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Examiners' Report

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GCE General Studies 6GS03 01

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Introduction

The themes of the paper - Section A on global warming/climate change, Section B on nature and nurture issues in relation to crime, were reasonably accessible. About 2 out of 5 candidates chose Q12, the Winston Churchill quote, and 3 out of 5 Q13 on the census. The difference is largely due to the fact that this is census year and many candidates appear to have been involved in its completion. Q12 provided the more interesting and speculative answers, possibly because the ground that could be covered was very extensive - war and peace, scientific progress, human nature and desires.

The questions were comparable in demand to previous years, and candidates are attracting more AO3 marks in the essay questions. There is still a need to make candidates more familiar with, and confident in using terms related to argument and evidence. Correlation was a statistical term that many candidates had heard of, but were not totally familiar with its meaning and significance. The differences between it and causality are extremely important to know in daily life debates on social and medical issues. The paper did not demand an explicit expression or use of forms of argument such as deduction and induction, but candidates should be advised to use these terms in relation to their own arguments. In particular they should be confident of recognising arguments from authority when they use them - and recognising their deficiencies.

Throughout the paper quality of communication (AO4) marks were generally achieved even in answers where the content did not attract good AO1/AO2/AO3 marks. However, AO4 was as variable as ever and some scripts were extremely hard to read due to style of writing (tiny, squashed, little height differentiation etc.). Although not marking the writing as such, it is hard to allocate marks when the difficulty of reading the script breaks up the flow of what has been written. More serious, the quality of paragraphing, spelling and grammar is sometimes difficult to reconcile with candidates of a good A level standard. Such problems would not be solved by the use of laptops and word processors, as some presume, although the text would at least be legible.

A small minority of scripts were marred by facetious or scurrilous comments. Our impression is that these are reducing year on year, but it is always saddening to read comments by students who insist they had no desire to enter this examination, but who were "forced" to do so by their centre.

Question 1

A relatively straightforward question, which was answered well by most candidates. Many recognised that some newspapers willingly sensationalised issues in order to sell more copies. Less common was an understanding that different newspapers have different aims in writing about climate change and global warming - scepticism about scientific claims is a feature of some. Some candidates need to read the question carefully as a few gave a worthy exposition on the debate over climate change, but did not actually answer the question.

An example of a good response to the question. This is an explanation, and develops an argument. The mark scheme only credits specific points, however, rather than development of the argument.

1 Explain why some newspapers seem keen to link extreme weather events to climate change.

It is claimed that news headlines 'vie for attention', so making "apocalyptic predictions" will sell more newspapers, as it is more interesting & dramatic. Newspapers make more money from public hysteria.

It also means people are more likely to pay attention to climate change developments. It is therefore in the interests of the environment for people to see reasons - e.g. extreme weather - to change the way they treat the environment for the better.

(Total for Question 1 = 3 marks)



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Examiner Comments

This gained full marks - namely: grabbing the attention of the public; financial benefit to paper; raising awareness of the public to an important issue.

- 1 Explain why some newspapers seem keen to link extreme weather events to climate change.

Extreme weather has always occur ~~or~~ occurred throughout history but there appears to be a link between climate change as a result of global warming with more frequent ~~o~~ and more disastrous weather extremes.



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Examiner Comments

This is an example of not reading the question - and not even giving a very clear description of the issue.

Question 2

A majority of candidates could mention "experimenting" or hypothesising, but not many gave a clear development of the meaning of the "scientific research". The question did not refer to the source, so that candidates were free to introduce any examples they liked, but a small number felt they had to describe details of Cook's activities in recording the weather, or summarise points about climate change. The mark scheme allowed credit if the answer described an outline of the scientific method, as well as a more generic description of social aspects of scientific research.

An answer that was awarded two marks - one for mentioning peer review, and a more generous mark on collecting and checking data.

2 What are the general features of scientific research?

Scientific research has many key features. These features depend highly on the subject being researched. In scientific research there will almost always be some data recorded, that is checked with previous research, then could be subject to a peer review. This is to ensure the results are reliable and the method high in validity.

(Total for Question 2 = 4 marks)



ResultsPlus Examiner Comments

The candidate's answer reveals a hazy notion of the nature of science, and might have gained an extra mark by mentioning experimenting and hypothesising.



ResultsPlus Examiner Tip

Analyse the question - it is about "science" and "research". Research is a common enough concept, and ways and methods of science should be familiar GCSE territory.

This is an example of a credit worthy answer that describes scientific methodology.

2 What are the general features of scientific research?

A hypothesis or thesis which bases an initial start to what should be researched.

Data collection - finding evidence either longer or short term that supports the thesis.

