning outcome, you will need to be able to talk about the strengths and limitations of all three approaches to therapy. In your evaluation you could also discuss the appropriateness of approaches to treatment for a selected disorder, underlying assumptions of a certain approach to treatment or provide supporting/challenging empirical research and findings. It is important that you are able to talk about research that is directly related to the disorder that you are writing about.

Here are some points to consider when evaluating the different approaches.

	Strengths	Limitations
Biomedical	• Alleviates symptoms quickly • Reduces institutionalization	• Side effects • Placebo effect • A reductionist approach • May not cure the root of the problem • May lead to psychological or physical addiction

Individual	• Empowers the client • Addresses patterns of behaviour • A more holistic approach	• Often highly therapist-directed • May be expensive and long-term • May be difficult to build rapport
Group	• Therapist is a “guide on the side” • Builds a support system • Financially advantageous	• Conformity effects • Drop-out rates • Issues of confidentiality

An example of a relevant study was conducted by McDermott et al (2004). They carried out a meta-analysis of the effectiveness of group psychotherapy. They examined 48 studies out of which 43 studies showed statistically significant reductions in depressive symptoms after group therapy. Compared with no treatment, group therapy significantly reduced depression at post-treatment and at follow-up. Nine studies compared group and individual therapy. The results of five studies favoured individual therapy and four studies favoured group therapy.

Discuss the use of eclectic approaches to treatment

Early therapy was based on very rigid schools of psychology. Today the key principle of therapy is that **the therapy should be tailored to the client, and not the other way around**. Eclectic approaches make use of different types of therapy to assist the client. In addition to using other therapeutic styles, therapists may also integrate spirituality or other cultural approaches into the sessions in order to meet the needs of the client.

The National Institute for Mental Health (NIMH) conducted a study in 2004 with 439 adolescents suffering from major depression. The aim was to compare the effectiveness of cognitive behavioural therapy (CBT) and drug treatment (Prozac®). After 12 weeks findings indicated that a combination of medication and psychotherapy was the most effective treatment. Compared with the placebo group, the combination of Prozac with CBT was statistically more effective. Compared with Prozac alone and CBT alone, treatment using Prozac with CBT was superior. Rates of success for Prozac with CBT were 71%; only Prozac 60%; only CBT 43%; and the placebo 35%.

Though several studies combining drug therapy and psychotherapy have shown that an eclectic approach may be more beneficial than one single approach alone, Lambert (1992) has argued that when a therapist uses a wide range of psychological techniques as part of treatment, it is extremely difficult to assess the effectiveness of standard eclectic approaches.

Discuss the relationship between etiology and therapeutic approach in relationship to one disorder

This question is asking you to link the etiology of one disorder with the way that it is treated, that is, first explain the etiology and then discuss why the treatment would be considered appropriate. You can choose a broad explanation (for example, biological model, cognitive-behavioural model, sociocultural models) or a more specific explanation (for example, dopamine hypothesis, cognitive triad). It would also be good to discuss the basic assumptions of the level of analysis with regard to abnormal behaviour. For example, the biological level of analysis often assumes that treatment should be based on regulating bodily systems, that is, hormones and neurological dysfunction.

For example, you may want to discuss the use of selective serotonin reuptake inhibitors (SSRIs) for the treatment of depression, or the use of cognitive therapies for PTSD or eating disorders. When you provide a critical commentary you may include in your response issues such as the appropriateness and effectiveness of treatment, ethical considerations or cultural issues relevant for the therapeutic approach.

Discuss how biological **and** sociocultural factors influence **one** anxiety, affective or eating disorder. [22 marks]
 [Taken from paper 2, both levels, May 2011]

How do I approach the question?

First read the question carefully and highlight all relevant parts. You will notice this is not a question asking you to provide general information about a disorder including a detailed account of symptoms and the prevalence of a disorder. Rather the question asks you about factors that influence one anxiety, affective or eating disorder. Since the question states the word “factors”, a full response to this question requires you should provide at least two biological and two sociocultural factors.

Carefully choose one specific disorder, for example, phobia, bulimia or a more general disorder. You cannot use schizophrenia because it doesn’t belong to this group of disorders.

Before you start writing your response on the essay paper, write short notes. Make sure in this early phase that you have appropriate knowledge of psychological studies and theories relevant for both biological and sociocultural factors of the disorder you have chosen. If you have detailed knowledge of only one group of factors try to choose another question from the option because your answer will not receive full marks.

It is important that you don’t just tell “all you know”. Instead, choose a few of the factors and discuss their link to the disorder in detail.

There are a number of factors influencing anxiety, affective or eating disorders that can be discussed. You could discuss the role of genes, brain structure or biochemical causes as relevant biological factors. Sociocultural factors that could be discussed include life stressors, influence of media, cultural differences, social pressure or socioeconomic status among others.

When discussing each factor make sure you use clear psychological language, support your knowledge with studies or theories as accurately as possible and give a clear link between each factor and some aspect of the chosen disorder. For example, factors may be related to prevalence of a disorder, etiology of a disorder, how a disorder is diagnosed or how effective a certain treatment for a disorder is.

This question is an excellent opportunity for you to link your knowledge of levels of analysis to abnormal psychology. Since the levels of analysis approach reflects a modern trend in psychology towards integration, in your answer try not to discuss different factors as separate or distinct. Whenever you can, try to discuss how these factors can be intertwined. For example, you could discuss the diathesis model as it integrates biological and sociocultural factors.



This answer achieved 5/22



A definition of an eating disorder is provided and some description given.



Biological factor identified and vague account of sociocultural factors provided.



This is a superficial attempt to provide some knowledge of studies that address how genetic factors influence eating disorders.

An eating disorder is an example of abnormal psychology, and is the insufficient or excessive intake of food from an individual. In some cases it may include the use of laxatives or purging to aid weight loss. Both biological factors and sociocultural factors can influence an individual’s chances of developing an eating disorder. Biological factors that play a role are things like genetics, and sociocultural factors are things like the environment one grows up in and things they are exposed to. In the case of eating disorders both can play a very important role. It is important to understand though that there are other factors which may effect the development of an eating disorder, it is not strictly biological and sociocultural. From the biological aspect of the development of eating disorders, studies have been done which support the theory that genetics are a factor in an individual’s chances of developing an eating disorder. In other words, if someone has a family member who has an eating disorder, that person will be at a higher risk and more prone to developing an eating disorder.



Again a superficial attempt made to present knowledge of studies addressing sociocultural factors related to development of eating disorders. This is based more on “common belief” than on research.



Some additional description of eating disorders is provided. This information is basically correct although not crucial for the question stated. This information should have been provided earlier in the text when the student gave a definition of eating disorders. Answer is not well organized.

While there is no total agreement among psychologists over whether biological or sociocultural factors play a larger role in the manifestation of eating disorders, there is hard evidence to support that sociocultural factors play a very important role. Especially to young girls put under pressure to look a certain way, the environment they are placed in and the things they are exposed to can play a large role in if they develop an eating disorder. With super skinny models and pressure from the media to be thin and beautiful, girls, even with higher self esteem, are prone to developing eating disorders.

Eating disorders can range from a variety of things. Not only bulimia, or making yourself throw up after eating, and eating very little is considered an eating disorder, but also the over consumption and binge eating of food is. In addition, over-exercising to the extreme and the use of laxatives is considered an eating disorder. All of these types of eating disorders can stem from either or both biological and socio cultural factors. (word count = 358)



This is a general comment lacking specific information and therefore it doesn't add anything new or relevant. The whole answer is purely descriptive and there is no evidence of critical thinking.



Examiner report

Knowledge and comprehension: The answer demonstrates limited knowledge and understanding. No psychological research is provided. (3/9)

Critical thinking: There is no evidence of critical thinking. (0/9)

Organization: The answer is organized but very schematic, not well developed and at times goes off topic. (2/4)



This answer achieved 17/22



Biological factor identified – genetic predisposition. A relevant study linked to the factor is identified and findings stated. Some explanation of findings is provided.



Reference to additional study on genetic influence on predisposition to stress and its link to depression. More information about this study should be provided.

Major depressive disorder is an affective disorder which can be diagnosed, according to the DSM-IV, by a two-week spell in a depressed mood. There are several factors that can influence it.

From a biological perspective, it is considered that depression may have a genetic predisposition linked to it, and several studies have been carried out. One of which is the study by Nurnberg & Cession (1979) when they carried out a twin study on several monozygotic & dizygotic twins. The results from this were that MZ twins had a concordance rate of 64% whilst dizygotic twins had a concordance rate of 15%, which points to the possibility that there is a genetic factor due to the rate for MZ twins being over twice as high. However, although MZ twins are identical, meaning they share all of their genes, their concordance rate is far from 100%, meaning there is also an environmental factor involved. Further studies have been carried out, and there is also the possibility that certain people may have a predisposition to stress, resulting in onset of depression, as long-term stress and depression are well linked. Duenwald carried out experiments and discovered that the 5-HTT gene was shorter in patients with depression, and as that gene is linked to stress, it supports the theory.



Second biological factor identified – the link between imbalance of neurotransmitters and hormones and depression. Examples of several neurotransmitters are provided and accompanied by reference to studies.

Various psychological researchers have also said that an imbalance in levels of neurotransmitters could also be linked to depression. Schildkraut's catecholamine hypothesis (1965) states that low levels of noradrenaline may be linked to depression. This theory is supported by several studies, including Jamocusky's (1974) experiment where he gave several participants physostigmine, a depressant, which resulted in them feeling depressed, and correlated with their noradrenaline levels which had decreased. Delgado & Moreno (2000) however, stated that depression may not be caused by low levels of noradrenaline but may actually influence the production of neurotransmitters instead. Other psychologists such as Burns (2000) and Lacasse and Leo (2005) believed that there simply wasn't enough evidence to say that noradrenaline was an influential factor. Rampello et al. said that depression is in fact the cause of imbalance in several neurotransmitters, which is possible as alternative theories have been drawn up.



Information about studies should be provided with more care and precision – what do the studies tend to indicate? How can we explain these findings? What are alternative explanations? Choosing two neurotransmitters and explaining their link to depression in a more detail way & referring to relevant information about studies could be a more successful approach

Serotonin is another neurotransmitter that is considered to have an effect on depression and the serotonin hypothesis states that an imbalance of serotonin levels could be a factor for depression. One other theory that has been brought up is the Cortisol hypothesis. Cortisol is a stress hormone and plays an integral part. Stress itself is considered to be a general cause for most for most psychological disorders, and so with depression, a link can be established with it and long term stress. There have even been high levels of cortisol found in patients suffering from depression and further supports the theory.

Cortisol is also linked to the production of other neurotransmitters such as noradrenaline and serotonin, reducing available receptors for them. There can generally be a link between the genetic predisposition and imbalance of neurotransmitters contributing to depression.



Method of study isn't correctly identified. Whenever unsure which method was used just state the general term "study".

On the other hand, there can also be a link established between sociocultural factors and depression. Research has also been conducted in this area, one such example being an experiment looking at depression amongst women. It was discussed that 29 out of 32 women in the experiment had experienced a severe traumatic life event. However, out of a group of women who had all experienced a severe life event, 78% didn't go into depression. Further studies conducted showed that 2/3 of women in depression who experienced a severe life event had already experienced a similar event before. This experiment generally indicates that certain events can cause stress on the person and result in a depression. From this, the vulnerability model of depression was formed, based on the fact there are certain events which can affect a person and lead to depression. These events include: employment away from home, having several children to bring up, any history of child abuse. The vulnerability model of depression has also been linked with the diathesis stress model, which involves connecting the factors of genetic predisposition with environmental factors.



Traumatic event and vulnerability model are presented and supported with some reference to relevant study.

There have also been other studies carried out, especially cross culturally seeing how depression is perceived in other parts of the world, and whether they consider any other factors. The World Health Organization carried out a study (1983) in four countries, which include Iran and Japan, and the symptoms that they consider to be depression. To this, they responded with varying symptoms, however there were a common group of symptoms that was mentioned which included passivity, loss of interest, sad affect, weight loss, negative/pessimistic thinking. This study has also been replicated in 30 world countries, with similar symptoms discovered. However, in places such as China, Kleinman found out that they don't consider emotional symptoms, preferring somatization and only referring to any physical symptoms. This is also the case in a lot of the western world, and so it is reported that there are almost no cases of depression across Africa and parts of Asia. This is also down to the fact that there are collectivist societies in these countries, and families are usually bigger and much more open, meaning that people with any emotional symptoms can resolve them with their families. In individualistic societies, such as in the western world this isn't the case, and so people will often go to their doctors for both emotional and physical symptoms.



Some discussion of cultural factors influencing symptoms of depression provided but needs further elaboration. There is a very vague reference to a relevant study but needs further explanation. Also, are there other possible explanations of cultural differences in symptoms of depression?

Overall, it is considered that whilst there may be a genetic predisposition and imbalance in neurotransmitters, there are also social and major life events as well as cross-cultural differences that need to be taken into account.



Some explanation of how the difference between collective and individualistic societies influences types of symptoms experienced is provided. However, overall there is much more emphasis on the discussion of biological factors than sociocultural factors.



Examiner report

Knowledge and comprehension: Overall good knowledge of a large number of studies and theories is provided. Perhaps a more detailed account of a smaller number of theories and studies would have allowed the student to provide more in-depth information and a thorough discussion. Also, whenever a question asks for two things (in this case it asks for a discussion of how biological and sociocultural factors influence one disorder) student should try to give equal attention to each of these. This reflects a balanced knowledge of both topics. (7/9)

Critical thinking: Appropriate evidence of critical thinking is provided but at times needs to be more specific and elaborated upon. (7/9)

Organization: The answer is well organized, focused, and clear. A more balanced review of both factors influencing a disorder is necessary. (3/4)

Compare and contrast **one** biomedical and **one** individual approach to treatment.

[22 marks]

[Taken from paper 2, both levels, May 2011]

How do I approach the question?

First read the question carefully and highlight all relevant parts. You will notice two command terms, *compare* and *contrast*, are present. They ask you to identify, outline, explain and discuss how one biomedical and one individual approach to treatment are both similar and different. This means you should provide information that goes beyond pure description and try to include evidence of critical thinking by giving reasons why these approaches are similar and different and some discussion of the extent of this similarity/difference.

Make sure you understand what is meant by the terms “biomedical approach to treatment” and “individual approach to treatment”. Biomedical approaches to treatment are based on the assumption that the patient’s problem is a result of the malfunctioning of the body. Therefore, biomedical approaches to treatment could include drug therapy, ECT, psychosurgery or other approaches. “Individual approaches to treatment” are techniques derived from psychological principles for the purpose of helping one patient only, for example, cognitive behavioural therapies, person-centered therapy, psychoanalytic therapy or any other recognized therapy you may have studied.

In your approach to the question you can choose to relate approaches to treatment to one specific disorder (for example, phobia, depression or anorexia) or offer an account of the two approaches to treatment in general. Both ways are equally appropriate.

