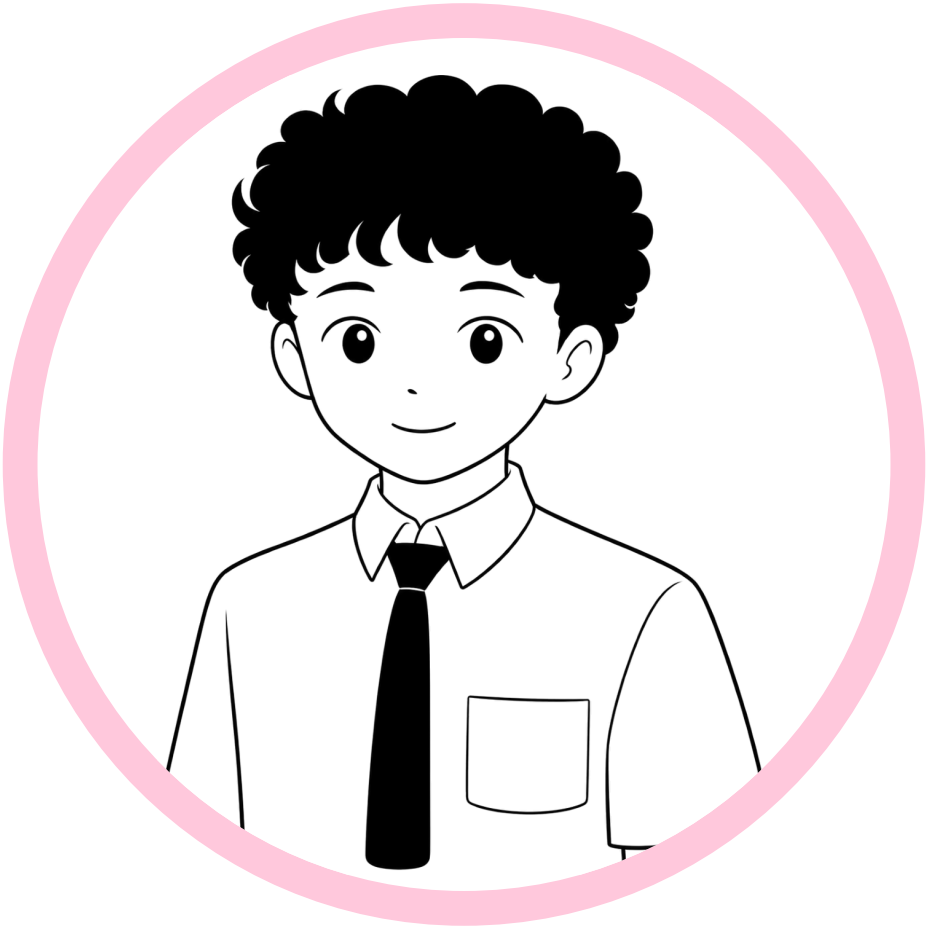
AQA A-LEVEL PSYCHOLOGY · 7182

PSYCHOLOGY



MARK SCHEME

3.1.4 OCD: EXPLANATION AND TREATMENT

SCORE	PERCENTAGE
/86	%

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Q1.

[AO1 = 4]

Level	Mark	Description
2	3-4	There is a clear knowledge of the use of drug(s) in the treatment of OCD with some accurate detail. The answer is generally coherent with effective use of appropriate terminology.
1	1-2	There is limited or partial knowledge of the use of drug(s) in the treatment of OCD with some detail. The answer lacks coherence and use of appropriate terminology.
	0	No relevant content.

Possible content:

- attempt to increase or decrease levels of neurotransmitters or the activity of neurotransmitters in the brain
- general purpose is to decrease anxiety, lower arousal, lower blood pressure or heart rate
- antidepressants – SSRIs – prevent the reuptake of serotonin and prolong its activity in the synapse in order to reduce anxiety / normalise the 'worry circuit'
- tricyclics – block the transporter mechanism that re-absorbs both serotonin and noradrenaline, again prolonging their activity
- anti-anxiety drugs – such as benzodiazepines – enhance the activity of GABA and therefore slow down the CNS causing relaxation
- SNRIs – more recent drugs which also increase levels of serotonin and nor-adrenaline and are tolerated by those for whom SSRIs are not effective.

Credit other relevant material.

[4]

Q2.