Evaluation of data - using the data to show a correlation ^{between} ~~mark~~ ideas that help prove the hypothesis.

Conclusion - does the evidence provided and the evaluations made prove the hypothesis.

(Total for Question 2 = 4 marks)



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Examiner Comments

3rd, 4th, 5th and 6th marking points on the mark scheme. The 5th marking point is met because the answer refers to ideas that help prove the hypothesis although 'proof' is not quite the right term, it should actually be 'support'.

An answer that clutches at information provided in the two sources, and appears to have completely misunderstood the question.

2 What are the general features of scientific research?

Features of scientific research on this subject include the loss of sea ice in ~~Antarctica~~ Antarctica could be due to natural fluctuations, not human activity. Also 'not all extreme meteorological events arise when natural variations in the weather and climate combine with long term changes' other features include the MET office showing a detectable difference in human impact in long-term decline of sea ice.

(Total for Question 2 = 4 marks)



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Examiner Comments

No marks awarded.

Question 3

The point of this question was to encourage candidates to be critical of the weight that the project leader was putting on the evidence. How secure is the link between the weather observations and the volcanic eruption? What is meant by the use of the word "prove"? As expected many candidates commented that you needed more than one instance of an eruption and the ensuing weather events to be confident about the effect that eruptions have on the weather. A significant number noted that, although the quality of the observations was said by the project leader to be good, instrumentation must have improved subsequently, and one cannot be totally confident of observations made at sea in difficult situations.

A small minority of answers misunderstood the question trying to speculate on explanations of weather events other than by eruptions, although this did gain one marking point. Some even went as far as thinking that the weather could affect or cause volcanic eruptions.

- 3 In Source 1, the project leader said, "...the weather logs helped to prove the effect on the climate of volcanic eruptions". How might another scientist challenge this claim?

This claim may be challenged as this is only one example given (Mount Tambora) so has not been proven to be the case again, especially as the Icelandic volcano erupted violently last year and we have still had high temperatures since then. There is also no identified direct link so it may be coincidental rather than a direct cause.

(Total for Question 3 = 3 marks)



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Examiner Comments

This is a simple but effective answer, making three valid points.

3 In Source 1, the project leader said, "...the weather logs helped to prove the effect on the climate of volcanic eruptions". How might another scientist challenge this claim?

Another scientist may challenge this idea by creating a new paradigm, if accepted then his new idea will become accepted. A scientist could challenge this claim by conducting an experiment today, there are many active volcanoes, and, whilst one is erupting they could log weather and see if the volcano has any effect. In order to strengthen his challenge the scientist would have to conduct an many volcanoes, from around the world.

(Total for Question 3 = 3 marks)



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Examiner Comments

This answer conveys a valid idea - a challenge could be made by devising further experiments, or rather observations, in the wake of other volcanic eruptions. As such it gains 2 marks.

Question 4

Although this question asks for explanation, many candidates responded by selecting phrases from the source. This was acceptable if the answer made it clear that the historical observations were of sufficient quality, and comparable to modern day measurements. Those who interpreted the question in the way intended often made the point that historic observations made over the oceans provided early evidence from a large part of the globe, and which are therefore useful for comparison with the present day.

4 Using Source 1, explain why historical weather observations from ships at sea are particularly useful to climatologists.

The majority of the earth's surface is covered by sea and therefore the climate at sea will have had a large impact on the overall global climate.

Climates of land areas are known but as these cover little of the earth's surface they don't give an overall global picture, however the oceans can do this.

(Total for Question 4 = 2 marks)



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Examiner Comments

This answer is worthy of one mark, as it comments on the fact that the weather over the oceans must have a large effect on continental weather since the oceans are relatively so large. The second paragraph restates the same point.



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Examiner Tip

Check that you are not being repetitive. Saying the same thing twice is unlikely to gain you extra marks.

4 Using Source 1, explain why historical weather observations from ships at sea are particularly useful to climatologists.

Historical weather observations are particularly useful because they were done in standardised replicable conditions - 'at noon each day' and 'in the shade of an unheated cabin'. This means that they can be compared against modern readings in similar conditions for comparison.

(Total for Question 4 = 2 marks)



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Examiner Comments

This answer qualifies for two marks - the records were made under such replicable standard conditions that they can be compared, and used, alongside modern records.

Question 5

Very few answers gained full marks on this question, but it discriminated well between the higher- and lower-scoring candidates. Most candidates were able to select relevant evidence from the source and comment on the use made of it by newspapers. Although the sensational nature of press reporting attracted comment, and the "natural fluctuations" in summer sea ice were picked up, candidates did not often refer to the more substantial data provided by the Met Office, and the significance of that. That some candidates did not fully understand the question was shown by the amount of repetition and quoting, giving the impression they were floundering a bit. Candidates probably need more help/instruction on words like "misleading", in relation to evidence.