Before you start writing your response on the essay paper, write short notes. Make sure in this early stage that you have appropriate knowledge of several relevant similarities and differences for the two approaches to treatment. If you have detailed knowledge of only differences but don’t know what to write about similarities choose another question from the option because your answer will not receive high marks.

It is important that you don’t just tell “all you know” about both approaches to treatment. Instead, choose a few relevant similarities and differences, discuss them in detail and support your claims with relevant psychological research.

There are a number of issues you might want to address when looking for similarities or differences. For example,

- how effective the treatments are
- how appropriate they are for a certain disorder
- whether there are cultural, gender or economic issues that could be addressed.

At the end you might want to briefly discuss that both approaches could be combined to tailor the specific needs of a patient. For example, drug therapy might be used in the beginning to ease the major symptoms of the disorder. Once the individual is functioning better he/she might be ready for individual psychological therapy that will help him/her start developing strategies to avoid future relapse.



This answer achieved 12/22



This is a rather good introduction that provides a general distinction between biomedical and individual approaches to treatments. Accuracy in this part could be improved by providing more specific information. For example, the student could state that the medical approach to treatment is based on the assumption that abnormal behaviour is a result of some underlying disease or biological cause while the individual approach to treatment involves a systematic application of techniques derived from psychological principles for the purpose of helping one patient.



In the last sentence of the introduction the student addresses the specific question by providing an understanding of how command terms (compare and contrast) can be applied to the stated question.



Not correct. There are several individual approaches and the behavioural cognitive approach to treatment is just one of them.



Statements need to be more accurate and precise. There are other biomedical treatments as well, for example, ECT.



Three similarities are outlined and some support for these arguments is provided.

Over the years, scientists have developed many procedures for the treatment of mental disorders. These are split up between different level of analysis, each of them with their own strengths and weaknesses. For example, a biomedical approach normally involves the utilization of medicine, while an individual approach seeks to change the patient's way of thinking so that their behaviors change as well. Comparing and contrasting the two approaches reveals the similarities and differences between the two approaches; however, neither one is more effective than the other as each play to their own strengths.

Comparing the two approaches shows that there is little similarity between the two. This is because they come from different levels of analysis: the biological level of analysis believes that mental disorders are caused by a lack of balance of neurotransmitters within the brain. Individual approaches, however, come from the behavioral cognitive level of analysis, and they believe that abnormal behavior stems from the way of thinking of the person. The biomedical approach for depression would be either tricyclic anti-depressants such as Prozac or serotonin reuptake inhibitors such as lithium. These medicines seek to raise serotonin levels in the brain because low levels of serotonin have been paired with depression. If one were to use an individualistic approach to depression Ellis' rational emotive behavioral therapy or Beck's behavioral cognitive therapy may be suitable. Both approaches seek to treat and possibly cure the patient by altering their mind in some way so that their behavior is normal. Both treatments can be combined in order to speed up the treatment process. In one study involving people suffering from OCD, 70 % of patients had controlled their disorder with combined treatments as opposed to the 60 % with behavioral cognitive therapy. Either treatment can also lead to the Hawthorne effect. Similar to spontaneous remission the Hawthorne effect is where a patient's disorder disappears due to the simple fact that it is noticed and an active treatment is made to cure it.



A bit more clarity and detail is necessary in this part. For example, the outline of the study should be more accurate (by providing information such as the researcher, the aim, the participants).



Differences are outlined. At times information lacks accuracy, for example, an overly positive account of cognitive behavioural therapy is provided. There is some reference to empirical studies but the link between the study and argument is vague or the information about the study lacks detail.

There are many more differences between the two approaches, and these differences allow specific treatments to a specific group. For those seeking human interaction to solve their disorder, say depression, one might go to a therapist that specializes in rational emotive behavioral therapy. REBT employs confrontation; that is, the therapist directly confronts the person's way of thinking. He/she tries to convince the patient that their way of thinking is irrational, then introduces rational approaches to viewing their life. These meetings can become very uncomfortable for the patient; however, it requires less sessions than biomedical treatments. A biomedical approach to depression may be the administration of antidepressants such as Prozac and Lithium. A strict diet is required for some of them, such as the avoidance of alcohol consumption. Side effects are often associated with medication such as headache, fever and nausea, although lithium is void of these symptoms. Even then, the medication may take several weeks to work and in the interval the patient may experience hopelessness. A faster approach could be found in Beck's cognitive behavioral therapy. It is non-confrontational so the therapist gently questions the rational of the patient. This is also used for those suffering from depression and can be supported by many studies such as one by Edward Hirt and his colleagues. Hirt gathered avid Indiana University basketball players and monitored them throughout the season. Whenever the team lost, the subjects felt a temporary wave of depression and expected negative outcomes not only for the next game but for unrelated issues such as getting a job or a date. This shows that negative events cause an overall negative attitude towards life, but Beck would perceive this as irrational and try to change the thoughts of the patient. This therapy requires homework assignments such as writing in a journal about how one felt during the day and how much of the positive aspects of it can be attributed to their own actions. Studies show that this method of journaling one's feelings actually works as patients are able to see the progress they make unlike those taking medication. However, medication is cheaper and requires fewer visits to the therapist.



Conclusion is a bit repetitive. The last sentence has potential and should be developed. One way this could be done is by indicating that many practitioners currently apply an eclectic approach to treatment that combines several different approaches.

Differences and similarities between biomedical and individual approaches are expected as they come from different views on the nature of mental disorders. Biomedical approaches serve to cure patients by changing the chemicals within the brain to normal levels, while individual approaches seek to change a patient's way of thinking with human intervention. Nonetheless, both methods may be combined in order to maximize the strengths of both approaches.



Examiner report

Knowledge and comprehension: The answer demonstrates limited knowledge and understanding relevant to the question and uses relevant psychological research with a limited effect. (5/9)

Critical thinking: The student offers appropriate but limited evidence of critical thinking. (4/9)

Organization: The answer is well organized and developed, does not go off topic but focuses more on differences than on similarities. (3/4)



12. Developmental psychology

Learning outcomes

The learning outcomes for this option are given below. They state what you should be able to do after studying this option.

General learning outcomes

- Discuss to what extent biological, cognitive and sociocultural factors influence human development.
- Evaluate psychological research (that is, theories and/or studies) relevant to the study of developmental psychology.

Cognitive development

- Evaluate theories of cognitive development.
- Discuss how social and environmental variables may affect cognitive development.

Social development

- Examine attachment in childhood and its role in the subsequent formation of relationships.
- Discuss potential effects of deprivation or trauma in childhood on later development.
- Define resilience and discuss strategies to build resilience.

Identity development

- Discuss the formation and development of gender roles.
- Explain cultural variations in gender roles.
- Describe adolescence.
- Discuss the relationship between physical change and development of identity during adolescence.
- Examine psychological research into adolescence.

Essential definitions

Adolescence is a period between puberty and completion of physical growth and development, usually from 11 to 19 years of age.

Attachment is a long lasting and strong bond that typically refers to the connection between children and caregivers. It is important for survival as it keeps infants close to their mothers which is important for getting food, staying away from danger and getting comfort.

Deprivation is a lack of contact, affection and stimuli in the physical or social environment that is necessary for the development of the individual.

Gender identity describes the gender a person identifies with. It is a personal conception of oneself as male or female.

Gender roles refer to the sets of behaviours, rights, duties and obligations of being male or female. It is, therefore, a schema, a mental guide for action steering an individual towards a socially agreed construction of gender expression.

Identity is an individual's mental representation of who he or she is. Aspects of identity include a sense of continuity and uniqueness. People also acquire a social identity that is a consequence of their participation in various groups.

Trauma can be defined as either a serious physical injury or shock to the body, or an emotional wound that may damage the psychological well-being of the individual.

Suggestions for addressing the learning outcomes

General learning outcomes

The general learning outcomes may be integrated with any of the learning outcomes in this option. That means that you could be asked a question such as “To what extent do sociocultural factors influence the development of gender roles”, “Discuss how biological factors may influence cognitive development” or “Describe and evaluate one theory or study related to strategies to build resilience”.

Evaluate theories of cognitive development

You may use two of the following theories to address this learning outcome.

- Piaget's theory.
- Vygotsky's sociocultural approach to cognitive development.
- Neo-Piagetian theory.
- Brain development theories.
- Case (1992): The information processing approach to development.

When evaluating theories you may want to describe and evaluate research that supports the theory, discuss the strengths and limitations of the theories and also look at how applicable these theories are to everyday life. If the question asks you to compare or contrast two theories a successful approach requires you identify the main points – similarities/differences in relation to cultural issues, type of research evidence, possibility of application. Don't include too much description as all questions on paper 2 are essay-type questions and require evidence of critical thinking skills.

For example, if you were going to evaluate Piaget's theory, you may want to examine the following empirical evidence

- Piaget and Inhelder (1956): The three mountain task.
- Hughes (1975) devised his own experiment known as the “Policeman Doll Study”.
- Li et al (1999) tested Chinese children on the classic liquid conservation task.
- Baillargeon (1985) used the “impossible situation test” to determine the age at which children develop object permanence.
- McGarrigle and Donaldson (1974) questioned whether Piaget's methods were suitable for such young children. They used a glove puppet, known as Naughty Teddy, to “accidentally” transform the beads.

Discuss how social and environmental variables may affect cognitive development

This learning outcome asks you to present a balanced review of how variables may affect cognitive development. When discussing factors, you should support your argument with research, but you should also discuss to what extent we can trust the findings of these studies. It may well be that it is the interaction of several of these factors and not one factor alone that influences cognitive development. For example, studies attempting to isolate just one factor and assessing its effect on cognitive development tend to lack ecological validity.

When answering the question try to discuss the influence of a few well chosen variables rather than overloading your essay with as many variables as possible. An in-depth argument of 2–3 variables is much better than a superficial description of many different factors.

Research to consider includes the following points.

- Schoon et al (2002): Long-term impact of poverty on academic achievement.
- Hibbeln et al (2007): Children of mothers who ate more seafood during pregnancy had better social skills, were more communicative and accomplished more physically.
- Food Research and Action Center (FRAC) (1998): A meta-analysis of breakfast scheme studies on the benefits of a healthy diet on progress in school.
- Tizard (1982): Parents who encourage their children to read contribute to their child's success in school.
- Clark (1993): Parent interventions such as appropriate monitoring of television viewing and homework completion are effective in improving student achievement.

Examine attachment in childhood and its role in the subsequent formation of relationships

This learning outcome asks you to look at how attachment is formed in childhood, as well as how, why and to what extent it influences relationships later in life. Relationships include friendships, work colleagues and intimate relationships. Attachment tends to influence the formation of relationships in both the short-term and the long-term.

For an essay on this it would be important to first identify the different attachment styles before examining their role in the subsequent formation of relationships. Attachment styles may affect one's sense of security, ability to understand another's emotions and how one deals with conflict. In understanding the nature of attachment, you may want to consider the following studies and theories

- Bowlby's WHO study (1951): Effects of mother-child separation in early childhood.
- Ainsworth (1970): Strange situation – short-term effect of attachment.
- Rutter and Quinton (1984): Retrospective study of women who were institutionalized in their childhood.

Discussing attachment alone, however, is not sufficient for this essay. You must also address the question of its effect on relationships. Studies to consider include the following.

- Hazan and Shaver (1987): Relationship between attachment style and other information collected via the "Love Test".
- Simpson (1991) found that attachment styles had a clear influence on how couples go about resolving conflict.
- Feeney (1990): Attachment style as a predictor of adult romantic relationships.
- Hodges and Tizard (1989): Social and family relationships of ex-institutionalized adolescents.

Discuss potential effects of deprivation or trauma in childhood on later development

For this learning outcome you can choose whether you want to focus on potential effects of deprivation or potential effects of trauma. As part of your response you could discuss how the consequences of deprivation vary with the duration and severity of the experience, age of the child and adequacy and amount of support later in life. Consequences of trauma depend on the type of trauma, subsequent life events and personality characteristics of the child. You may want to address the relevance of resilience in coping with deprivation and trauma since findings from many studies show it is possible to recover from adverse circumstances.

Research to consider includes the following.

- Koluchova (1971, 1991): Case study of twin boys suffering from deprivation and abuse.
- Rutter et al (2001): Longitudinal study on Romanian orphans adopted by UK families.
- Harlow and Harlow (1962) on effects of deprivation in rhesus monkeys.
- Cockett and Tripp (1994): The Exeter Family Study.
- Putnam (2003): Neurological research on the effect of abuse or trauma on neurological development in children.

Define resilience and discuss strategies to build resilience

Resilience may be defined as the positive capability of an individual to cope with and recover from adversity. Some strategies for building resilience are listed below.

- Lowenthal (2001): Teaching children social skills.
- Love et al (2005) and Britner et al (1997): Head Start and Early Head Start programs.
- Powell et al (2004): Home visiting.
- Mahoney et al (2005): Participation in after-school schemes.

When discussing strategies, it is important to focus on a few and to provide research or theories to support your argument. In addition, you should consider to what extent we can assess the success of these strategies as this also depends on both **risk factors**, such as parental conflict, poverty, criminal family background or violence in the community, and **protective factors**, such as intelligence, parental support and socio-economic resources. Remember that it is difficult to actually measure the level of resilience as it is, to some extent, subjective.

Due to the complex nature of resilience psychologists have recognized that a combination of strategies tends to be the most effective.

Discuss the formation and development of gender roles

In a discussion of the formation and development of gender roles, you should support your answer with both descriptions of research and evaluation of different psychological theories. Keep in mind that there is no theory that completely explains the formation and development of gender roles. Since these theories often represent competing explanations you can compare their relative strengths and limitations in explaining behaviour.

Theories and research to consider include the following.

- Fagot (1985) and Mead (1935): Social learning theory.
- Money and Erhardt (1972): Biosocial theory of gender development.
- Martin and Halvorson (1983): Gender schema theory.
- Eagly (1987) and Sroufe et al (1993): Social role theory.

Explain cultural variations in gender roles

This learning outcome asks you have to give an in-depth account that outlines reasons or causes for cultural variations in gender roles.

For example, the social role theory suggests most cultures expect the two different genders to behave differently. Two processes help establish the connection between expectancies and behaviour. First, through socialization processes authority figures encourage individuals to learn different types of behaviour and skills that facilitate their gender role. Second, gender roles might more directly affect the courses of action that individuals choose in a specific setting. Support for this theory is provided in Mead's study comparing gender roles in three New Guinean tribes.

You may also want to examine Hofstede's masculinity versus femininity dimension. He argues that masculine cultures have more strictly divided gender roles, whereas feminine cultures have more fluid gender roles.

You could also argue that cultural variations in gender roles help us understand that gender roles are not universal or unchangeable.

Describe adolescence

A description of adolescence should refer to physical, cognitive and emotional changes. Adolescence is characterized by a rapid increase in growth and redistribution of muscle tissue and body fat. Female bodies produce more estrogen and girls become heavier with broader hips and development of breasts while male bodies produce more testosterone, gain greater muscle mass and widen their shoulders. The adolescent becomes able to think in more abstract and logical terms. Adolescence is also often experienced as a period of stress and uncertainty. However, the way adolescence is perceived varies among cultures. Also, how the individual experiences adolescence depends on individual traits.