[AO1 = 6 AO2 = 2 AO3 = 4]

Level	Marks	Description
4	10 – 12	Knowledge of both neural and genetic explanations is accurate and generally well detailed. Evaluation is effective. The answer is clear and coherent. Specialist terminology is used effectively. Minor detail and/or expansion sometimes lacking. Maximum 10 marks if no reference to the conversation in the stem.
3	7 – 9	Knowledge of neural and/or genetic explanations is evident but there are occasional inaccuracies/omissions. There is some effective evaluation. There may be reference to the conversation. There are occasional inaccuracies. The

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		answer is mostly clear and organised. Specialist terminology is mostly used appropriately.
2	4 – 6	Limited knowledge of a biological explanation is present. Focus is mainly on description. Any evaluation and/or application to the stem is of limited effectiveness. The answer lacks clarity, accuracy and organisation in places. Specialist terminology is used inappropriately on occasions. **OR** knowledge of neural and genetic explanations is answered at Level 3 or 4.
1	1 – 3	Knowledge of a biological explanation is very limited. Evaluation is limited, poorly focused or absent. There may be some attempt at application to the stem. The answer as a whole lacks clarity, has many inaccuracies and is poorly organised. Specialist terminology is either absent or inappropriately used. **OR** knowledge of a biological explanation is answered at Level 2.
	0	No relevant content.

Possible content:

Neural explanations include

- Low levels of neurotransmitters eg serotonin.
- Serotonin may be removed too quickly before it has transmitted its signal.
- The basal ganglia system and others has been implicated - communication within these areas is disturbed and might account for the repetitive behaviours seen in OCD.

Genetic explanations include

- Specific gene markers eg gene 9, COMT gene, SERT gene.
- Looking for gene markers that might have been inherited – such as gene 9.
- Family studies indicate a higher percentage of first degree relatives have this disorder, 10% compared to a prevalence rate of 2%.

Credit description of evidence for neural/genetic explanations.

Possible application

- Melanie suggests that David might have inherited OCD because his mother displays similar behaviours and may have passed on a genetic marker to him as a first degree relative – a genetic cause.
- Emma suggests that David could have OCD due to a biological factor which would be in his brain – a neural cause.

Possible evaluation points

- The findings from neural explanations are problematic as drugs used to affect serotonin such as SSRIs may decrease the symptom but that does not mean that an imbalance of serotonin was he cause in the first place.
- Improvement rates from use of drugs are only at 50% so there must be other causes.
- There is a time delay in which drugs affect levels of serotonin within hours /

immediately but the effect on OCD may take up to weeks.

- Some research into brain structure has suggested the involvement of structural abnormalities such as dysfunction in the neuronal loop/lower grey matter density in people with OCD.
- Neurophysiological factors are not consistent with specific areas/circuits in the brain being implicated.
- Sometimes evidence relates only to one aspect of the disorder – the compulsions rather than the obsessions.
- Findings from family studies could be explained by shared environments as well as shared genes by SLT.
- Credit use of evidence in evaluation.

Credit other relevant information.

Q3.

(a) **[AO1 = 2]**

2 marks for a clear and coherent answer emphasising internal vs external distinction: obsessions are internal components because they are thoughts, and compulsions are external components because they are behaviours.

1 mark for a muddled or vague answer in which the distinction is suggested but is unclear or incomplete.

OR

1 mark for straightforward definition of **each** component (obsessions are intrusive thoughts, compulsions are repetitive behaviours / acts).

(b) **[AO2 = 4]**

Level	Marks	Description
2	3 – 4	Research findings are clearly explained in terms of both genetic and alternative explanation(s) and are mostly accurate. The answer is generally coherent with effective use of terminology.
1	1 – 2	Research findings are explained with some link to genetic and / or alternative explanation(s). The answer lacks accuracy and detail. Use of terminology is either absent or inappropriate.
	0	No relevant content.

Content:

- results indicate development of OCD is at least partly genetic
- the findings suggest that heritability is high (between 45% and 65%)
- this means that there must also be other explanations (inherited influence is not 100%)
- so other factors (eg environment or other bio factors) may also partly account for OCD.

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Q4.

[AO2 = 2]

1 mark for outline of a cognitive characteristic of OCD from the stem: hypervigilance – 'looking out for people who are ill'; catastrophic thinking – 'I might catch it and die'.

Plus

1 mark for outline of a behavioural characteristic of OCD from the stem: repetitive cleaning – 'I have to clean myself'.

Q5.