5 How well does the evidence in Source 2 justify the description of climate change claims as "misleading"?

Although the article makes this claim, it bases its evidence around assumptions and predictions rather than solid evidence; 'could easily be due to natural fluctuations', here the word 'could' is showing an uncertainty and just a general assumption.

In relation to it being misleading in other ways, a stronger point it makes is 'making apocalyptic predictions' which it says then distorts the public's views on things. This is true as there are so many people out there that have been led to believe the end of the world is nigh, therefore adding to the build up increases the idea that it is in fact misleading.

(Total for Question 5 = 4 marks)



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Examiner Comments

An answer worthy of three marks. The candidate has picked up on the fact that some of the evidence is flawed by assumptions and has not been verified. The weasel word "could" has been spotted, as has the uncertainty over the fluctuating summer sea ice. It comments on bias by referring to "apocalyptic predictions".

5 How well does the evidence in Source 2 justify the description of climate change claims as "misleading"?

The climate change claims do be misleading by the argument that there is not enough evidence and that the record-breaking losses in the past couple of years could be easily be due to natural fluctuations in the weather, with summer sea^{ice} increasing again over the next few years.



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Examiner Comments

Only one mark for this answer - by referring to the uncertainty over the sea ice.

Question 6

The question demands a short essay on the evidence that the climate is changing "inevitably" in the long term, from the two sources. Candidates should have focussed on the word "inevitable" and developed an answer around it. Marks are awarded on three objectives in this question - briefly, AO2 (making an argument, 4 marks), AO3 (understanding types of knowledge, 6 marks) and AO4 (quality of communication, 4 marks). Candidates generally made a reasonable attempt at producing an argument, and gained 3 or 4 marks for that, but did not often achieve a high mark for AO3. Higher grade candidate achieved a total of 8-12, whereas lower scoring candidates achieved 4-9.

Teachers still need to emphasise to students that they have to be able to comment on the quality of evidence - whether it is weak/ strong/ assertion/ fact/ opinion/ biased or unbiased. Since it may be that candidates cannot see clearly how to make these judgements, teaching should find ways to make them confidently and explicitly.

6 How far do the arguments and evidence used in Sources 1 and 2 support the idea that large-scale long-term climate change is inevitable?

Source 1 does not use evidence to support idea of large scale long term climate change, it is using weather patterns observed in the past to check for fluctuations & natural variation. If the findings show that the climate was not varying naturally in 18th and 19th Century the scientists can try to prove that changes occurring now are not natural and anthropogenic. However if the overall results show that climate fluctuated as a result of things such a natural events, eruption of Mount Tambora 1815 and a simple natural variation of the planet then claims by some scientists that climate change is not influenced by ~~the~~ human activity can be backed up with evidence.

Source 2 disagrees with the idea of inevitable long term climate change on a global scale. It makes the case that the general public are influenced into extreme beliefs on climate change by exaggerated news headlines which are generated to make a profit and increase viewing numbers. Source 2 also makes the point that peoples opinions can be set when authority figures back the exaggerated claims so they are in the public eye also findings from investigations can be manipulated and majority contrasting figures disregarded to help prove a point. "Met Office do show that there is detectable human impact in long-term decline in sea ice over the past 30 years" An example of selective evidence to support a cause. The claims that a tipping point has

been reached, tipping point is when the effects as a result of human activity cannot be altered, no matter what changes are made. Once this point is reached there is no return to previous climate. Source 2 disagrees with this point by indicating to the lack of evidence to prove this.

Both Source 1 & 2 in my opinion do not agree with the idea of long term large scale climate change but that natural variation & other factors have a large part to play.

(Total for Question 6 = 14 marks)

includes 4 marks for Quality of Written Communication

TOTAL FOR SECTION A = 30 MARKS



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Examiner Comments

This is a good answer (a total of 12 marks). It considers the quality and thrust of both sources separately. The nature of source 1 - a historical analysis of data related to a single environmental event is clearly drawn out and it is concluded that this has no bearing on climate change being inevitable. Source 2 is likewise analysed and the shakiness of its conclusions perceived. The answer gains 4 AO2 marks, 4 of the AO3 marking points, and 4 quality of communication marks, a total of 12.

6 How far do the arguments and evidence used in Sources 1 and 2 support the idea that large-scale long-term climate change is inevitable?

The arguments in Source 1 and 2 show some evidence that climate change is inevitable, Source 1 with its detective style and Source 2 which offers a rational approach, saying climate change may be natural.