Discuss the relationship between physical change and development of identity during adolescence

This learning outcome is asking you to provide a critical review of the link between physical change and development of identity during adolescence. You should first describe the physical changes and then discuss what impact they have on development of identity. Rapid physical change can cause problems for teenagers as they develop. Some of these problems centre on the notion of body image. The physical changes taking place during puberty represent constant challenges to a teenager's self-image. These challenges are influenced by an interaction of biological, cognitive and social factors. Body image reflects norms and social standards of attractiveness. For example, the media and the music industry are major sources that influence the perception of beauty and attractiveness. Many studies suggest that gender differences exist in how adolescents respond to physical changes. Culture is a factor that influences the relationship between physical change and development of identity, perceived differently in adolescent boys and girls. The cultural ideal hypothesis (Simmons and Blyth, 1987) suggests that during adolescence boys come closer to their ideal body, whereas girls move further away.

Research to consider includes the following.

- Ferron (1997): Cultural differences in the way adolescents view bodily changes.
- Brownell and Napolitano (1995): If Barbie and Ken were real.
- Freedman (1984): Reflections on beauty as it relates to health in adolescent females.
- Mendelson and White (1985): Development of self-body-esteem in overweight youngsters.

Examine psychological research of adolescence

In order to address this learning outcome, you will need to know at least two theories of adolescence. These may include Hall's biogenetic psychology of adolescence, Erikson's theory of identity development, Lewin's field theory of adolescence or social learning theory on adolescent development.

When examining theories, it is important to first describe them and distinguish between them. Consider what assumptions these theories make about adolescence. Also, describe and evaluate research studies that support or challenge the theory, for example, Ochse and Plug (1986) or Condon (1987) challenging the cross-cultural validity of Erikson's stage theory.

When studying make sure you can provide a review of theories by referring to issues such as: strengths and limitations, appropriateness of concepts to contemporary society, possible cultural and gender differences and problems in explaining individual differences. An in-depth examination is much better than a superficial account of many theories.

Define *attachment*.

Discuss how childhood attachment may affect the formation of relationships later in life.

[22 marks]

How do I approach the question?

Read the whole question (first and second line) and make sure you understand what it is asking from you. For each part of the question, highlight the command term. This will tell you how much time, knowledge and evidence of critical thinking you need to offer for each part of the question.

The first step is defining *attachment*. Be careful not to waste too much time on this part of the question. The command term *define* is very basic, it is associated with assessment objective 1 indicating that this part of the question has a low cognitive demand. Give a simple definition that uses clear psychological language. There is no need to talk about how attachment is developed or about different types of attachment for this part of the question.

The second part of the question is much more demanding. It asks you to review what effect attachment (or lack of attachment) has on an individual later in life. The term *later in life* really means later (not just several hours after the child has been separated from the primary caregiver). The term *formation of relationships* can be interpreted in several different ways. You can discuss the effect of childhood attachment on intimate relationships, friendships or group behaviour.

Remember that for essays it is essential to demonstrate critical thinking. A significant part of this should be related to analysis. Try to make a clear link between formation of attachments in childhood and effects this could have on the type of relationships a person has later in life. Make sure that for this part of the question you use psychological theories and studies. When evaluating theories and studies don't state all points of evaluation you can think of. It would be much better to make a clear link to the aim of the question. Do these theories and studies explain the effect of childhood attachment on the formation of relationships later in life? For example, there is contradictory evidence coming from different studies. Also, some studies have methodological limitations. Another way of providing evidence of critical thinking is through application. Try to elaborate on possible practical uses of the findings of studies or theories, or suggestions that could be given to parents and caregivers.



This answer achieved 11/22



In the introduction the student provides a definition of attachment and mentions different types of attachment. This clearly addresses the first part of the question.



Student is going off the topic because the finding of this study reflects how toddlers react immediately after their mother leaves the room. This information is relevant for the learning outcome "examine attachment in childhood" but not for the question "how may childhood attachment affect the formation of relationships later in life?"

Attachment in psychology is a strong connection or dependence mentally and emotionally from one human being to another. Childhood attachment in particular usually pertains to a child or toddler's attachment to his/her parents (most of the time this will be his/her mother). There are different types of attachment a child can have with his/her mother, and depending upon the type of attachment, the child's formation of relationships later in life will be affected. Mary Ainsworth is one researcher in particular who studied these different types of attachment a child can have with his/her mother, and her findings revolutionized how we understand childhood attachment today.

Mary Ainsworth's experiment, "A Strange Situation", involved studying how toddlers react when their mothers leave the room in a new setting. First, a mother and her toddler would enter a room (completely new to both of them) where they would both play with toys. After a short time, the mother would leave the room, and the toddler's behavior would be studied. A stranger would come into the room and try to comfort the toddler. Finally, the mother would come back into the room, and the stranger would leave. All throughout this time, behavior of the toddler would be studied.



Too long a description of Mary Ainsworth's study and findings. Types of attachment are described in too much length but with no explanation as to how attachment is established. By including the "internal working model" as part of the response the student would provide some explanation of how different types of attachment affect later relationships.



This is the main focus of the question and therefore should be elaborated upon and discussed much more thoroughly throughout the answer.



This part of the answer reflects some knowledge of relevant material for this specific question.



However, this part is very descriptive and vague. The effect attachment has on relationships later in life should be discussed by providing theories and studies that confirm or disconfirm the existence of this link.



The student is making an attempt to address the "discuss" command term but this part needs further explanation about other factors that may affect the formation of relationships later in life. The student goes off the topic by providing rather general comments about the quality of Ainsworth's study which is not really relevant for the question.

After the experiment was finished, it was noticed by Mary Ainsworth that there were three types of attachment a toddler could have with his/her mother: secure attachment, insecure avoidant, and disorganized attachment. The first one, secure dependant attachment, was experienced by 70% of the toddlers. It was where the child was comfortable when his/her mother was near, and was willing to play and explore the new room when the mother was in it. However, when the mother left, the child began to become extremely uncomfortable and cried, etc, looking for his/her mother. Even when the stranger came in, the child could not become fully comforted, and still wanted its mother. When the mother finally did come back, the toddler fell into her arms and became comforted. After a short period of time, with the mother in the room, the child began to explore the new room once again and start playing.

Insecure avoidant was where the child was indifferent to his/her mother leaving. When the mother left, the toddler did not cry, but just continued playing. When the mother came back, the child did not seek to be comforted. Ainsworth found that 20% of toddlers studied had this type of attachment.

Lastly, disorganized attachment was experienced by 10% of toddlers. It was where the child stayed close to its mother even in the new setting, and would not play or explore. The toddler began to cry when the mother left the room, but the stranger nor the mother could comfort it when they came back. The child could not be comforted fully by anyone, and appeared to be disorganized in its responses.

Mothers of securely attached toddlers tended to always respond to the toddler, and be responsive and caring. Mothers of insecure avoidant toddlers tended not to be there for their children most of the time. Finally, disorganized toddler mothers tended to be inconsistent in their behaviors, and perhaps have another caregiver, etc. Later, another type, ambivalent, was added.

These types of attachment affect relationships later in life. Children who were securely attached tend to be able to form strong bonds and real connections with others later in life, because they have already made a strong bond (as a base) with their mothers. They are able to have real emotional ties with others when they grow up. Children that were insecurely avoidant when toddlers tend to not be able to make real connections in their relationships later in life. They do not have a strong base, and never really had a full emotional relationship with their mothers. They can still form relationships, but may never really be able to be emotionally attached – they never had this experience as a toddler. Finally, children who were disorganized attached as toddlers may have relationships that are "on and off". While some relationships may be formed well, emotionally they might one day decide to distance themselves from others. They are not able to actually form stable relationships with other people, and are not confident and are shy.

All in all, childhood attachment may very well affect the formation of relationships later in life. During one's childhood, he/she forms either a strong base for future relationships (securely attached) or does not fully (insecure avoidant or disorganized). Though childhood attachment does not conclusively determine formation of later relationships (there were errors in Ainsworth's experiment, such as ecological validity as it was done in a laboratory setting, and cross cultural validity as it was done on western parents and children and may not be applicable to other cultures), it does help explain some of the reasons as to maybe why some people are not able to form relationships as well as others.



Examiner report

Knowledge and comprehension: This answer demonstrates good, basic knowledge of specific issues relevant for the specific question. It lacks, however, psychological research focused on formation of relationships later in life. (5/9)

Critical thinking: There is appropriate but limited evidence of critical thinking. At times critical thinking is applied but not to the specific question as it is stated. (4/9)

Organization: The answer is somewhat organized, focused, and clear but lacks specific focus on the stated question. (2/4)



13. Health psychology

Learning outcomes

The learning outcomes for this option are given below. They state what you should be able to do after studying this option.

General learning outcomes

- Discuss to what extent biological, cognitive and sociocultural factors influence health-related behaviour.
- Evaluate psychological research (that is, theories and/or studies) relevant to health psychology.

Stress

- Describe stressors.
- Discuss physiological, psychological and social aspects of stress.
- Evaluate strategies for coping with stress.

Substance abuse, addictive behaviour and obesity

- Explain factors related to the development of substance abuse or addictive behaviour.
- Examine prevention strategies and treatments for substance abuse and addictive behaviour.
- Discuss factors related to overeating and the development of obesity.
- Discuss prevention strategies and treatments for overeating and obesity.

Health promotion

- Examine models and theories of health promotion.
- Discuss the effectiveness of health promotion strategies.

Essential definitions

Addictive behaviour is physical and/or psychological dependence on a substance or behaviour despite the negative consequences associated with it.

Health promotion refers to the process of enabling people to increase control over their health, and thereby improve their health.

Stress is a negative emotional experience, accompanied by various psychological, cognitive, and behavioural changes.

Substance abuse is a maladaptive pattern of use of a substance that is not considered addiction, for example, binge drinking.

Suggestions for addressing the learning outcomes

General learning outcomes

The general learning outcomes may be integrated with any of the learning outcomes in this option. That means that you could be asked a question such as “To what extent do biological factors explain addictive behaviour”, “Discuss how sociocultural factors may influence overeating and development of obesity”, or “Evaluate one theory related to the study of coping with stress”.

Describe stressors

Stressors are the factors that cause a stress reaction. These stressors may be environmental, such as noise, traffic or war, or psychological, such as deadlines, work related stress or worrying about losing one’s job.

To answer this question well, however, some understanding of different types of stressors should be shown. There is a difference, for example, between acute and chronic stressors. There are also stressors that we can control, for example, how many commitments we make, and those we cannot, such as the death of a loved one. Life changes are known to be particularly stressful.

Discuss physiological, psychological and social aspects of stress

This learning outcome is asking you to look at how the different levels of analysis may be used to understand the nature of stress and its effects on an individual. Here are some theories and ideas to consider.

- Physiological: General Adaptation Syndrome (Selye); the role of cortisol on hippocampal cell loss; the role of cortisol depletion on PTSD; the connection between stress and the immune system; the link between stress and heart disease.
- Psychological: The role of “cognitive appraisal” in defining stress; the role of personality in managing stress; the connection between stress and depression; attributional style and stress management; the effect of stress on cognitive processes like attention or memory.
- Sociocultural: the long-term effects of the stress of poverty on health; the role of social support in managing stress; cultural definitions of stress; social learning theory as a means of coping; gender differences in giving and receiving support.

In order to discuss these aspects of stress, you should use empirical research to support your claims, but also employ critical thinking – compare theories, evaluate theories or look at the general difficulties of drawing conclusions.

Evaluate strategies for coping with stress

This learning outcome is asking you to look at the strengths and limitations of different coping strategies. Some of the strategies you may have studied include problem-focused coping (Folkman and Lazarus), the role of social support (Brown and Harris), meditation and mindfulness (Kabat-Zinn), biofeedback, hardiness training (Kobasa) or anxiolytic drugs such as benzodiazepines, for example, Valium.

It is important to identify and then briefly describe the strategy before writing the evaluation. Stronger responses will use research to support the evaluation. You should consider how the strategy compares to other strategies or to placebo treatments. You may also want to consider the different types of stressors, as well as any cultural biases or ethical considerations in the strategies.

Explain factors related to the development of substance abuse or addictive behaviour

There are several different factors that may contribute to the development of substance abuse or addictive behaviour. These include genetic vulnerability (Sarafino), personality traits (Stein et al), self-esteem (Khantzian), peer influence (Vaz) and attributional styles (Davies). The role of the media in encouraging addictive behaviours is also heavily debated, so social learning theory could also be used for this learning objective.

In explaining the factors that may influence substance abuse or addictive behaviour, it is important that you use empirical research or theories to support your claims. In addition, remember that much of the research is correlational in nature, and thus psychologists are not sure what the nature of the relationship is. For example, addictive behaviour may be the result of a certain personality trait, or the addictive behaviour may influence one’s personality.

It is best when answering this question to specifically focus on either substance abuse or a specific addictive behaviour. Also, when answering the question try to discuss the influence of only a few factors. An in-depth argument is much better than a superficial description of many different factors.

Examine prevention strategies and treatments for substance abuse and/or addictive behaviour

As with the previous learning objective, it is best to focus on substance abuse or a specific addictive behaviour. You should be able to write about **both** prevention strategies **and** treatments.

Many of the prevention strategies are **public health interventions**, strategies employed on the societal level. Strategies include targeting risk groups in health education, use of social learning theory in media campaigns, fear arousal through commercials or images, or putting restrictions on the drug/behaviour such as taxes, age limits, banning advertisements or criminalization. It is recognized that a combination of such prevention strategies is usually the most effective.

When examining prevention strategies, it would be appropriate to discuss the difficulties in evaluating their effectiveness.

While the prevention strategies are usually at the societal level, treatments are at the **individual level**. Treatments include aversion therapy, self-management strategies such as response substitution, drug treatments to counter the physical effects of addiction, the role of cognitive dissonance, or building self-efficacy in the individual. Group-based cessation treatments, such as Alcoholics Anonymous, have also proven beneficial.

Discuss factors related to overeating and the development of obesity

As with stress and addictive behaviours, there are physiological, psychological and sociocultural factors related to overeating and the development of obesity. A good discussion would look at different factors from at least two of the different levels of analysis. Here are some suggestions.

- Physiological: genetic predisposition; compensates for feelings produced by low levels of serotonin; the role of leptin, the role of the hypothalamus or pre-natal stress.
- Psychological: low self-esteem, distorted body-image, cognitive restraint; lack of self-efficacy and pessimistic thinking patterns;
- Sociocultural: social learning theory; sedentary lifestyle, high-fat diet, coping with poverty.

When discussing these factors, it is important to focus on a few and to provide research or theories to support your argument. In addition, you should consider to what extent the research is able to measure or determine the role of these factors in the development of obesity.

Discuss prevention strategies and treatments for overeating and obesity

This learning outcome should be approached in much the same way as the learning outcome on substance abuse and addictive behaviour.