[AO1 = 2 AO2 = 2]

Level	Marks	Description
2	3 – 4	Outline of characteristics of OCD is clear. Application to the stem is clear. The answer is generally coherent with effective use of terminology.
1	1 – 2	There is limited / partial explanation of the characteristics of OCD and application to the stem. Explanation of OCD characteristics is clear but the application is missing or inaccurate OR application is clear but the explanation is missing or inaccurate. The answer lacks accuracy and detail. Use of terminology is either absent or inappropriate.
	0	No relevant content.

Possible content:

- A cognitive characteristic would be an irrational belief or persistent recurring thoughts – catastrophic thinking such as: 'my family is in danger and might get trapped in a house fire'.
- An emotional characteristic would be feeling anxiety or the reduction of anxiety such as: 'worry about them' or 'feeling calm after making sure a fire cannot start'.
- A behavioural characteristic would be performing a repetitive action such as: switching plug sockets six times.

Credit for two characteristics of OCD, if student offers three, credit the best two.

Q6.

[AO1 = 3 AO3 = 1]

Level	Marks	Description
2	3 – 4	There is a clear and detailed description of a relevant drug therapy for OCD. A relevant limitation is clearly identified. The answer is generally coherent with effective use of

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		appropriate terminology.
1	1 – 2	Description of a relevant drug therapy for OCD is partial/limited. The limitation is vague, inappropriate or absent. The answer lacks coherence and use of appropriate terminology.
	0	No relevant content.

Possible content:

- use of SSRIs eg fluoxetine
- acts to inhibit the re-uptake or re-absorption of serotonin in the brain
- enabling the serotonin to remain active at the synapse
- where it continues to stimulate the post-synaptic neuron

Credit other relevant drug therapies eg SNRIs acting on noradrenalin reuptake.

Possible limitations:

- side effects
- patient as a passive recipient of treatment
- dependency
- comparison with alternative treatments

Credit other relevant limitations.

Q7.

[AO1 = 2 AO3 = 4]

Level	Marks	Description
3	5 – 6	Outline of one biological explanation for OCD is clear and accurate. Discussion is thorough and effective. The answer is clear and coherent. Specialist terminology is used effectively.
2	3 – 4	Outline of one biological explanation for OCD is present though there may be some inaccuracy/lack of clarity. Discussion is present but may lack detail. There is some appropriate use of specialist terminology.
1	1 – 2	Outline of one biological explanation for OCD may be brief with little elaboration or clear but there is no discussion present. Attempted discussion may be partial or inappropriate. The answer may include inaccuracies and be poorly organised. Specialist terminology is either absent or inappropriately used.

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	0	No relevant content.

AO1 Possible content:

- Genetic influence – inherited predisposition/vulnerability; based on concordance rates within family/twin studies
- Biochemical causes eg low levels of serotonin in the brain; linked to obsessive thoughts
- Neurophysiological causes eg hyperactivity of basal ganglia; linked to repetitive motor functions

Accept other valid explanations.

AO3 Possible discussion

- Use of evidence to support/contradict explanations
- Confounding influence of environment in genetic explanation
- Effectiveness of drug treatment eg SSRIs
- Not effective for all patients
- Issues of generalisation/replication
- Broader issues: determinism; reductionism

Accept other valid discussion points.

Do not accept methodological evaluation of evidence unless used explicitly to discuss the explanation.

Q8.

Marks for this question: AO1 = 6, AO3 = 10

Level	Marks	Description
4	13 – 16	Knowledge is accurate and generally well detailed. Discussion / evaluation / application is thorough and effective. The answer is clear, coherent and focused. Specialist terminology is used effectively. Minor detail and / or expansion of argument sometimes lacking.
3	9 – 12	Knowledge is evident. There are occasional inaccuracies. Discussion / evaluation / application is apparent and mostly effective. The answer is mostly clear and organised. Specialist terminology is mostly used effectively. Lacks focus in places.
2	5 – 8	Some knowledge is present. Focus is mainly on description. Any discussion / evaluation / application is only partly effective. The answer lacks clarity, accuracy and organisation in places. Specialist terminology is used

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		inappropriately on occasions.
1	1 – 4	Knowledge is limited. Discussion / evaluation / application is limited, poorly focused or absent. The answer as a whole lacks clarity, has many inaccuracies and is poorly organised. Specialist terminology either absent or inappropriately used.
	0	No relevant content.