In Source 1, the writer claims that Captain Cook's weather reports can be used to help predict climate change, he said in 1815 "Several Captains" observed a decline in temperature, this however was linked to a volcano eruption, this does not point towards climate change being inevitable as it holds no link to modern temperatures in the article, just statistics about the past.

In ~~an~~ ^{source} article 2 however, climate change could be seen as inevitable, but it is a neutral occurrence, with rational neutral explanations, but journalists

distort information to grab attention.

Both articles hold some evidence that climate change is inevitable, Source 1 gives information but no real link and Source 2 shows a clear link to explain why climate change may be coming.



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Examiner Comments

This is a weak answer - there is little quality of argument, as the candidate selects a few phrases from both sources without making much comment on them. The first paragraph is flawed by trying to describe argument types/styles without a sense of comprehension. The piece gains 2 marks for AO2 and 1 mark for AO3, and 2 only for quality of communication.

Question 7 (a)

This question asked for a straightforward identification of the two research studies in the source. It was important, however that the candidate identified each study unambiguously. A large majority of higher scoring candidates were able to do so. Lower scoring candidates, however, were much less successful and a majority of those was only able to score 0 or 1.

7 (a) Give **two** studies referred to by the writer that have misled us on our understanding of the reasons for criminal behaviour.

(2)

1. A study of 200 men in a secure psychiatric hospital in which they found 7 with the extra Y chromosome.
2. research has shown XYY carriers have poorer IQ and come from poorer backgrounds they are more likely to be caught.



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Examiners Comments

This answer has only unequivocally identified the psychiatric hospital study in the first response. The second answer is undefined and also has an incorrect understanding of the research.

7 (a) Give **two** studies referred to by the writer that have misled us on our understanding of the reasons for criminal behaviour.

(2)

1. The study of 200 men in a secure psychiatric hospital
2. Study of prisoners in the US claiming to show a correlation between the extra Y and criminal behaviour.



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Examiner Tip

This answer clearly identifies the two studies.

Question 7 (b)

This was a much more demanding part of the question. Most candidates had some idea about a "moral issue", to do with right and wrong, making the commonest marking point that for considering punishment for something over which an individual might have no control as unjust. A large number of answers made this point, fewer went on to consider what in fact society might do about it if this were the case. Common faults in answers were repetition of the same issue, and wandering away from the moral aspect. It was rare for answers to gain full marks (4). Three quarters of higher scoring candidates gained 2, 3 or 4 marks, whereas half of lower-scoring candidates achieved one or two marks.

(b) How far might such studies provide a moral basis for dealing with violent criminals in the future?

(4)

People may argue that if people have an extra Y chromosome and criminal, it isn't their fault, therefore should they be punished for their genes. However their criminal behaviour may be down to their low IQ, meaning they used to mess around at school and form anti-school subcultures. If this is the case they should be punished as other people who are criminals and have a low IQ are punished.

(Total for Question 7 = 6 marks)



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Examiner Comments

This answer gains the single mark for the issue over punishing people for actions over which they may have no control. The second half of the answer dwells on an alternative scenario but in a confusing way. The answer teeters on a second mark, but doesn't quite make it.

(b) How far might such studies provide a moral basis for dealing with violent criminals in the future?

(4)

I feel that no corrective measures can be derived from a genetic cause of criminality. It is highly reductionist to state that criminal behaviour is a direct result of a person's genetics. Are we to forget a person's environment and their own free will? However if we were to identify these individuals with an extra Y chromosome at an early stage, i.e. childhood, it may be possible to educate this individual and provide them with therapy as a means of preventing any criminal behaviour.

(Total for Question 7 = 6 marks)



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This represents a humane and perceptive view of the situation, worthy of three marks. The correct identification of a reductionist view gains credit, and the moral dilemma raised in labelling is a good point.

Question 8

Many good answers about the nature of correlation were produced. The idea of a link, positive or negative, seems to be well covered. However rather too many candidates said that this indicated that one variable was the cause of another and therefore deprived themselves of a mark. This important feature of statistics is one that is worth dealing in depth with in the course, because it results in much mistaken thinking about human issues and problems.

8 Using Source 3, explain the meaning of the term "correlation".

A correlation is the term which refers to a link between two variables. If there is a certain link or pattern between two variables, which can be established then it is said that the two are correlating with one another. The Y chromosome has been 'correlated' with criminality and violence since males make up the great majority of the prison population. The Y chromosome in this case is seen as the cause for aggression which makes certain individuals more likely to commit a crime. However one variable does not have to cause the other. Other factors may contribute.

(Total for Question 8 = 4 marks)



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Examiner Comments

This answer gains four marks. It mentions the three common marking points - link, between variables, Y-chromosome and criminality - and adds the note about not confusing correlation with causality.