Many of the prevention strategies are **public health interventions**, strategies employed on the societal level. Strategies include targeting risk groups in health education, use of social learning theory in media campaigns, fear arousal through commercials or images, or putting deterrents on unhealthy high-fat foods such as taxes, health warnings or simple calorie counters. It is recognized that a combination of such prevention strategies is usually the most effective.

When examining prevention strategies, it would be appropriate to discuss the difficulties in evaluating their effectiveness.

While the prevention strategies are usually at the societal level, treatments are at the **individual level**. Treatments include drug treatments such as appetite suppressants and lipase inhibitors, self-efficacy training, cognitive behaviour therapy and goal-setting training. Group-based treatments, such as Overeaters Anonymous, have also proven beneficial.

Examine models and theories of health promotion

In order to answer this question, you will need to know at least two models or theories of health promotion. These may include the Health Belief Model, the Stages of Change Model, the theory of reasoned action/the theory of planned behaviour, social learning theory or cognitive dissonance theory.

In order to examine the models or theories, it is important to first describe them and distinguish between them. Consider what assumptions the models or theories make about people. Also outline research that supports or challenges the model.

Discuss the effectiveness of health promotion strategies

In order to discuss the effectiveness of health promotion strategies, it is not enough simply to outline the strengths and limitations of the various models, but as noted in the previous learning outcome, you should note the assumptions on which the strategy is based. You should also discuss **how** effectiveness is determined – what are the difficulties of assessing the effectiveness of a public health campaign, for example, the reliance on self-reported data

Discuss **two** or more factors related to overeating and the development of obesity.

[22 marks]

[Taken from paper 2, both levels, May 2011]

How do I approach the question?

First, write short notes for two or more factors related to overeating and obesity. If you know one factor related to overeating/obesity in great detail but only have superficial knowledge of other factors try to choose another question because your response will most likely be marked as limited and only a partial answer to the question.

There are many factors you can discuss including genes and genetic predispositions for metabolic rates, false hope syndrome, perception of ideal weight, lifestyle and social class.

Provide a description of relevant factors using clear and precise psychological language and then move on to the discussion. This is a good opportunity for you to use your knowledge of levels of analysis by discussing biological, cognitive and/or sociocultural factors. Don't use absolute statements (for example, current lifestyle is responsible for all problems related to obesity). Whenever possible try to use synthesis, that is, describe how many different factors relate to overeating and obesity and how they are integrated and inter-related. Use studies, theories or possible applications to support your argument. When appropriate you can mention strengths and explanations of these studies or explanations.



This answer achieved 11/22



The student gives some information in a vague and general way but there is no indication what kind of study was done or who the participants were.

There are various factors that relate to overeating. One of which is a defect in the brain. A study showed that in some overeaters, the case is that the brain doesn't receive the signals from the body, that the body has had enough intake. Therefore the person is most likely going to keep eating until they've felt a sense of satisfaction, even though technically the body has been satisfied for a while.



Binge eating disorder (BED) is vaguely outlined. This information could be more thoroughly elaborated upon by providing a definition or more accurate description stating that usually large amounts are eaten when a person is bored or during emotional lows. Research tends to suggest that individuals suffering from BED tend to have other psychiatric problems as well.

In some cases the person may actually have the binge eating disorder. This disorder is the complete opposite of anorexia, in a way that the person overeats mainly due to being emotionally distressed. As you can see emotions are a stressor therefore meaning that stress plays a significant role in overeating.

Stress is a pattern of physiological and psychological states that result to positive or negative responses, which portray how the person perceives the threat.



The student gives some information in a vague and general way but there is no indication what kind of study was done or who the participants were.

There are various ways people cope with stress, one of them being eating. When someone turns to eating it's usually due to them being in a psychological state, be it a positive or negative response, such as different emotions. When one is happy and in a mood of festivity they could turn to food to express their feelings or when one is upset, depressed or even "heartbroken", for some food would be the optimal coping strategy.

For people that turn to food as a coping strategy, especially those that turn to unhealthy food, they could be damaging their health and putting themselves in a position harmful to their body; this could include high levels of cholesterol and high blood pressure.



Stress and emotional distress are linked to overeating. This link needs to be explicitly supported with reference to theories or studies.



This part of the answer is very vague and contains minimal information. The specific link between stressors and obesity needs to be analysed. For example, the student could state that stressors cause the body to release cortisol which affects fat storage and weight gain in stressed individuals. The answer could also make reference to any animal or human study that demonstrates that an increase in cortisol is associated with an increase in appetite, cravings for sugar and weight gain.



The student correctly recognizes that genes are factors influencing obesity.



Empirical study stated. Explanation of findings needs to be more clearly elaborated upon, stating that the findings suggest that genetics can be guided by certain environmental influences that lead to gene expression.



Social factors outlined, socio-economic status influences food choice (healthy food is usually expensive).



Some reference to empirical study but needs to be more clear.

Stress however is not only a factor related to overeating, but obesity too. Clearly one reason for why a person could be obese is because they overeat. Seeing as stress is one reason for overeating, the more chronic the stress, the more intense the coping strategy; thus meaning that possibly a person could eat more and eventually leading to the development of obesity.

Genetics also plays a significant role in obesity. If you look at a family, and their history and you see a trend of obesity, as an observer you could assume that it was due to genetics.

A study shows that investigated prenatal environment in rats, found that overweight pregnant rats gave birth to an offspring that was even heavier. Then the researcher decided to give the rats folic acid, which is a chemical that interferes with the gene passover from the mother to the offspring. They found that after treating the rats with folic acid, their offspring weren't as heavy in comparison to the previously tested rats.

There is also the possibility that the society you live in could have an effect on you developing obesity.

Kiel O'Shea, a young psychologist from the UK looked into how different socioeconomic backgrounds affect health behavior. In his study he found those from a lower socioeconomic background had poorer health behavior and those from a higher socioeconomic background had better health behavior. A possible reason for why people from a lower socioeconomic is because healthy food is more expensive and not as abundant as "fast food". There is also the issue that they may not be able to afford to go to the gym or get a personal trainer, or are even less motivated to get healthy. All these are factors that if not taken into consideration can lead to the development of obesity.

Other studies conducted by Rutterman, Shively and Marmot, had some similarities in their studies. Their studies mainly focused on the correlation between stress levels versus social hierarchy. They found that their participants/subjects were "chubby" on the abdomen. Therefore one can assume that, since the lower one is on the social hierarchy the more stressed one is, and stress can lead to the development of obesity, that social hierarchy is also an involved factor in the development of obesity. However the problem with this discovery is that the participants/subjects they observed could have been overweight due to either genetics or lifestyle.

As one can see there are various factors that relate to the development of obesity and overeating. A number of these factors are quite similar, especially the ones that relate to overeating and then the development of obesity.



Examiner report

Knowledge and comprehension: This answer reflects basic knowledge of relevant factors influencing overeating and obesity. A vague and occasionally inaccurate description of relevant research studies is given. (5/9)

Critical thinking: Appropriate but limited discussion is provided. More in-depth discussion is necessary focusing on the link between stated factors and overeating and obesity. (4/9)

Organization: There is partial focus on the question. Some parts of the answer are more focused on stress than on overeating and obesity. (2/4)



14. The psychology of human relationships

Learning outcomes

The learning outcomes for this option are given below. They state what you should be able to do after studying this option.

General learning outcomes

- Discuss to what extent biological, cognitive and sociocultural factors influence human relationships.
- Evaluate psychological research (that is, theories and/or studies) relevant to the study of human relationships.

Social responsibility

- Distinguish between altruism and prosocial behaviour.
- Contrast two theories explaining altruism in humans.
- Use one or more research studies to explain cross-cultural differences in prosocial behaviour.
- Examine factors that influence bystanderism.

Interpersonal relationships

- Examine biological, psychological and social origins of attraction.
- Discuss the role of communication in maintaining relationships.
- Explain the role that culture plays in the formation and maintenance of relationships.
- Analyse why relationships may change or end.

Violence

- Evaluate sociocultural explanations of the origins of violence.
- Discuss the relative effectiveness of two strategies for reducing violence.
- Discuss the effects of short-term and long-term exposure to violence.

Essential definitions

Altruism means giving help to another person for no reward and potential cost to oneself.

Attraction is a term for the factors that lead people to like each other, establish relationships, and, in some cases, fall in love.

Attachment is the emotional tie or bond between two people.

Prosocial behaviour is behaviour that benefits another person or has positive social consequences.

Prospective studies is a type of longitudinal research that observes a characteristic or trait in individuals and then studies them for a long period of time. For example, they note a certain communication style in high school and then see how this will affect later marital success.

Retrospective studies attempt to “reconstruct” the events that lead up to current behaviour, for example, looking back to see why a marriage has not worked out. This type of research is open to memory distortion and social desirability effect.

Self-disclosure is the sharing of facts about one’s life with a loved one, as well as inner thoughts, feelings and emotions.

Violence refers to an aggressive act in which the actor or perpetrator abuses an individual directly or indirectly with the intention of causing either physical or psychological harm.

Suggestions for addressing the learning outcomes

General learning outcomes

The general learning outcomes may be integrated with any of the learning outcomes in this option. That means that you could be asked a question such as “To what extent do biological factors influence attraction”, “Discuss how sociocultural factors may influence violence”, or “Evaluate one theory related to the study of prosocial behaviour”.

Distinguish between altruism and prosocial behaviour

This question asks you to show the difference between the two terms. Prosocial behaviour may clearly have a benefit to the helper and does not always come with costs to the helper. All altruism is prosocial behaviour, but not all prosocial behaviour is altruistic.

Contrast two theories explaining altruism in humans

You may use two of the following theories to answer this question

- Kin selection theory.
- Trivers: Reciprocal altruism theory.
- Batson et al: The empathy–altruism model.

In discussing the theories you may want to describe and evaluate research that supports the theory, discuss the limitations of the theories and also look at how the biological theories are more difficult to support through hypothesis testing than the cognitive theories.

If the question asks you to compare or contrast two theories a successful approach requires you identify the main points – similarities/differences in relation to cultural issues, type of research evidence or possibility of application. Don’t write too much description. On paper 2 all questions are essay-type questions and require evidence of critical thinking skills.

Using one or more research studies, explain cross-cultural differences in prosocial behaviour

Relevant studies include the following.

- Whiting (1979) on helping behaviour in six different countries. Looked at the individualistic–collectivistic dimension.
- Katz (1981) and Bond and Leung (1989) on the role of social identity theory and in-group bias.
- Levine’s (1990) series of studies to look at the role of urban environment on helping behaviour.

This learning outcome asks that you explain the differences between cultures. This may be done by the studies above. However, you may also consider the limitations of cross-cultural research on this topic. Consider its ecological validity, the difficulty of “measuring” helping behaviour and the problems of adopting an etic approach to the topic. It is not enough to describe cross-cultural differences; you have to explain them also. This means you have to give reasons why these differences exist.

Examine factors that influence bystanderism

There are many factors that may affect one's willingness to help or be a bystander. These include the following.

- Latané and Darley (1968): Diffusion of responsibility.
- Latané and Darley (1969): Pluralistic ignorance.
- Brickman: Good deed in, good deed out principle.
- Latané and Darley : Social impact theory.
- Piliavin : The arousal: cost-reward model.
- Bateson and Darley's Good Samaritan study: The role of dispositional versus situational factors.
- Oliner and Oliner: Social norms.

When examining factors you should support your argument with research, but you should also discuss to what extent we can trust the findings of these studies. It may well be that it is the interaction of several of these factors and not one factor alone that influences bystanderism. You should discuss a few of the theories above and not overload your essay with as many theories as possible. An in-depth argument is much better than a superficial description of many different factors.

Examine biological, psychological and social origins of attraction

You should be able to discuss two examples for each of the levels of analysis. Examples appear below.

- **Biological:** the role of neurotransmitters like noradrenaline, dopamine, and serotonin (Fisher); evolutionary argument regarding facial symmetry or complexion as a sign of health and low parasite loads (Low); evolutionary arguments regarding scent for maximizing immunity levels (Wedekind); the role of lower serotonin levels in falling in love (Marazziti); or the role of hormones like oxytocin (Damasio) or vasopressin (Winslow).
- **Cognitive:** the role of self-esteem (Kiesler and Baral); reciprocation (Markley); matching our self-perception (Hatfield); exchange theory (Thibaut and Kelley).
- **Sociocultural:** Cultural norms (see below); proximity (Festinger); the mere exposure effect (Zajonc).

When examining the origins of attraction, it is important to consider the way in which the studies were carried out, on whom, and how long ago. In addition, you may want to address the question of reductionism when examining the origins of relationships.

Discuss the role of communication in maintaining relationships

Research to consider includes the following.

- Tannen: Gender-based communication styles.
- Altman and Taylor: Social penetration theory on the importance of self-disclosure.
- Mills and Clark on exchange relationships versus communal relationships.
- Bradbury and Fincham: The role of attribution of partner's behaviour.
- Gottman: The role of micro-expressions.
- Hewitt: The role of congruence and authenticity.

There are several points you could address when looking at the research. One is the cultural biases of some of the research. In addition, you could also discuss the difficulties of carrying out such research, including the retrospective nature of many of the studies, that is, the difficulties in communication are understood only because of the negative outcome of the relationship. Also, much of the research is correlational, so cause and effect relationships cannot be easily established.

Explain the role that culture plays in the formation and maintenance of relationships

Culture plays a key role in determining not only what attracts us to a partner, but also how we maintain a relationship. Points to consider include the following.

- The role of the individualistic–collectivistic dimension. This includes: research by Gupta and Singh (1992) on the role of passionate love in Indian relationships; the level of satisfaction in arranged marriages (Yelsma and Athappilly); Levine’s (1995) survey of what people look for in a partner; Buss’s (1994) study of the role of love in a relationships.
- Hsu’s research on continuous versus discontinuous cultures. Continuous societies show a concern for heritage and tradition, whereas discontinuous cultures focus on youth and progress, and change is seen as important and inevitable.

This chart may prove helpful in organizing the key differences in relationships based on dimensions.

Individualistic and discontinuous	Collectivistic and continuous
• A focus on romantic love • Emphasis on individual choice • Monogamy as a cultural norm • Increased rates of divorce	• Stress on obligation to family and social norms • A higher frequency of polygamous relationships • Rules of relationships strictly followed and divorce less frequent • Emphasis on family choice

Analyse why relationships may change or end

As we have already noted, communication can play a key role in the dissolution of a relationship when self-disclosure between partners breaks down. You may also want to consider the following theories.

- Baron and Byrne (1997) argue that relationships end as a result of a lack of social skills and coping strategies.
- Walster: Equity theory.
- Rusbult: Constructive accommodation versus destructive accommodation.
- Situational factors: change in job or location, boredom, stress.
- Felmlee: Fatal attraction theory.
- Simpson (1997) on attachment styles.

Evaluate sociocultural explanations of the origins of violence

Although the sociocultural explanations of violence are singled out here, remember that you may also be asked about biological and cognitive explanations as stated in the general learning outcomes. Also, one way of evaluating the sociocultural explanation is by comparing and contrasting it to an alternative explanation.