Please note that although the content for this mark scheme remains the same, on most mark schemes for the new AQA Specification (Sept 2015 onwards) content appears as a bulleted list

AO1

The main biological explanations for OCD are as follows:

- genetics – there is some evidence of a tendency to inherit OCD, with a gene (Sapap3) recently identified
- neuroanatomy – dysfunctions of the orbital frontal cortex (OFC) over-activity in basal ganglia and caudate-nucleus thalamus have been proposed

Also accept:

- biochemistry – serotonin deficiency has been implicated
- evolutionary – adaptive advantages of hoarding, grooming, etc.

AO3

Evaluation will depend on the explanation offered, but is likely to include supporting / refuting evidence.

- genetics – relatives of sufferers are around 9 times more likely to be diagnosed (Arbor 2006), with a CR of between 65% and 80% MZ twins (Rasmussen 1986, Carey and Gottesman), sample sizes in twin studies, difficulty separating genetic and environmental influences
- Difficulty establishing cause and effect
- Possibility of multiple factors
- neuroanatomy – some support for claims, eg Rauch et al 1994, PET scans show over activity in basal ganglia, co-morbidity with Tourette's which is also linked to basal ganglia (Rapoport 1990).
- biochemistry – SSRI's are only effective for about 50% of sufferers

Q9.

Marks for this question: AO1 = 6, AO3 = 6

Level	Marks	Description
4	10 – 12	Knowledge is accurate and generally well detailed. Discussion / evaluation / application is effective. The answer is clear, coherent. Specialist terminology is used effectively. Minor detail and / or expansion of argument sometimes lacking.

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3	7 – 9	Knowledge is evident. There are occasional inaccuracies. There is some effective discussion / evaluation / application. The answer is mostly clear and organised. Specialist terminology is mostly used appropriately.
2	4 – 6	Knowledge is present. Focus is mainly on description. Focus is mainly on description. Any discussion / evaluation / application is of limited effectiveness. The answer lacks clarity, accuracy and organisation in places. Specialist terminology is used inappropriately on occasions.
1	1 – 3	Knowledge is limited. Discussion / evaluation / application is limited, poorly focused or absent. The answer as a whole lacks clarity, has many inaccuracies and is poorly organised. Specialist terminology is either absent or inappropriately used.
	0	No relevant content.

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- biochemistry – SSRI's are only effective for about 50% of sufferers

Q10.

Marks for this question: AO1 = 6, AO3 = 10

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Level	Marks	Description
4	13 – 16	Knowledge is accurate and generally well detailed. Evidence is clear. Discussion / evaluation / application is thorough and effective. The answer is clear, coherent and focused. Specialist terminology is used effectively. Minor detail and / or expansion of argument sometimes lacking.
3	9 – 12	Knowledge is evident. There are occasional inaccuracies. Evidence is presented. Discussion / evaluation / application is apparent and mostly effective. The answer is mostly clear and organised. Specialist terminology is mostly used effectively. Lacks focus in places.
2	5 – 8	Some knowledge is present. Focus is mainly on description. Any discussion / evaluation / application is only partly effective. The answer lacks clarity, accuracy and organisation in places. Specialist terminology is used inappropriately on occasions.
1	1 – 4	Knowledge is limited. Discussion / evaluation / application is limited, poorly focused or absent. The answer as a whole lacks clarity, has many inaccuracies and is poorly organised. Specialist terminology either absent or inappropriately used.
	0	No relevant content.

Please note that although the content for this mark scheme remains the same, on most mark schemes for the new AQA Specification (Sept 2015 onwards) content appears as a bulleted list.

AO1

Marks for description of biological explanations of OCD. Credit can be awarded for any or all of the following explanations:
Genetic explanation - some people are predisposed to develop the disorder as a result of inherited familial influence.
Biochemical explanation – low levels of serotonin associated with anxiety; high levels of dopamine linked to compulsive behaviour / stereotypical movements.
Physiological explanation - basal ganglia in the brain responsible for psychomotor functions, hypersensitivity of the basal ganglia may result in repetitive movements; linked to abnormality / excessive activity in the orbital frontal cortex.
Limited credit for simply naming / listing explanations.
Likely studies: McKeown and Murray (1987), Bellodi et al. (2001), Pauls et al. (1995), Rapoport and Wise (1988), Aylward et al. (1996).