8 Using Source 3, explain the meaning of the term "correlation".

The term correlation means that one thing eg the Y chromosome leads to another eg anti-social behaviour. A good example of a positive correlation is Ice cream sales go up with a temperature increase.



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Examiner Comments

One rather weak mark here. One thing "leads to another" is interpreted as causality and is not worth a mark, but the point about ice cream sales is just about a mark for correlation. Since the example is not from the source it does not gain a mark.

8 Using Source 3, explain the meaning of the term "correlation".

The word "correlation" means a link between, or a trend, which, in Source 3, relates to the behaviour of men with an extra Y chromosome and if they have an extra Y chromosome. It also looks at their IQ and their backgrounds in comparison to their genetic make up and their behaviour.



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Examiner Comments

This is well worthy of two marks. The idea of correlation, linking or relating is described and the example is from the source.

Question 9

This proved to be quite a difficult question for candidates to grapple with. Higher scoring candidates provided better answers on the whole, not surprising because the syntax of the question was complex. Those candidates that discussed this in terms of genetic/ chromosomal difference between men and women tended to score highly but many just gave the rather simplistic response that there were other causes of aggressive behaviour or entered into a nature/nurture discussion. This limited their ability to score more than 1 or 2 marks.

- 9 How would a knowledge of the causes of aggressive behaviour by women help or hinder our understanding of the link between gender and aggression?

If we have knowledge of the causes of aggressive behaviour in women then we can compare this to our knowledge of aggressive behaviour in men. Such comparisons will enable us to determine whether or not the Y chromosome is in fact responsible for the behaviour. It is possible that similar causes are found in both genders and this would reduce the impact of the Y chromosome. This would test the validity of the data also and allow us to make generalisations if we have research which is representative of the population (i.e. both genders).

(Total for Question 9 = 3 marks)



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Examiner Comments

An answer worth 2 marks - trying to work out if the cause of aggressive behaviour is the same in men and women, and can we blame the Y chromosome for aggression in men?

9 How would a knowledge of the causes of aggressive behaviour by women help or hinder our understanding of the link between gender and aggression?

It could help as it may prove that women with an extra chromosome are no more aggressive than women with 2 chromosomes. This would show that it is possibly the Y chromosome which causes increased aggression in males. However if it showed that women with an extra X chromosome were more aggressive than those with 2 it would show the link that it is not the Y chromosome which causes aggression but the extra chromosome which causes the aggression. These findings would not help with a link between gender & aggression.

(Total for Question 9 = 3 marks)



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Examiner Comments

An unusual answer, because it focuses on the possibility of aggressive behaviour arising from the possession of an extra chromosome, X or Y, in either men or women and is worthy of 3 marks.

9 How would a knowledge of the causes of aggressive behaviour by women help or hinder our understanding of the link between gender and aggression?

The causes of aggressive behaviour in women could add greater depth to the understanding of the link between gender and aggression, as it would provide more evidence to the study, as the research into men and aggression cannot be seen as valid until a wider scope of data and evidence has been achieved.

(Total for Question 9 = 3 marks)



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Examiner Comments

This answer shows how apparently sensible prose results in no further understanding. No marks.

Question 10

What appeared to be an easy question was not answered particularly well. It did not differentiate well between higher scoring and lower scoring candidates.

Most answers concentrated on alternative factors such as environment/upbringing and the fact that low IQ prisoners are overrepresented as they are more likely to be caught.

Thorough answers were rare, most focussing on environmental issues or low IQ, whilst discussions of correlation, sample size or distribution amongst the wider population only appeared in a few answers.

10 From the evidence in Source 3, explain why it is not possible to decide if there are genetic causes of criminality.

It is not possible to determine that genes cause criminality, as in the particular study mentioned in the source only 200 criminals were tested and only 7 proved to have an extra chromosome.

Firstly, this is biased; The study was performed on criminals only, maybe testing on 200 members of the public may have found more people with an extra chromosome that had not committed a crime.

Also, only 7 were found with an extra Y, this is less than 4% of the participants which would result as an insignificance anyway which is left unproved that there is any possibility that genetics can cause criminality.

(Total for Question 10 = 4 marks)



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Examiner Comments

Worth 3 marks, this answer covers virtually all the issues over the samples, and what can be reasonably concluded from them.

10 From the evidence in Source 3, explain why it is not possible to decide if there are genetic causes of criminality.

~~It~~ Source 3 shows it is not really possible to ~~show or~~ decide if there is a link between genetic causes of criminality because not enough studies have been carried out. Also we can't link the ~~exact~~ chromosome to being a cause of criminality because people with this are shown to have a lower IQ and from poorer backgrounds so they are more likely to turn to crime.