- **Biological:** the role of testosterone (Sapolsky); the role of Serotonin (Brown et al); frontal lobe lesioning (Grafman et al or Raine et al).
- **Cognitive:** the theory of threatened egotism (Baumeister and Bushman); cultivation theory (Gerbner et al); perceived hostility (Dodge).
- **Sociocultural:** cycle of violence with authoritarian parents who use corporal punishment (Eron); deindividuation (Zimbardo); social identity theory (Maass); social norm conformity theory (Marsh).

When discussing the different levels of analysis, remember the following points.

- It is difficult to carry out experimental research.
- Cultural differences are not easily explained by biological arguments.
- Much research is based on self-reporting data.
- Many studies are retrospective. More prospective studies are necessary.

- Although social identity theory may appear to explain some violence, we belong to many different groups and it is difficult to predict which group identity will trigger behaviour.
- Violent behaviour is most probably the result of the interactivity of all three levels of analysis.

Discuss the relative effectiveness of two strategies for reducing violence

For this learning outcome you must first identify strategies. Here is a short list.

- Olweus: Community approaches.
- Zero tolerance approaches.
- Public health campaign models.
- Jigsaw classrooms against bullying.
- Staub's empathy training or Thompson's bystander training.

When discussing two of these strategies, you may want to consider the following.

- Studies that support the model.
- The difficulty of measuring progress.
- The idea that labels of victim and perpetrator can be unclear.
- The problem of defining violence.
- Reliance on self-reported data and the problem of social desirability effect.
- The question of generalizability of findings from studies and the need to make sure that the case studies are transferable.

Discuss the effects of short-term and long-term exposure to violence

Consider the following list of effects when developing your essay on this issue.

- Short-term: anger, depression, higher rate of illness, lower performance at school or work, suicidal thoughts (Olweus).
- Long-term: correlation with low self-esteem (Olweus); cortisol depletion leading to chronic fatigue, chronic pain, PTSD (Delville).

As part of your response it is appropriate to discuss that the effects of violence may be mediated by cognitive behavioural therapy (Kliewer et al); social skills training; downward comparison (Greenback and Ruback) or social support from family and peers. One possible approach to the question is to discuss the idea that the effects of exposure to violence listed above are not inevitable.

Discuss the influence of biological factors on human relationships.

[22 marks]

[Taken from paper 2, both levels, May 2011]

How do I approach the question?

First, read the question carefully and highlight all the relevant phrases. The question asks you to discuss the influence of *biological factors*. This means that you have to offer a review of more than one biological factor. The term *human relationships* can be interpreted in many different ways. Choose the type of relationship that you have studied the most to discuss – this could be romantic relationships, friendships, familial relationships or antagonistic relationships.

There are a number of biological factors influencing human relationships, including biochemical influences, brain activity and factors related to evolutionary explanations.

When writing your essay try to choose two or three factors, the ones you really know the best. This will give you enough time to provide an in-depth discussion on the influence of these factors.

Briefly describe the factors you have chosen but don't forget you need enough time to discuss their influence on human relationships and provide studies and theories that clearly reflect this influence. As part of your response you can decide to evaluate the theories and studies you have outlined. Don't do this in a general way. Your answer will be much stronger if you try to comment on whether these theories and studies show an influence of biological factors on human relationships. In addition you can decide to evaluate research studies by discussing methodological issues of these studies.

Don't forget that human relationships are influenced by many different factors that are usually not isolated. Whenever possible try to demonstrate that biological factors are intertwined with other (cognitive and sociocultural) factors that relate to human relationships.



This answer achieved 13/22



The student starts off with a good introduction. Main terms are described and the question is clearly addressed.

A very significant part of the human experience is the formation and maintenance of relationships. These can be friendships, romantic relationships and so forth and are impacted by multiple factors, such as the norms of a society or the cognition of the individual. This essay will focus on the biological factors affecting human romantic relationships, and in particular on the role of our internal biochemistry and genetic makeup.



The link between the study and evolutionary theory is fairly well presented here.

The evolutionary aspect of psychology argues that the goal of a romantic relationship is successful procreation. The process of mate selection therefore – which is the first step in relationship formation – is based on the need to find healthy partners who will offer the best survival chances to the offspring. This has been exhibited in Wedekind's (1990) study on the effect of the MHC gene in attraction. The MHC gene is related to the immune system and one of its characteristics is that offspring get one set of MHC genes from their mother and one set from their father. Consequently parents with a wide range of MHC genes will produce offspring with a stronger immune system. Wedekind (1990) conducted an experiment to determine whether a mechanism has been developed which would allow people to find partners with different MHC genes. The men were given a clean t-shirt and were instructed to wear it for two nights in a row. To ensure that their odor would be strong on the shirt, participants received odor-free soap and after-shave. They were also instructed to avoid spicy food. Afterwards the t-shirts were taken and placed in plastic rimmed cardboard boxes with a sniffing hole on top. Female participants – who had been instructed to return in the middle of their menstrual cycle when sense of smell is strongest – were each presented with a set of seven boxes. Out of these, three contained t-shirts of men with different MHC genes, three contained t-shirts of men with similar MHC genes and one had an unknown shirt (control). The women were asked to rate the smell as pleasant or unpleasant. The results showed that women tended to prefer the scent of men with different MHC genes thus showing that genetic factors play a role in mate selection.



Evolutionary theory of attraction is outlined but needs a bit more detail. Empirical support is provided by presenting a relevant experimental study.



Some evaluation of the study would reflect more in-depth knowledge and understanding of the topic.



Additional information provided, an outline of evolutionary explanation of jealousy is given, but lacks clarity.



The relationship between estrogen and jealousy in particular isn't clearly presented.



Disadvantages of evolutionary explanations are outlined but need more elaboration. Why is it difficult to test the existence of evolutionary explanations of human behaviour? What is researcher bias and how can it affect findings in these specific studies?



The student outlines how a "cocktail of hormones" underlies attraction.



Empirical evidence provided.



Limitations of these studies should be more thoroughly addressed, especially the issue of cause and effect relationship. What is the method in the study? Are there any possible confounding variables and alternative explanations? Some inaccuracies are present.



An outline of a relevant fMRI study is provided and findings are explained.



An in-depth analysis of the study is necessary.

Again from the evolutionary aspect of psychology, comes an explanation of the feeling of jealousy experienced by women. According to Buss (1970) jealousy is a result of a woman's anxiety that she will lose her partner and will thus be unable to procreate or that her offspring will lose their protector and will consequently be more vulnerable. Buss hypothesizes that according to estrogen levels the type of jealousy experienced by women varies. During menstruation, when estrogen levels are low, a female is sexually jealous as she fears that her mate will abandon her because she is not able to produce offspring. During ovulation, when estrogen levels are high, females become emotionally jealous as they are concerned that the male will abandon them and leave the offspring she is able to give, unprotected.

As all evolutionary theories these present the drawback of being hard to test on humans and also liable to researcher bias during result interpretation. However, support from studies indicates that MHC genes and estrogen levels play a role in formation and maintenance of romantic relationships.

One of the characteristics of romantic love among humans is that people become obsessed with their item of desire and consume large amounts of time thinking about him/her. According to Fischer (2004) this is a result of a "biochemical cocktail". The symptoms exhibited during the early stages of love indicate, claims Fischer, that serotonin, adrenaline and dopamine all play a role. Adrenaline is a stress hormone and is responsible for a reduced need for sleep and food, faster heart rates and sweat. Increased adrenaline levels allow people to be more focused on their potential mate.

The effect of serotonin on love obsession has been examined by Marazziti (1999). Marazziti conducted a study on 20 people in the early stages of love and 20 people suffering from untreated obsessive compulsive disorder (OCD). She tested serotonin levels in blood samples she took and found that people in love and people suffering from OCD all had higher serotonin levels, while none of the controls of the study did.

Fischer however criticized the study by saying that serotonin levels in the blood are not enough proof to suggest causality and more research on serotonin levels in the brain should be carried out. Nevertheless this study does indicate that serotonin is somehow related to feelings of obsession exhibited during early stages of romantic love.

Lastly, Fischer (2001) conducted a study using functioning magnetic resonance imaging technology (fMRI) to examine the impact of the brain in romantic love. A large sample of young couples was tested, with each person entering the scanner and being shown a picture of their beloved person and a picture of a neutral acquaintance at 6 second intervals. The fMRI scanner showed what Fischer called "a beautiful picture of the brain in love". The brain's reward system was activated when people viewed the picture of their loved one while no activity was observed while they were viewing the control. In addition, participants had priorly filled in a Passionate Love Scale questionnaire and control of the results showed that the more passionate people were, the more active was the brain's reward system.

In conclusion, it appears that our genes, brain, hormones and neurotransmitters all affect our relationships at their early stages (attraction) as well as later on. However it is important to note that numerous cognitive and social factors play a major role in interpersonal relationships which should be examined for a well-rounded view of relationships to be achieved.



Examiner report

Knowledge and comprehension: This answer reflects basic knowledge of theories and studies on the influence of biological factors on human relationships. (6/9)

Critical thinking: Appropriate but limited discussion is provided. More in-depth discussion is necessary focusing on the link between biological factors and attraction. A lot of relevant points should be discussed in greater depth. (5/9)

Organization: This answer is well organized, focused, and clear in places but this is not sustained throughout the answer. The command term is at times ignored and an overly descriptive account is provided. (2/4)



15. Sport psychology

Learning outcomes

The learning outcomes for this option are given below. They state what you should be able to do after studying this option.

General learning outcomes

- Discuss to what extent biological, cognitive and sociocultural factors influence behaviour in sport.
- Evaluate psychological research (that is, theories and/or studies) relevant to the study of sport psychology.

Emotion and motivation

- Evaluate theories of motivation in sport.
- Use one or more research studies to explain the role of goal-setting in the motivation of individuals.
- Discuss theories relating arousal and anxiety to performance.

Skill development and performance

- Evaluate techniques for skill development used in sport.
- Discuss to what extent the role of coaches affects individual or team behaviour in sport.
- Explain relationships between team cohesion and performance.
- Describe aids and barriers to team cohesion.

Problems in sports

- Discuss athlete response to stress and chronic injury.
- Examine reasons for using drugs in sport.
- Discuss effects of drug use in sport.
- Compare models of causes and prevention of burnout.

Essential definitions

Arousal is a general physiological and psychological activation that leads one to perform.

Anxiety is sometimes also called “competitive stress”. Anxiety is a temporary emotional condition characterized by apprehension and tension about a particular activity. State anxiety is usually accompanied by physiological arousal and observable behavioural indicators.

Burnout is a psychological, emotional and sometimes physical withdrawal from a formerly enjoyable activity in response to excessive stress or dissatisfaction over time.

Goal-setting is a process through which we recognize our short-term and long-term aims and targets.

Motivation is the direction and the intensity of one’s effort. It may be intrinsic, coming from inside the individual, or extrinsic, responding to external rewards.

Outcome goals are goals that focus on the result of a competition, for example, you want to defeat the football team from your rival school.

Overtraining occurs when the intensity and frequency of exercise exceeds the body’s recovery capacity. The experience of overtraining often leads to a decline in motivation and a related drop in confidence. Recovery may take from several weeks to a couple of months.

Performance goals are goals that are based on personal objectives, for example, improving your personal time for the 100 metre hurdles.

Process goals are goals that are used to improve the execution of a skill, for example, increasing the number of serves taken in order to improve your overhand serve.

Self-efficacy is an individual’s belief in his or her own abilities.

Team cohesion is the extent to which a team remains united in the pursuit of its goals and objectives.

Suggestions for addressing the learning outcomes

General learning outcomes

The general learning outcomes may be integrated with any of the learning outcomes in this option. That means that you could be asked a question such as “To what extent do biological factors influence motivation”, “Discuss how sociocultural factors may influence burnout”, or “Evaluate one theory related to the study of the effects of arousal and anxiety on performance”.

Evaluate theories of motivation in sport

Theories of motivation attempt to explain both the origins of motivation and how motivation works in a sports setting. The following theories are relevant for this learning objective: need achievement theory (McClelland and Atkinson), cognitive evaluation theory (Deci), sporting achievement motivation (Marten), flow (Csikszentmihalyi), the role of attributional styles (Weiner); the role of self-efficacy (Bandura) or reversal theory (Smith and Apter). You may also want to discuss research on the role of intrinsic versus extrinsic motivational factors.

There are several ways in which you may address strengths and limitations of these theories. One of the primary criticisms is that these theories do not reliably predict performance. It appears that there are many interactive factors that motivate athletes. In addition, you should note the way in which data is collected; often researchers have to rely on self-reported data. You may also evaluate specific studies but remember that the overall goal is to evaluate the theories. It would be appropriate here to discuss arguments about the cultural bias of these theories.

Using one or more research studies, explain the role of goal-setting in the motivation of individuals

Clarifying that there are different types of goals is an important part of this question. In addition to the types of goals defined in the “Essential definitions” section of this chapter, remember that there are also task-oriented goals and ego-oriented goals, that is, goals related to social comparison.

When explaining the role of goal-setting in motivation, you need to be able to establish a clear link between the two. What is it about goal-setting that influences motivation? Points to consider are: the interaction between achievement goals, perceived ability and achievement behaviour (Duda and Hall), the role of mindset (Dweck), the resonance performance model (Newburg) or Smith’s criteria for effective goal-setting. It will be important to use research that demonstrates the effect that goal-setting has on motivation and performance.

Discuss theories relating arousal and anxiety to performance

When looking at theories you may consider drive theory (Hull), optimal arousal theory (Yerkes and Dodson), the catastrophe model (Fazey and Hardy) or the explicit monitoring theory (Baumeister). It is important that you discuss both the positive and the negative effects of arousal and anxiety in order to have a balanced approach to your essay. It is important to also understand the strengths and limitations of such theories. One of the most important considerations is that there appear to be several factors that influence the effectiveness of the theories, such as the personal and physical traits of the athlete, the role of cognitive factors and the type of sport. The variation in the types of sport and exercise is a constant confounding variable in research in sport psychology. In addition, it should also be considered that it is difficult to get accurate measures of arousal and anxiety during actual competition. Though there are some physiological measures that can be taken, the interpretation of these physiological changes can only be measured by self-reporting.

Evaluate techniques for skill development used in sport

The most common skill development technique is repetition. However, more and more sport psychologists are stressing the role that cognition plays in skill development. Two of the most commonly used techniques are mental imagery (visualization) and concentration (attention) training which includes self-talk.

In discussing the techniques, be sure to use research to support your claims. For example, for mental imagery research has been carried out by Rushall (1970), Baroga (1973) and Isaac (1992); research on self-talk has been done by Martin et al (1995), Landin and Hebert (1999), and Araki et al (2006).

Addressing the strengths and limitations of these techniques means not just evaluating the research studies, but also looking at the technique as a whole. For example, it is difficult to isolate self-talk as a variable in athlete performance as it is difficult to measure and thus guarantee the use of imagery.