AO3

Marks for discussion of biological explanations of OCD. Likely points include: the effectiveness of biological / drug therapies and how this supports the (biochemical) explanation eg anti-depressants that increase serotonin levels reduce OCD symptoms in many patients; problem that not all sufferers respond to drug treatment; issue of causation; treatment fallacy; contradictory evidence in brain scan studies; alternative explanations for findings from family / twin studies such as shared environments; brain structural accounts tend to explain repetitive behaviour

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but not obsessional thoughts. Credit discussion of broader issues such as reductionism, determinism and reasoned comparison with alternative explanations e.g. cognitive. Only credit evaluation of the methodology used in studies when made relevant to discussion of the explanation.
Credit use of evidence.

Q11.

Please note that the AOs for the new AQA Specification (Sept 2015 onwards) have changed. Under the new Specification the following system of AOs applies:

- AO1 knowledge and understanding
- AO2 application (of psychological knowledge)
- AO3 evaluation, analysis, interpretation.

Although the essential content for this mark scheme remains the same, mark schemes for the new AQA Specification (Sept 2015 onwards) take a different format as follows:

- A single set of numbered levels (formerly bands) to cover all skills
- Content appears as a bulleted list
- No IDA expectation in A Level essays, however, credit for references to issues, debates and approaches where relevant.

AO3 = 4

- The two averages are very similar, suggesting that both therapies are as good as each other.

- The range of each group is very different. This suggests that for some people Therapy A was very beneficial, but for others it had little benefit. For Therapy B, there was a much smaller range, suggesting that it has a similar effect on improvement for all the patients.

4 marks Effective interpretation of data Effective interpretation that demonstrates sound knowledge of what the data shows, with reference to both the average and the range.
3 marks Reasonable interpretation of data Reasonable interpretation of what the data shows; or effective interpretation of either the average or the range.
2 marks Basic interpretation of data Basic interpretation of what the data shows.
1 mark Rudimentary interpretation of data Rudimentary, muddled interpretation of the data, demonstrating very limited knowledge. Or reference to, for example, larger range/higher average/similar range.
0 marks No creditworthy material.

Q1.

There were excellent responses from some students who provided clear and detailed knowledge of the use of drugs in the treatment of OCD. A variety of different drugs was seen in student responses with SSRIs being the most common and the focus varied from the biological action of the drug to the impact it had on the symptoms of OCD. There were many possible accurate responses to this question and students could choose to outline one drug in detail or more than one in less detail. Most students demonstrated some knowledge of the use of drugs to treat OCD and thus most gained some marks but some responses lacked detail and there was some confusion and / or muddling in others.

Q2.

There were some exceptionally good answers to this question as well as some examples of extended writing that achieved very low marks. Quite a few students related Emma's response to 'thinking' rather than biology – presumably linking thoughts to the information given, ie, 'something in their brains'. The question clearly asked for neural and genetic explanations, so such material was not relevant. A number of responses failed to mention the stem, which was unfortunate as the application marks were then lost although others related Melanie’s response to both genetic causes and also to the possibility of the behaviour described as being acquired through observation. The most common error was for muddle in the description of catechol-o-methyl transferase (COMT) and serotonin transporter (SERT) genes and when serotonin or dopamine might be increased or decreased. Attempts at evaluation were sometimes limited as they related to perceived general issues with biological explanations rather than those specific to neural and genetic explanations.

Q8.

This option was attempted by around 5% of students.

This question required an outline and evaluation of one biological explanation for OCD. The most popular responses focused on the Orbital Frontal Cortex (OFC) (worry circuit), or the role played by biochemistry in OCD. Successful students provided impressive detail which was often in excess of the 4 AO1 marks available. Some students were able to make use of recent research that has identified specific genes as well as basal ganglia activity demonstrating that some teachers have an impressive knowledge of this engaging topic.

Q9.

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Q10.

Most answers discussed two or three explanations. In some, key details, such as the 'levels of serotonin' linked to OCD, were inaccurate. Some answers began to write about Selective Seratonin Reuptake Inhibitors (SSRI) as a treatment for OCD and the support for the 'serotonin' explanation, but got 'side-tracked' into describing different treatments rather than focusing back on the biological explanation. Discussions of the basal ganglia were often well done, but there was occasional confusion between the 'hyperactivity' associated with this brain region, and the cognitive notion of 'hypervigilance'.

Q11.

It was encouraging to see that this cohort of candidates was able to go beyond simply describing the findings. They were able to make suggestions about what they showed. For example, that both therapies showed some improvement, as there were no scores of zero; that in fact neither showed much improvement as the average was only 6.

However, it was also clear from the responses that a minority of candidates had no real understanding of what range tells us about data.