(Total for Question 10 = 4 marks)



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Examiner Comments

This answer gains a good two marks - for pointing out that not enough studies have been done, and there are other factors than genes involved.

Question 11

Answers to this question seemed to invoke a much more critical analysis by candidates of the quality of the evidence and in particular the presence of fact/opinion and bias/prejudice, perhaps because they found it easier to relate to this particular problem.

This suffered from most of the same deficiencies as Q10 with methodological issues getting scant mention.

AO3 was more accessible than in Q6.

Level 3 for AO2 was common, but gaining extra AO3 marks appeared much harder.

11 The writer claims that scientific studies have misled the public about the causes of criminal behaviour. How far do the evidence and arguments used in Source 3 justify this claim?

This claim is justified because scientific studies have tried to highlight many links to form a correlation between a chromosomal condition and criminal behaviour, however this is unreliable because subsequent research has found flaws to the explanations given by scientists, in IQ scores for example.

Arguments also support this claim because although men make up the great majority of the prison population and therefore commit a higher number of violent crimes, there is still a large number of women committing violent crimes who do not have an extra Y chromosome.

Evidence and arguments in Source 3 may also not justify the claim because ^{positive} correlations have been identified between possession of an extra Y chromosome and crime meaning that crime may be caused or influenced by the Y chromosome, especially as men make up the majority of the prison population. However, as sufferers of the condition tend to have a lower IQ and come from poorer backgrounds it may be argued that the only difference is that they are more likely to be caught.



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Examiner Comments

AO2 is level 3, largely because the argument is not fully developed.
AO3 marking points 1, 2, 4 and 5 from the mark scheme. Marking point 1 is given because the response refers to evidence. Marking point 2 is given because the response comments on the fact that a large number of women commit violent crimes. Marking point 4 is given because the response refers to people from different backgrounds. Marking point 5 is given because of the first paragraph. Marking point 6 is not given because there is no overall assessment of sufficiency.
AO2+AO3=7 marks.
Quality of communication is good - 4 marks.
Total mark is 11.

11 The writer claims that scientific studies have misled the public about the causes of criminal behaviour. How far do the evidence and arguments used in Source 3 justify this claim?

The evidence in source 3 seems weak when dealing with criminal behaviour. In the second paragraph it uses the phrase 'on average' this is a generalisation and offers no statistics to back it up. The studies themselves are very basic, they use a small, specialist sample which are only male, giving no account of female aggression.

Although there are some other factors given which aren't genetic, to show how these studies are misleading, they are given little data to back them up. For example low IQ and a poor background, which are environmental are given as non-genetic factors to show how they link to a XYY structure. However there are no statistics given to compare these environmental traits to criminal activity.



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Examiner Comments

AO2 is level 2, because the argument only deals with the lack of data and poor statistics.

AO3 marking points 1, 2, 4 and 5 from the mark scheme.

AO2+AO3=6 marks.

Quality of communication is only level 2. While broadly understandable, it is difficult to follow in places.

Total mark is 8.

Question 12

The best answers here broke Churchill's assertion down into sections and dealt with these piecemeal, rather than trying to comment on the whole piece in one go.

Good answers here gave a balanced view from both sides of the argument. Often quite lengthy and well written answers only considered one side by agreeing entirely - people should work together then all wars, famine etc. would cease and it would be wonderful, science will continue to make us iPhones and solve global warming. The opposing argument - humans will always war and can't work together, science only makes nuclear weapons to kill people and enable us to pollute the planet - often appeared in other answers.

Many interesting points were made:

Humans are competitive by nature and greed will always cause friction. Wars are inevitable.

Competition in science is healthy as it speeds up progress (the race to the moon given as a good example of a massive movement forward in technology, with all the spin offs.) Wars are one of the major ways in which science has progressed through the ages. However weapons technology is a big failure of science.

Some good answers discussed the ways in which science has failed us, global warming being the major example. Science cannot solve all of the problems and often creates more problems than it solves. Too much technology makes humans lazy were an excellent and intelligent comment. Money spent on weapons would solve all famine problems, if nations could work together.

A very good answer discussed the context of Churchill's speech, just coming off a world war, where he was encouraging nations to work together at that time in history and giving hope for the future. More cynical responses criticised Churchill as a wealthy capitalist, only interested in business, and acquiring political standing in times of hostility.

Winston Churchill also once stated 'the further backwards you can look, the further forwards you can see'; looking back to Churchill's most famous period of the Second World War led to one of the most prosperous periods in human history with some of the greatest periods of scientific development since the dawn of mankind.