Discuss to what extent the role of coaches affects individual or team behaviour in sport

When discussing the role of the coach on athletic performance, it is important to consider the following factors: the coach’s self-efficacy, expectations of the players and feedback to the players. It is important to realize that a coach can have both a positive and a negative effect on individual or team performance.

Several studies of coaching have been carried out. These include Garcia-Bengoechea (2003), Slavin (1995), Wild and Enzle (2002) and Solomon et al (1996). It is important to recognize the difficulties of researching the role of coaches in an ecologically valid way. Also research on the role of coaches relies on subjective accounts. It is expected that if an athlete or team is successful then the coach will be viewed in a positive way. But as with much research in sport psychology, it is difficult to isolate the coach as a variable in team performance. The individual traits of the athletes as well as the interaction with their peers may also play a key role in behaviour, regardless of the coach’s behaviour.

Explain relationships between team cohesion and performance

When explaining the relationship between team cohesion and performance, it is important that you take a balanced approach. For example, positive effects may include an increase in cooperation among the team members as well as an increased motivation to do well; negative effects may include conformity effects that are more social than task-oriented, the development of cliques, social loafing or a self-deception that denies the weakness of the team. Research on the role of cohesion includes Carron (1982), Arnold and Straub (1972), Gould et al (1999), Slater and Sewell (1994) and Boone et al (1997).

It is also important to consider that the relationship between team cohesion and performance is bidirectional, that is, although team cohesion may affect performance, performance may also affect team cohesion. Studies include Ruder and Gill (1981) and Hacker and Williams (1981).

Describe aids and barriers to team cohesion

There are many factors that influence the level of team cohesion. These include: the size and stability of the group, team satisfaction, similarity of the members, clarity of roles, common goal-setting, level of communication and team leadership. There also appear to be cultural differences in approaches to team cohesion. Each of these factors may serve as either an aid or a barrier to team cohesion.

There are several studies you may use: Weinberg et al (1991) on the importance of goal-setting; Sullivan (1993) or Beauchamp et al (2005) on the importance of communication; or Bray et al (2005) on role ambiguity.

In describing the aids and barriers to team cohesion, it is important to give empirical support as well as to discuss what effects these factors have on an individual, for example, how goal-setting may affect the sense of self-efficacy of the team.

Discuss athlete response to stress and chronic injury

This learning outcome requires you to look at two different variables – stress and chronic injury. The two, however, are related. Any cognitive appraisal that leads to a stress response puts the athlete in danger of injury. Thus it is important to look at factors that may lead to a stress reaction that leads to injury. These factors may include the personality of the athlete, a history of stressors, the athlete's coping resources and potential interventions.

As part of your response you may want to discuss the connection between stress and injury. Examples of studies you could refer to include the role of self-esteem on rate of injury (Ford et al 2000), the effect of stress on concentration (Williams et al 1991) or muscle tension (Smith et al 2000).

It may also be considered how stress affects the recovery process. Cramer et al (2000) examined the effect of stress on the body's healing process. Shuer and Dietrich (1997) have found many PTSD-related symptoms among athletes who have experienced chronic injury. As part of this response it would be appropriate to discuss the two key models for responding to chronic injury: the grief response model (Hardy and Grace 1990) and cognitive appraisal models (Udry et al 1997).

Examine reasons for using drugs in sport

This learning objective asks you to go beyond simply describing reasons why athletes may use performance-enhancing drugs, but to judge the relative importance of the different reasons and discuss their interaction.

Reasons for using drugs in sport include physical, psychological and social motivations. Physical motivations include increasing muscle tone, changing weight or decreasing fatigue. Psychological reasons include coping with stress and increasing self-esteem. In discussing social reasons, you may want to consider the importance of social learning theory (Anshel 1998), the role of conformity effects (Newman and Newman 1991) or the role of game theory (Axelrod 1984) in explaining the choice to use drugs.

Discuss effects of drug use in sport

As mentioned in the previous learning objective, there are several physical reasons why an athlete may take a drug, for example, to reduce anxiety, lose weight, enhance oxygen transfer or mask pain. This learning objective asks you to go a step further and look at the effects of drug use on the athlete. It is important in your response to recognize that there are differences between the short-term and the long-term use of the drug, and that the effects are both physical **and** psychological.

Physical effects include “gender-based effects” where men get more feminine traits and women more masculine traits. Other effects include liver damage, muscle damage or heart attack.

Psychological effects include increased rates of aggression (Yates et al 1992) and increased rates of mental illness, including bipolar disorder and schizophrenia (Pope and Katz 1998). Addiction is also apparent in some cases (Brower et al 1991).

Other effects include the danger of being stripped of medals, loss of commercial opportunities, school failure or tendency to poor judgment which may put the athlete at risk for accidents, violence or suicide.

Of course, there is a difficulty in studying this area of sport psychology. It would not be ethically possible to give professional athletes steroids, and athletes on steroids will not reveal that they are breaking the rules. Most studies are retrospective, meaning that the health of the individual before taking the drug may not be well documented.

Compare models of causes and prevention of burnout

This learning outcome requires you to know two models for both the causes of burnout and the prevention of burnout. If the question asks you to compare two models a successful approach requires that you identify the main points – similarities in research evidence, possibility of application to different sports and/or possible culture or gender differences. Don’t write too much description – in paper 2 all questions are essay-type questions and require evidence of critical thinking skills.

Burnout may be caused by environmental causes such as overtraining and injury, an unrewarding environment, excessive stress or monotonous training. Personal factors may also play a role, such as perfectionism, unrealistic expectations, poor coping strategies for stress or poor social skills with team members.

Two models of the causes of burnout are the cognitive–affective stress model by Smith (1986) that looks at the interaction between situational demands, cognitive appraisal and physiological response, and Clough and Earle’s (2001) proposed mental toughness model which looks at the role of individual factors in determining the response to situational demands. Studies that may be considered are Coakley (1992), Hendrix et al (2000) and Kobasa (1996). In addition, more humanistic models of burnout can be considered, for example, Raedeke’s (1997) self-determination theory or Roger’s concept of incongruence and conditions of worth.

For the prevention of burnout, part of your response may focus on the difficulties of measuring and predicting burnout in athletes. However, the focus of the response should be on prevention strategies. Two potential strategies are cognitive–affective stress management (Smith 1980) and stress inoculation theory (Meichenbaum 1985). When looking at stress management as a means of preventing burnout, some of the considerations would be a description of the steps in each of the models, research that supports the use of the model, and limitations of research with regard to the model, for example, the role that dispositional and situational factors may play on one’s ability to cope with the stressor.

To what extent does the role of the coach affect team behaviour in sport.

[22 marks]

[Taken from paper 2, both levels, May 2011]

How do I approach the question?

Read the question carefully and highlight all relevant parts. The command term *to what extent* asks you to discuss the validity of an argument. You should give both sides of the argument and provide some kind of judgment at the end.

Your first step is to determine in which ways the coach affects team behaviour and performance. Why is his/her role important? Is his/her role relevant for some sports but not for others? Is the relevance of his/her role culturally specific or gender specific? Your opinions and conclusions should be presented clearly and supported with appropriate psychological research.

Whenever you answer a “to what extent” question, you should consider both sides of the argument. Is the role of the coach the only variable that affects team behaviour in sport? Are there other factors that also affect team behaviour in sport? Don’t forget to support these sides of the argument with relevant psychological research.

When describing studies, it is important that each one is linked to the impact that the coach has on team behavior, and not on general types of coaching.

Remember that for essays it is essential to demonstrate critical thinking. When evaluating, don’t forget that a significant part of evaluation should be related to the question of the role of the coach in sport, and not simply a general evaluation of each study or theory. In your answer you can also apply your knowledge of the role of the coach to different sports. Is the role of the coach equally relevant in all sports?



This answer achieved 15/22



The student wrote a good introduction where some of the main issues are highlighted. There is a recognition that although the coach is relevant this is not the only factor that determines team behaviour. This sentence is very useful because it signals that within the essay the student will try to approach the question by addressing the “to what extent” command term.

Every sports team has a coach which leads the team through a season. Although some think that the coach is only a teacher that shows techniques to lead them to success, sport psychologists think they have a bigger role. Coaches also have the duty of regulating the motivation and general behavior in sport, in order to keep it positive. A positive behavior in a team often means a better performance. However, even if the coach’s task is to influence the behavior in the team, set the rules and show them the most efficient way to succeed, his role cannot completely determine the behavior of the team because there are countless of other factors that could affect the behavior.



The student describes the effect of the coach on intrinsic motivation by referring to the expectation–performance model.

Because of their important role, coaches can affect the performance and the intrinsic motivation of their team. Horn et al. explain with their expectation–performance model that the expectations of the coach can affect the behavior of individual team members. In the first step of this model, the coach develops an expectation for a specific team member. This expectation then affects the learning, development, motivation and goals of the athlete. When this happens, the athlete conforms to the expectations, which are then assured. This means that the coach expects that the team and/or specific team members can change the behavior and even the performance of the team. Duda and Pensgaard argued that one task of coaches is to set intrinsic motivation directly and not only through expectations. To do this, a coach needs to show the correlation between technique and success, show that athletes are allowed to make a mistake, give positive and useful feedback and make sure that all team members are equal. Jowett studied the relationship between Olympic swimmers and their coach. He found out that the closer the athletes were to the coach they showed more motivation and better performance. This shows that the coach’s role can affect the motivation and performance of a team through his expectations and attitude towards the athletes.



Additional information provided and supported with empirical evidence.



! Examiner report

Knowledge and comprehension: This answer demonstrates good knowledge of specific issues relevant for the specific question. The response provides relevant psychological research. At times more accuracy and detail is necessary. (7/9)

Critical thinking: There is appropriate but limited evidence of critical thinking. At times critical thinking is applied but in a general manner. (5/9)

Organization: The answer is well organized, focused, and clear. At times the information provided in the answer is not clearly linked to the specific question. (3/4)



16. Paper 3: Qualitative research methodology

Qualitative research makes up a good part of psychological study today. Early psychologists were heavily dependent on a positivistic approach, that is, they felt that the scientific method was the only valid approach to studying behaviour and that universal cause and effect relationships could be determined. However, there were many shortcomings with experimental research. Experimental research can be artificial in nature, lend itself to demand characteristics and may objectify the participants that are being studied. Maybe most importantly, experimental research focuses on very few variables in behaviour. By looking at only the effect of an independent variable on a dependent variable, the researcher adopts a reductionist approach to understanding behaviour.

Qualitative research tends to take a more holistic approach. A significant part of qualitative research is that it addresses how people give meaning to their own experiences. It is often problem-focused, that is, it looks at behaviours within a smaller group or community, without the goal of discovering universal patterns of behaviour.

Paper 3 is an assessment of your understanding of qualitative research. Specifically, it tests your understanding of observations, interviews, and case studies.

Learning outcomes

Theory and practice in qualitative research

- Distinguish between qualitative data and quantitative data.
- Explain strengths and limitations of a qualitative approach to research.
- Discuss to what extent findings can be generalized from qualitative studies.
- Discuss ethical considerations in qualitative research.
- Discuss sampling techniques appropriate to qualitative research, for example, purposive sampling, snowball sampling, quota sampling.
- Explain effects of participant expectations and researcher bias in qualitative research.
- Explain the importance of credibility in qualitative research.
- Explain the effect of triangulation on the credibility/trustworthiness of qualitative research.
- Explain reflexivity in qualitative research.

Interviews

- Evaluate semi-structured, focus group and narrative interviews.
- Discuss considerations involved before, during and after an interview, for example: sampling method, data recording, transcription, ethics, debriefing.
- Explain how researchers use inductive content analysis (thematic analysis) on interview transcripts.

Observations

- Evaluate participant, non-participant, naturalistic, overt and covert observations.
- Discuss considerations involved in setting up and carrying out an observation, for example, audience effect, data recording, ethics, debriefing.
- Discuss how researchers analyse data obtained in observational research.

Case studies

- Evaluate the use of case studies in research.
- Explain how a case study could be used to investigate a problem in an organization or group, for example, a football team, school or family.
- Discuss the extent to which findings can be generalized from a single case study.

Essential definitions

Case study refers to an in-depth and holistic investigation of the behaviour of either an individual or group.

Covert observation means that the observed group may or may not be aware of the presence of the researcher and they are not made aware that their behaviour is being observed.

Credibility is similar to validity, when the findings of the research reflect the meanings as they are described by the participants. Often interpretations of interviews are presented to the interviewee to make sure that he or she agrees with the interpretation. This establishes credibility.

Focus group is a group interview.

Inductive content analysis is an analysis of qualitative data in which theory and hypotheses are derived from the data rather than established before the data is gathered.

Interviewer effects occur when the way the interviewer carries out the interview affects the behaviour of the interviewee. This may be the result of body language, gender, tone or the way that the interviewer responds to comments made by the interviewee.

Narrative interviews are used to obtain the stories people employ to interpret their lives and the world around them. It is the ways that people organize and make connections between events that are of interest to the narrative interviewer.

Naturalistic observation is an observation in which the researcher observes behaviour that naturally occurs.

Non-participant observation is where the observer is not part of the situation being studied.

Overt observation means that the observed group is aware of the presence of the researcher and that their behaviour is being observed.

Participant observation means that the observer takes part in the situation being studied while carrying out the research.

Post-modern transcription is a method of transcribing recorded interviews that goes beyond traditional transcription by including notes on the words, volume, pitch, speed, pauses, facial expressions, gestures and other non-verbal communication.

Purposive sampling is where participants are chosen based on specific characteristics, for example, they are all smokers, drivers or homosexual men over 40.

Reactivity refers to when a participant behaves differently than normal because he or she is being observed.

Quota sampling is like stratified sampling in quantitative research. The participants are reflective of the group from which they are drawn. That is, the participants reflect the diversity of the target population.

Reflexivity involves the researcher documenting his or her beliefs, attitudes, values, theoretical position and reactions to the object of study and assessing the likely impact of these on the collection and analysis of data.

Semi-structured interview is a form of interview in which the interviewer asks questions from a pre-decided list of questions. Although the researcher may obtain other information, the key goal is to obtain responses to the interview guide.

Snowball sampling is a sampling method also called **network sampling**. The researcher asks participants if they could recommend other participants. This is often used with **hidden populations**, for example, illegal drug users, homeless people or refugees who endured torture in their homeland.

Traditional transcription is a method of transcribing recorded interviews by simply writing down what the participant said, word for word.

Transference is documenting the conditions under which a study was conducted so that it can be determined to what extent the research findings can be generalized. The extent to which generalization may happen is the level of transference.

Triangulation is collecting information through the use of different perspectives, methods and sources to check if the interpretation of data can be supported.

Suggestions for addressing the learning outcomes

Distinguish between qualitative and quantitative data

The key to this learning outcome is to recognize that qualitative data goes beyond simple numerical data. Qualitative data is more descriptive and more holistic than quantitative data. Qualitative research often does not begin with a hypothesis, but rather generates a hypothesis based on its findings. It may also be noted that qualitative data is often quantified in order to come up with meaningful statistics at the end of a qualitative study.

Explain strengths and limitations of a qualitative approach to research

Strengths

- More holistic approach to understanding an individual or group's behaviour.
- Less open to researcher bias as it is not driven by a hypothesis.
- Provides rich data.
- Useful for understanding more complex human behaviours such as relationships, group processes and mental health.
- People are studied in their own environments which increases validity.

Limitations

- Time consuming. The research generates a lot of data that may be difficult to analyse.
- Interpretation of data may be highly subjective.

To what extent can findings be generalized from qualitative research?

The key to generalization is the **transferability** of the data. It is important for the researchers to record the demographics of the study. For example, if there is a case study of a school, is it urban, rural or international? What is the socio-economic diversity of the school? What is the size of the school and of classes? What percentage is bilingual? How many go on to study at university? The more similar a school is to the school in the original study, the more likely that the findings of the study may be generalized, or transferred, to that school.

Discuss ethical considerations in qualitative research

Many examples of ethical considerations are similar to what we see in quantitative research methods. Here are some points to consider.

- The issue of informed consent in observational research.
- The difficulty of maintaining confidentiality in a focus group.
- The importance of not pressuring interviewees to answer sensitive or embarrassing questions.

- The importance of confidentiality in the publication of case studies.
- The need to keep a professional relationship with the participant. This is especially true in longitudinal case studies where a bond may form between the participant and the researcher.
- The right to withdraw information. In interviews, participants may say things that they later regret revealing. This must be removed from the data upon request.
- Debriefing is required for all research. Interpretations should be shared and the plan for the use of the data should be revealed. The rights of the participant should be clear with regard to confidentiality and withdrawal of data.

Discuss sampling techniques appropriate to qualitative research

It is important to realize that there is a distinct difference between qualitative and quantitative sampling methods. Random sampling is **not** used in qualitative research, since the goal is not to determine the universality of behaviour. Opportunity samples may be used, but because of the problem-focused nature of much qualitative research, not just any available sample will do. Purposive, snowballing, and quota sampling are the three most common means of gathering a sample.

Both purposive sampling and snowballing have the danger of bias. Snowballing adds the problem that all members of that group may have more in common than simply the trait that is being studied since all of the participants know each other. For example, although they are all homosexual men, they may all be intelligent homosexual men who are engaged in the local theatre community. This does not allow for a more diverse and representative group of homosexual men to be studied. However, if the first participant to be interviewed feels that the researcher was professional, empathetic, and trustworthy, the fact that he or she recommends the study to friends in a snowball sample, means that a rapport is established more quickly.

Explain effects of participant expectations and researcher bias in qualitative research

As with quantitative research, demand characteristics may affect the behaviour of the participants. One specific example is the **social desirability effect**, where the participant feels that they have to respond to questions or behave in a way that meets societal norms. In this case, they may be less honest about their sexual practices, drug use or attitudes towards family so that they do not feel socially unacceptable. Participants may also try to “help out” the researcher by providing information that they feel is “what the researcher is looking for” rather than an honest and authentic response to questions.

Researcher bias is when the researcher fails to maintain objectivity and so his or her beliefs affect the outcome of the study. This may be especially true in inductive content analysis where the researcher is to note “emerging themes” in the transcript of an observation or interview. The researcher may be prone to note the themes that confirm his or her own beliefs about the behaviour being studied. Researcher bias may also influence the manner in which an interviewer facilitates a focus group or one-on-one interview.

Explain the importance of credibility in qualitative research

Since much of the interpretation of data is subjective in qualitative research, it is important for the researcher to verify his or her interpretation with the participant(s). In the case of an interview, credibility is checked by giving the transcript or interpretation to the participant for verification. For example, the researcher might feel that the interviewee was very sarcastic about many of his co-workers at his job; the interviewee, upon reading the interpretation, might respond that he was not trying to be sarcastic, but rather that his comments were honest and heartfelt. It is important for the researcher to be able to confirm that what he believes was the main point of the interview was in fact what the interviewee meant to communicate.

Explain the effect of triangulation on the credibility/trustworthiness of qualitative research

There are two forms of triangulation that are particularly important to qualitative research.

- **Method triangulation:** comparing data that comes from different methods. This shows that the results are credible, that is, they are not simply due to the choice of method.
- **Researcher triangulation:** comparing data from various observers, interviewers, or researchers. Having more than one observer, researchers should be able to establish inter-rater reliability. In the case of content analysis, researchers establish inter-coder reliability. This means that the results are consistent for all members of the team, therefore, the results are not due simply to the biases of the single observer or interviewer.

Explain reflexivity in qualitative research

Reflexivity is a relatively new concept in psychology in which the researchers reflect on how their values, beliefs, experiences, interests and political orientation may affect their research. For example, is it possible that gender bias may have played a role? Could it be that the attractiveness of some of the interviewees affected behaviour during the interview? Or that negative feelings about a participant's behaviour may have been detected and influenced a case study? The personal reflections of the researcher help the reader of the study to better understand the context of the study.

Evaluate semi-structured, focus group and narrative interviews

Semi-structured interviews

Strengths	Limitations
• Standardization of procedure • Easy to train researchers to carry out interviews • May be carried out on many participants and obtain similar data • Allows for elaboration of responses • Less biased by the researcher	• A rather artificial conversation, lacks ecological validity • Data analysis is time consuming • Questions, if not piloted, may be difficult to understand or lead the participant to respond in a specific manner

Focus group interviews

Strengths	Limitations
• A convenient way to gather a lot of information quickly • A natural setting for conversations • Individuals may spark ideas for other participants, resulting in a richer response	• Conformity effects may influence results • Cultural and gender norms may influence how the group behaves • Not appropriate for sensitive questions • Confidentiality of responses is difficult to guarantee

Narrative interviews

Strengths	Limitations
• A very holistic approach for an individual, leads to in-depth data • A very naturalistic and supportive means of sharing information	• Leads to an enormous amount of data that may be difficult to analyse • Since many narrative interviews ask participants to share past experience, it may be highly susceptible to the effects of reconstructive memory

Discuss considerations involved before, during and after an interview

Some considerations **before** an interview include: training of the interviewer to avoid interviewer effects; choice of the interviewer; developing an interview guide, generating and piloting the questions; deciding on how data will be recorded and transcribed; ethical considerations.

Some considerations **during** an interview include: ethical considerations; establishing a rapport with the interviewee; facilitating a focus group; active listening techniques.

Some considerations **after** an interview include: carrying out data analysis; debriefing the participants; establishing credibility of the interpretation.

Explain how researchers use inductive content analysis on interview transcripts

An inductive content analysis does not begin with a hypothesis. Instead, the researcher reads through the data looking for “emergent themes” which “jump out” at him. To do this, the research team will often reread the texts several times. After reading through the text and noting things of interest, the researcher will try to group this data into “higher level themes.” Based on these higher level themes and the quotes from the interviews that support them, the researcher then writes an interpretation of the data. As part of that interpretation, the researcher may apply reflexivity, reflecting on how he or she may have influenced the outcome of the interview. Finally, the interpretation is taken back to the interviewee in order to establish credibility.

Evaluate participant, non-participant, naturalistic, overt and covert observations

	Strengths	Limitations
Participant	• An emic approach • Avoids researcher bias • A holistic approach.	• Difficult to record data • Time consuming • Risk of losing objectivity
Non-participant	• Objective • Easy to record data • Researcher does not interfere with behaviour.	• Reactivity • Ethical concerns • Etic approach, open to researcher bias
Naturalistic	• High ecological validity • Allows study of a large range behaviours	• Reactivity • No control over variables • Difficult to establish inter-observer reliability
Overt	• Informed consent is obtained	• Reactivity
Covert	• Prevents reactivity • Allows study of behaviours that otherwise might not be studied	• Deceives participants • Consent is not obtained • Violates trust • Difficult to record data • Can be often dangerous for researchers

Discuss considerations involved in setting up and carrying out an observation

Some considerations in **setting up** an observation include: choosing which type of observation is appropriate; sampling; data recording; ethics; consider how the researcher’s role may affect the behaviour of the participants.

Some considerations in **carrying out** an observation include: establishing a rapport with the participants; ethics; maintaining objectivity; recording data; carrying out post-observation interviews in order to clarify observations.

Discuss how researchers analyse data obtained in observational research

The aim of analysis is to summarize the data and provide meaningful, manageable descriptions of behaviour. Notes written by the observer are transcribed and an inductive content analysis may be carried out. Please see the notes above on how that technique is applied.

In addition, because of the nature of observations, it is important that the researcher write a description of the observation. This should include the context of the behaviour (for example, lunch recess), the environment in which it took place, a description of the sample and the process by which the observation was carried out. This will also help with transferability to other similar situations.

Finally, in order to establish credibility, the “account” that is developed is then shared with other researchers and/or with the participants to establish credibility. It may also be compared to current theories to see whether the interpretation supports current research in the field.

Evaluate the use of case studies in research

Strengths	Limitations
• Opportunity to investigate phenomena that could not be studied otherwise • A holistic rather than a reductionist approach to research • Stimulates new research • Uses method of triangulation to establish credibility	• Cannot be replicated • May lack objectivity because of the long-term nature of research • Reliant on participant’s memory which is open to distortion • Each case study is in some ways unique, there are questions about the level of transferability

Explain how a case study could be used to investigate a problem in an organization or group

This learning outcome asks how you would set up a case study. For example, how would a researcher organize a case study for your school? The researcher would have to define the “case”, that is, what will be studied and for which group? Then different methods would be applied, for example, semi-structured interviews, focus groups, a survey, a classroom observation. Analysis of data would follow each of the methods applied, and then the interpretations would be compared to establish credibility.

The final account of the case study would include a summary of the findings, as well as an in-depth description of the school so that the level of transferability could be established by readers of the study. In addition, the researcher may include reflexivity in the report to discuss how he or she may have influenced the outcome of the research.

Discuss the extent to which findings can be generalized from a single case study

In addition to the information above on transferability based on the demographics of a case study, it is also important to compare a case study to similar studies. If other case studies or research support the findings of the case study, it is more likely that the case study can be generalized to a wider population.

This is an example of a stimulus material, presented in the May 2011 HL paper 3 examination. Use the information within this text to answer all three questions.

Note that the information is basic and lacks detail, so for some questions you can include additional detail to add content to your answer. It is fine to be creative and imaginative as long as the additional information does not contradict the stimulus material and reflects knowledge of qualitative methods.

When reading the stimulus material it is always a good idea to highlight the aim of the study because this is the general context that you need to use when answering all questions. In this case the aim is to find out how personally satisfying the befriending programme was for volunteers

This part gives information about participants – number, age and gender. This information can be useful if there is a question about sampling method or the possibility of generalization.

Qualitative method used,

This tells you how the information has been collected and transcribed. Also it gives some indication of ethical considerations.

Data analysis method identified.

This part gives you some information about emergent themes.

General findings of the study.

5 “Befriending” is a term for developing a friendly relationship between a volunteer and a “befriender”, *i.e.* a person who is given the opportunity to have a friend. The purpose of such a relationship is to benefit a person at potential risk: for example adolescents from minority groups. Befriending programmes have been found to benefit the befriended by protecting them from loneliness and social isolation. One such befriending programme in Scotland was concerned with social inclusion of young people from minority backgrounds by establishing relationships between them and members of the majority group.

10

15 McVittie, Goodall and Barr (2009) conducted a qualitative study on the befriending programme from Scotland mentioned above. The aim of their study was to investigate the outcome of befriending from the perspective of befrienders. The outcome of the befriending scheme was very much dependent on the motivation and involvement of the participants, *i.e.* the befrienders. Therefore the researchers were particularly interested in their view of the scheme and the befrienders’ relationships with the young people.

20

25 The ten participants in this study were five males and five females ranging in age from 25 to 36. The researchers collected data with semi-structured interviews, which were audio recorded and transcribed with the participants’ consent. The researchers used inductive content analysis to analyse and interpret the transcripts.

30 The findings of the study showed that the befrienders suggested that they themselves received several benefits from the befriending programme, for example appreciation of other cultures, being welcomed in the families of the young people, and getting insight into the community-based difficulties that minority cultures experience. Overall, the befrienders had a positive view of the programme. Research on befriending programmes has found that befriended normally report positive experiences. This qualitative study now confirms that befrienders also benefit from such programmes.

35

In the left margin next to the stimulus material you will notice line numbers. You can use these line numbers when answering the question. This is the easiest way to indicate the part of the text you are referring to when addressing the specific question.

Explain possible effects of participant expectations on the findings of this study

[10 marks]

[Taken from paper 3, higher level, May 2011]

How do I approach the question?

The first step is to identify what the question is asking from you. The command term *explain* asks you to give a detailed account of participant expectations and the effect participant expectations might have on findings obtained in this qualitative study.

First, give a clear and accurate definition of participant expectations – they are participants' ideas of the aim and purpose of the research. They tend to affect the behaviour of the participants because participants might want to please the researcher by confirming his or her hypothesis. This part can be a general description of how participant expectations usually affect the findings obtained in qualitative studies. Participant expectations will affect the value of the data in a negative way since the data will not be trustworthy.

After this, you need to apply most of what you stated in the first part of your answer to the actual context of the study by using the information presented in the stimulus material. It would be good to start off by stating that participant expectations will affect the verbal report provided by the participant. For example, you could indicate that since the befriending programme tends to be viewed by people as a socially desirable project participants might be tempted to report overly optimistic feelings to present themselves as good and positive members of society. Also, you could focus on the information provided in the stimulus material that states that "the befriending programme in Scotland was concerned with social inclusion of young people from minority backgrounds by establishing relationships between them and members of the majority group". This part of the stimulus material tells you that the process of establishing relationships probably took quite a long time. Since participants have invested a lot of time and energy in the programme it is very likely they will want to interpret the experience as positive although, in reality, there might have been disappointments along the way. Many other consequences of participant expectations may be explained and will be credited as long as you clearly present them and make a direct link to some information in the stimulus material.



This answer achieved 4/10



This is a good opening statement but it should have been continued with some additional explanation.



This definition is basically correct but needs a bit more clarity. What exactly would the researcher expect?



The student made some attempt to use the stimulus material when answering the question.

If participant expectations affected the findings of this study, it would be considered biased.

Participant expectations are defined as the participant trying to please the researcher because he/she thinks that the researcher is expecting something out of them. In this example, the befrienders might not disclose any negative opinions of the program or exaggerate the benefits. They know that the befriendees report positive experiences, which could be used against befrienders that did not share the same positive experience. They don't want to hurt feelings, even if they are anonymous.



This part isn't very clear. The link between participant expectations and findings needs to be more clearly explained.



Examiner report

The student partially understood the demands of the question and gave some explanation of the term "participant expectation". The effect it could have on the findings of this study is described but not very clearly. The student made some attempt to use the text when answering the question.



This answer achieved 8/10



Good general knowledge of participant expectations is provided.

Participant expectations are, in general, known to play a role in the findings of the vast majority of qualitative as well as quantitative studies. These expectations can be related to something caused by the given researcher of the study or the participants own views on what the research is studying.