Whilst the development of nuclear weapons is, arguably, a negative thing it should be pointed out that over 10% of the world's power comes from nuclear reactors and whilst this is often met with problems such as the Chernobyl disaster and the recent Japan incident, in all probability nuclear power will be a necessary fuel source as alternate methods such as solar are ~~not~~ being perfected as fossil fuels are ~~not~~ depleted over the next 100 years.

On the other hand, most of the scientific endeavour in human history has been for the purpose of peace, many would point out that whilst the military applications of development are often the primary goal the long term vision is to create peace. Indeed many of the modern branches of science are focused on humanitarian issues such as medicine and vaccination, better than war.

Also, whilst throughout human history there has never been a state of global peace as the majority of the human race desired periods such as the ~~Italian~~ Renaissance saw a primary peaceful society develop under the banner of creative and scientific development and whilst there was conflict ~~it was not~~ on even a regional scale.

But, others would point out that human conflicts

Now become more and more violent as scientific developments have brought more and more powerful weapons, in medieval England one fable story told of a battle between two armies in which the only casualties were the leaders, demonstrating that the ~~era~~ ^{era} was peaceful for most due to the limited means of leaders - which make up a small proportion of a population. ~~But~~ However, in the 20th century the perception of war and how humanity can remain peaceful has altered significantly, the Kubrick film 'Dr Strangelove' or how I stopped worrying and loved the bomb' demonstrated how the general public now feels that global leaders can wipe out the most of humanity by accident - whilst both of these narratives are ~~works~~ ^{works} of fiction it is clear that as technology has developed the perception is that people are more fearful now than ever.

On the other hand, many would point out that technology has doubled the average lifespan and that many of the current generation may live to 120 which in the past would have been borderline impossible. This is due to the fact that there has been global co-operation in the development of vaccinations such as the Tuberculosis vaccination which stopped almost completely the on of the most deadly diseases of a generation.

Furthermore, Dietrich Bonhoeffer German Protestant Theologist and anti-Nazi activist once said 'the test of a morality of a society is what it does for its children' the development of new technologies has allowed child labour to be

greatly reduced over the past 100 years and as new technologies are developed it may be introduced globally, this has only been possible because science has been allowed to develop without the constraints of conflict.

I would conclude that Churchill, whilst perhaps a little over-enthusiastic in how technology has developed - despite the fact that he was present as war caused scientific advancement, was correct in saying that science has always been leading to a more prosperous society; and that being ^{peaceful} and helpful will encourage scientific development towards a utopian society rather than one with ~~the~~ simply more and more powerful weapons, and thus was correct with the assertion of his statement.



ResultsPlus

Examiner Comments

AO1 + AO2 = 11 marks. This essay is a little one-sided, and does not consider much beyond the relationship between science and war.

AO3 = 4 marks for marking points 1, 2, 5 and 6 on the mark scheme.

It is well written and has a quality of communication score of 5.

The total mark of 20 is well in that expected for middle grade candidates.

Winston Churchill made a very good statement on how humans can have a prolonged and indefinite period of material prosperity, stating that "they only got to behave in a peaceful and helpful way to one another and science will do for them all they wish and more than they could dream". To many people this statement could have many meanings, ~~it~~ some of these may be for example, everyday people fight over lands and materials, killing thousands, if they just behaved in a peaceful manner they could resolve their differences and come to some agreements about the land, also science could build and develop new lands for each of the fighting countries. It may also mean, science is very controlled by the government many things what are researched are what are at interests of Parliament. Yet many people fight with the government, ~~at the~~ over funds and other things, if we just learned to calm down many of us could help out our neighbours by sharing things, while the funds that are being reduced from our wages etc could help science create a much healthier life for us, for example moral panic when many of David Cameron's legislations were ~~made~~ broadcasted and many

protested and voted against them, but the money that was deducted from benefits and money raised on raising tax has been spent on bettering public transport or helping the world such as giving money to Ireland and donating money so scientists can create drugs which will save many people's lives in countries such as Africa where they have no privileges yet seem to have a more solidarity of communities. These are just some ways it could be viewed, it also could be viewed in a negative light such as many could portray it as they're trying to silence us and take away our opinions by bribing us with a better life. Also many people mainly religious have no faith in science and believe faith and God will give them more than they could dream of. They could see this as science trying to take over religion which could start many wars. Also people may become greedy and expect too much and when they don't get it could cause riots.

There are many different evaluations of what Winston Churchill said and many people may agree and disagree, I think it all depends on the beliefs of that particular person.



ResultsPlus
Examiner Comments

AO1 Evidence drawn from a number of disciplines
AO2 Issue examined in a balanced and coherent way
Middle of level 4 = 16 marks
AO3 = 3 marks. Marking points 1, 2 and 6.
AO4 a well-written piece with a good standard of English, the handwriting is not very easy to read but this does not detract from the mark.

Question 13

The more popular essay question, but generating often basic answers with a lack of understanding of how a census is run and its purpose. The type of questions on the census were often misunderstood and a major problem was a general lack of understanding of the general nature of the questions, which cause no real security, or data protection issues.

Poor answers discussed the unreliability of the data because people don't tell the truth for a variety of reasons, the imposition by the government for no real gain and the personal nature of the questions. They showed no understanding of how the census data is used. A few were very keen on the influence of the Jedi on the reliability of the census!

Some answers which started off very promisingly petered out quickly. Some answers had a good grasp on how the census data could be used for social purposes and planning and had a balanced view of the cost and imposition on the public against the usefulness of the data. Importantly such answers had an understanding of the general nature of the questions and the limited security issues.

The use of census data from the past also was mentioned in terms of historical research and the increasing interest in one's ancestry. These answers also mentioned the reliability of the data and its security, but in a much more balanced way.

Every 10 years UK households are required to fill out a census form. Many pages of statistics are produced as a result. ~~Meaning~~ There are many reasons for and against this statement.

Firstly you can justify this as it will create data that is very useful to support the change in life over 10 years and how things develop.

Another positive point is that it can easily count the population size, the amount of people per household, and the amount of household earnings which can be very useful.

In opposite to this, people may not justify doing all this. This could be because all the information gathered could be seen as unnecessary, and they can already find out most of the information anyway - it's just a waste of the householders time!

Furthermore it would cost the government a fortune to conduct a survey like this and in a ~~poor~~ poor economic climate like we're in now it would seem wrong to spend money on this when it could spend it on saving the economy.

In conclusion, I believe both are fairly evenly justified and that even though it could be relevant information and could be used in the future, it's very costly and at this time would seem wrong to ~~do~~ do. Therefore

I believe this data survey could be justified if done cheap, or when our economic growth is high so that

We can easily afford it.



ResultsPlus
Examiner Comments

A short essay, reasonably expressed which gains a total mark indicating a low mid range grade.

AO1/2 - gains 11 marks for a piece low on evidence, and as a consequence limited and one-sided. AO3 is given 2 marks, for some evidence and an attempted justified conclusion.

Quality of communication gains 4 marks, the piece is paragraphed well, and its meaning is clear.

The total is 17 - characteristic of just below the middle of the grade range.

The census has been taken every decade in the UK for over 100 years. It now consists of many pages of questions about one's life, work and finances and must be completed by law.

It could be argued that the census is an important tool for gathering statistical data. It does not rely on samples with the possibility of bias or distortion, but assesses the entire population and provides accurate results. The census is used by the government to plan its budgets. By assessing the needs of the whole country, money can be spent effectively and efficiently where it is needed. Because of the detailed nature of the census, it is also used by multitudes of other organisations as data and information they can use themselves. Census results are an invaluable source of detailed and accurate demographic and financial information. The census also allows us to gain a "state of the nation" assessment of the UK which is useful in itself, and the census is only taken ~~one~~ on one day per decade, which is not a demanding task.

However, the census has been criticised. It is argued that the detailed questions and the legal

duty to participate are an intrusion into personal matters by the government, and are an invasion of privacy. The census has been perceived as a symbol of the "big state", as the government encroaches on individual freedoms.

The census is also incredibly expensive and a huge logistical challenge for a something with questionable value. In times of economic downturn, it could be argued the money could be better spent elsewhere.

The census has been around for over 100 years, and for many it is an outdated concept, even with modernising approaches such as doing it online.

The census is also argued to be unrepresentative, as it provides data for one day only. The responses of millions of people take years to organise and publish, so by the time census data is known, it may no longer be representative.

Also, changing attitudes to the census are encapsulated when, in 2001, several thousand people answered 'Jedi' as their religion, illustrating a tone of

public contempt for this institution.

The ~~sex~~ census does have some benefits as a statistical tool, but it is an outdated concept with little overall value, and the efforts put into it are not justified by the outcomes.



ResultsPlus

Examiner Comments

An example of a well constructed high scoring essay.

AO1/2 is 18 - the essays covers evidence for and against as fully as one can expect in the time available, and draws a justified conclusion. Like many candidates, finding AO3 marks is difficult, because candidates rarely reflect on the worth of their evidence, where it comes from and whether it is opinion or fact - it gains 2 marks for using evidence and drawing a justified conclusion.

Quality of communication is well above average - 6 marks. Total 26 marks, in the top grade range.

Paper Summary

The paper was comparable in difficulty to previous sessions. All sections were accessible, although section B proved more demanding than A, and candidates. Section C essays attracted some very good responses, and candidates could write with confidence on either selection. There are continuing problems in quality of communication.

Grade Boundaries

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