Accurate and focused use of stimulus material.

In this case the focus of the research by McVittie et al. was on a culturally and politically sensitive issue of ethnic and cultural minorities, which in itself can increase the impact of participant expectation on the findings of the study. That is to say, in a modern western society like the one described on the study (Scotland) it is often the consensus of social norm that minorities should be treated with respect and that they are richness to a country instead of something that takes away from it. What this means is that a participant of this study might report a more positive experience in the befriending programme then what really was the case thanks to



Student links participant expectations to social desirability effect and clearly explains the affect these have on the findings.

the social desirability effect i.e. the participants answer what they expect to be socially acceptable in relation to the outcome of such a befriending programme, resulting in possibly more positive results. This reduces the credibility of the study.



This statement is correct but needs to be a bit more clearly stated. What is credibility of a study?

Another way in which participant expectation can influence the findings is caused by the researcher or in this case the interviewer in the interview situation. That is, a participant might e.g. sense that a certain gesture or facial expression gives him/her support to move in a certain direction on his/her answer to the question. Moreover, if the interviewer for example smiles or immediately jumps on, with a further question, when the participant mentions something positive in relation to the outcome of the befriending programme,



Answer provides a link between participant expectancy and researcher bias within the study.

the participant might feel that the researcher wants him/her to answer in that way. This affects the credibility of the study, but can be reduced by training interviewers.



This is a good answer. Information provided by the student reflects understanding of participant expectations and how they can affect findings of the study. A bit more clarity and detail when applying knowledge to the stimulus material would have brought maximum marks.



Examiner report

The student understood the demands of the question and gave a good explanation of the term “participant expectation”. The effect it could have on the findings of this study is well explained and the stimulus material is used in a clear and focused way. This response demonstrates a critical understanding of qualitative research methodology. At times the response needs a bit more clarity.

Discuss the use of semi-structured interviews in this study.

[10 marks]

[Taken from paper 3, higher level, May 2011]

How do I approach the question?

Read the question carefully. The command term *discuss* asks you to give a balanced view of the use of semi-structured interviews in this specific example.

Briefly describe how a semi-structured interview would be conducted in this context by defining what a semi-structured interview is and outlining its main characteristics. After that, discuss strengths and limitations of using semi-structured interviews in this specific example. For example, you can state that using open-ended questions helps the researcher to establish rapport resulting in richer data. Also semi-structured interviews allow participants to present their own ideas, however, semi-structured interviews take a long time and are therefore expensive.

After stating these general strengths and limitations apply your knowledge to information provided in the stimulus material or the general context of the study described. In your answer you could state that participants in semi-structured interviews responded to open-ended questions and therefore expressed views that were surprising for the researcher, for example, that they could not benefit from participating in the project due to age difference or language problems. You can be creative in your interpretations as long as you provide clear and relevant knowledge related to the specific question and the stimulus material.



This answer achieved 3/10



This definition is too broad and it doesn't differentiate semi-structured interviews from structured or narrative interviews.



A description of semi-structured interviews is given but there is no reference made to the stimulus material.



These two statements lack clarity.

A semi-structured interview is a one-to-one interview with the researcher. The researcher has a set of questions to ask, but is willing to go more in depth into certain topics if more data can be obtained. The strengths of semi-structured interviews are that because of the one-to-one chat, they feel they can disclose information without conformity. However, this can backfire into participant expectations. It is also very time consuming.



Examiner report

The student gave a very general answer reflecting some knowledge of semi-structured interviews but often lacking clarity and precision in writing. The answer doesn't make direct reference to the stimulus material.



This answer achieved 7/10



This part of the answer talks about how semi-structured interviews are different from structured interviews and narrative interviews.

A semi-structured interview involves the researcher going by a few wide questions which may be only a starting point if other relevant subjects would reveal themselves in the interview which the researcher had not thought of. Yet, it is still more structured and research driven than a narrative interview.



First advantage presented and some explanation provided.

The semi-structured interview is used here with benefits such as the participants have the opportunity to bring up new relevant subjects, which is useful when studying such a wide subject and better validity (6-7). This will let the participants steer the interviews towards what they feel is relevant. Semi-structured interviews also focuses the interview on the aim (9-10) which will not produce massive amounts of material such as other formats of interviews might. This will also help the subsequent inductive content analysis (16-17) by directly focusing the interview. Picking out themes becomes easier in relation to a focused interview.



Additional advantage with some explanation and link to stimulus material provided.



First disadvantage is vaguely stated. How would the use of semi-structured interviews in this study limit participants' willingness to speak freely?

Negative aspects of using semi-structured interviews in this context is, for example, limiting the degree of freedom for the participant to speak freely. There is room for researchers bias, when the researchers actually steer the interview, perhaps the researchers have no idea what one could gain from being a befriender which might harm validity. Also, the semi-structured interviews was audio recorded, this means that the transcribers have no chance of registering body language of the participant throughout the interview.



Second and third disadvantage discussed with some link to the stimulus material.

Additionally, interviews are always retrospective, which is difficult to fix without instead damaging the ecological validity, however, it is worth remembering as another flaw of using semi-structured interviews in this context.



This part of the response lacks clarity.



Examiner report

The student understood the demands of the question and gave a discussion of the use of semi-structured interviews in this study. The answer includes a range of arguments. The student clearly indicates which part of the text is relevant for addressing the question but the link to the stimulus material needs to be further elaborated upon.

Explain how researchers could use inductive content analysis on the transcripts of the semi-structured interviews in this study.

[10 marks]

[Taken from paper 3, higher level, May 2011]

How do I approach the question?

The command term *explain* asks you to give a detailed description of the process involved when conducting inductive content analysis. When outlining each step of the process give reasons for this activity, state the purpose of that activity.

First, briefly define inductive content analysis. After that, describe the process of conducting an inductive content analysis by stating that it involves a systematic search for themes in the transcript that show themselves after reading the transcripts several times. Further reading and analysis will help the researcher to connect these themes in a meaningful way. Through this process the researcher will see how these themes relate and try to construct hierarchies of themes. The researcher will continue this process until there is no more information in the data. Inductive content analysis allows the researcher to gain an insider's approach of how each and every participant understands and makes sense of the world.

Don't forget that you have to apply your knowledge and understanding of inductive content analysis to the presented stimulus material. This means that you briefly outline some possible themes that might have emerged within the example of the befriending programme. There are many different ways you can do this. As long as your examples of themes and their connection make sense within the context of the study you will get marked positively for them.

Make sure you answer only the question in front of you. For this question, there is no need to state strengths and limitations of inductive content analysis since this is not part of the question.



This answer achieved 4/10



A definition of ICA is given but needs to be more precise by indicating that the theory is derived from the data gathered.



Answer reflects some knowledge of how ICA is conducted but steps of ICA are vaguely stated and lack detail. Student makes an attempt to apply knowledge to the stimulus material but this is not well developed.



This part of the answer provides correct information but is not necessary because the question does not ask for an evaluation of ICA.

Inductive content analysis (ICA) was used in this study to analyse the transcripts of the semi-structured interviews. ICA is when researchers analyse data many times without having a theory in order to reach a conclusion on a certain dimension. McVittie, Goodall and Barr's 2009 study retrieved their raw data from audio recordings and transcriptions. The first process of ICA is to go through all the raw data and categorize data based on different content. Then researchers reach the encoding process where they derive meaning from the data, for example „appreciation of cultures“. After encoding the analysis is placed into tables that are based in different themes such as „culture“, „experiences“. Data saturation is reached when all the raw data has gone through this process and has no more analysis left. This is a time consuming method because there is much data per participant. And in this case they had to do ICA for all 10 participants. However this method has strengths, for example, several different theories can be applied to see findings through different theories.



Examiner report

The student gave a limited answer that is partially relevant for the question stated. Some application to stimulus material is given but is not well developed.



This answer achieved 7/10



A definition of ICA is given.



Answer provides a good general explanation of the major stages involved in ICA.



Student uses information from the stimulus material in order to provide a possible example of anomalous data.



Answer presents the possible effect of confirmation bias on the way ICA is conducted; knowledge is applied appropriately to stimulus material.



This is a correct statement but needs further elaboration. How could the cultural background of the researcher bias the process of ICA?

Within the study, the research used inductive content analysis (ICA) on the transcripts of each interview. Inductive content analysis is a process that involves deep analysis of all of the relevant information found throughout the study. There are four major steps when using ICA to analyse information. The first is to study the data piece by piece, so that all of the important information is found within each interview. The second is to sort these pieces of qualitative data into emergent themes. This consolidates the major points that were made in the interview. After the themes are found, they are considered again as a group in order to find an even larger "dimension", that determines the overall idea of the information. The final step is to review the data and make sure that all of the data is represented within the themes, as well as in the final dimensions. This is a useful process, as it helps researchers reach data saturation, where all of the data found within the interviews are fully analysed. This is important for the records because when dealing with subjective and qualitative data, it can be easy to miss important aspects of the information, due to the complexity of stated data. Data saturation also aids the researcher in finding anomalous data, or data that does not follow the paths set out by the other interviews. This relates to the study done by McVittie, Goodall and Barr. It is possible that one of the ten participants were not happy with the "befriending" program and it would be important to find these anomalies, as it puts an important perspective on the program, as well as possibly revealing more of its flaws.

The data taken from semi-structured interviews are completely subjective and the process of ICA is also purely a subjective one. The subjectivity of the data reveals definite problems. When the researchers go through the data using ICA, the interpretation of the data is completely up to the researcher, and is therefore open to bias. A confirmation bias could occur, where the researcher gives extra weight to what they find supports their own opinions – in this case, if the researcher is in support of the program, they would much more readily accept data that supported their opinions. Also, culture could be an effect, as it adds to their bias as well.



Examiner report

The student gave a good answer that reflects accurate knowledge and understanding. More explicit information related to the stimulus text is necessary. When the student makes use of the stimulus material these parts need further elaboration.

17. Are you ready?

We hope that you enjoyed the book and that you will continue to use it throughout the year to help you to prepare for your exams.

Below is a selection of questions from recent exam papers to which you may apply your new skills. You can either take these under exam conditions or work through them referring back to the book; the choice is yours.

Paper 1

Section A

*Answer **all** questions in this section. Marks will be awarded for focused answers supported by relevant knowledge.*

Biological level of analysis

1. Explain how **two** neurotransmitters affect human behaviour. [8 marks]

Cognitive level of analysis

2. Outline **two** principles that define the cognitive level of analysis. [8 marks]

Sociocultural level of analysis

3. Describe **one** study relevant to social learning theory. [8 marks]

Section B

*Answer **one** question in this section. Marks will be awarded for demonstration of knowledge and understanding (including the use of relevant psychological research), evidence of critical thinking (e.g. application, analysis, synthesis, evaluation), and organization of answers.*

4. Discuss how and why particular research methods are used at the biological level of analysis, with reference to one or more studies. [22 marks]
5. Outline schema theory.

Evaluate schema theory with reference to studies. [22 marks]
6. Evaluate social identity theory with reference to relevant studies. [22 marks]

Paper 2

Answer **two** questions, each from a different option.

Each question is worth [22 marks]. Marks will be awarded for demonstration of knowledge and understanding (including the use of relevant psychological research), evidence of critical thinking (e.g. application, analysis, synthesis, evaluation), and organization of answers.

Abnormal psychology

1. Compare and contrast individual and group approaches to treatment.
2. Describe psychological research (theories and/or studies) relevant to diagnosis.

Evaluate the psychological research (theories and/or studies) relevant to diagnosis that you have described.
3. For **one** affective **or** eating disorder, discuss the relationship between etiology and therapeutic approach.

Developmental psychology

4. Evaluate **two** examples of psychological research (theories and/or studies) relevant to attachment.
5. To what extent do sociocultural factors influence the formation and development of gender roles?
6. Outline **one** theory of cognitive development.

Evaluate the theory of cognitive development that you have outlined.

Health psychology

7. Evaluate **two** examples of psychological research (theories and/or studies) related to physiological and/or psychological aspects of stress.
8. Discuss prevention strategies **or** treatments for addictive behaviour.
9. “Lifestyle is an important factor in people’s health.”

With reference to this statement, discuss sociocultural factors related to the development of obesity.

Psychology of human relationships

10. Discuss factors influencing bystanderism.
11. Contrast **one** biological explanation of the origin of attraction with **one** psychological **or** social explanation.
12. Evaluate psychological research (theories and/or studies) related to sociocultural explanations of the origins of violence.

Sport psychology

13. Outline **two** techniques for skill development in sport.

Discuss the **two** techniques for skill development in sport that you have outlined.

14. Outline psychological research (theories and/or studies) in relation to athlete response to stress and chronic injury.

Evaluate the psychological research (theories and/or studies) in relation to athlete response to stress and chronic injury that you have outlined.

15. Evaluate **two** theories of motivation in sport.

Paper 3

The stimulus material below is based on a research article that describes an observational study to investigate the efficacy of a parent training programme for parents with children with emotional and behavioural difficulties (EBD).

Research suggests that negative parenting, for example, inconsistent discipline and/or lack of reinforcement for appropriate behaviour, could contribute to emotional and behavioural difficulties (EBD) in children. Since such a disorder can be difficult for children and parents, and may have devastating consequences for the child's life, psychologists have developed
5 intervention programmes to teach parenting skills to parents.

A group of psychologists working at a centre for children with behavioural problems performed a non-participant overt observation to study the effectiveness of a particular parent training programme. The programme was a group-based intervention programme for five single parents who had children with behaviour problems. The parents were fully informed about the purpose
10 of the observational study and they signed an informed consent form before the start of the study.

The aim of the study was to investigate how parents responded to the parent training programme, which consisted of teaching new parenting skills such as:

- how to establish a positive relationship with the child through play and child-centred activities
- how to reward and encourage the child for positive behaviour
- 15 • how to set effective and consistent limits.

The parents came to a centre to participate in training twice a week over a period of three weeks. The training consisted of interactions between the parents and a facilitator who was not part of the research team. All sessions were videotaped for further analysis. The session typically started with the parents watching a video showing one example of a parent-child interaction.

20 The purpose of showing the videos was to start group discussions with the facilitator, to encourage role play and to help parents share possible solutions to the problem they had watched on the video. At the end of each session, the parents were encouraged to employ the new techniques at home. In the following session, they would discuss the effectiveness of the techniques with the other single parents in the group.

25 For the duration of the programme the parents expressed increasing satisfaction with the development of their relationship with their child. They said they felt more confident and secure in their role as parent. The overall findings were that group interactions with a facilitator helped parents to establish a different and better relationship with their child. However, there were times when they found it difficult to be consistent in using the new techniques. They also expressed
30 satisfaction with the social support and understanding from other parents and the facilitator.

*Answer **all** of the following three questions.*

1. Evaluate the use of non-participant overt observation in this study. [10 marks]
2. Explain ethical considerations relevant to this study. [10 marks]
3. Explain how reflexivity could have been used in this qualitative study. [10 marks]

