



# **GCE**

## **Critical Thinking**

Unit **F503**: Ethical Reasoning and Decision-Making

Advanced GCE

### **Mark Scheme for June 2016**

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All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

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## Annotations

Stamp	Description
✓	Key point
✗	Gap or flaw in reasoning. In combination, unsuccessful attempt at.....
<b>Question 3</b>	
C	Criterion
E	Evaluation of criterion
A	Recognition of ambiguity
I	Intermediate conclusion
Q	Hypothetical reasoning, example, evidence, analogy, counter argument/assertion with response
<b>Question 4</b>	
P	Principle
E	Evaluation of principle
S	Relevant use of source
V	Evaluation of source
A	Alternative
C	Choice/Conclusion (Resolution of issue)
I	Intermediate conclusion
Q	Hypothetical reasoning, example, evidence, analogy, counter argument/assertion with response
SEEN	Page seen but no other annotation used
BP	Page including no candidate response.

Question		Answer	Mark	Guidance
1	a	<p>The relevant answers are:</p> <ul style="list-style-type: none"> <li>Increased immigration</li> <li>Reduced emigration</li> <li>Increased longevity/reduced mortality/medical advances</li> </ul>	2x1	<p>1 mark for each valid answer.</p> <p><b>0 marks</b> No credit worthy material.</p>
1	b	<p><b>Judgement</b></p> <ul style="list-style-type: none"> <li>There is limited support for the claim/The evidence does support, but.....</li> </ul> <p><b>Support</b></p> <ul style="list-style-type: none"> <li>The projected rise in the number of people aged 60+ is greater than the projected rise in people of working age/the proportion of people of working age to those aged 60+ is expected to decrease.</li> <li>The projection is credible, because the government department has expertise, ability to see, neutrality and vested interest to give correct information.</li> </ul> <p><b>Not Support</b></p> <ul style="list-style-type: none"> <li>There is some overlap between the categories “working age” and “60+”.</li> <li>The retirement age may be raised in order to offset the increase in numbers of elderly people. <i>Accept:</i> The age of retirement is not static.</li> <li>We do not know how many people of working age are needed in order to fund the pension/care of one retired person.</li> </ul> <p><i>Do not accept that the number of working age will be greater than 60+ and therefore will be enough to pay for the needs of the elderly.</i></p> <ul style="list-style-type: none"> <li>It is not known what proportion of working age people will actually be working/earning an income/paying tax.</li> <li>If some of the trends change, the projection will be wrong.</li> </ul>	4	<p><b>Credit any of these marks independently:</b></p> <ul style="list-style-type: none"> <li>1 mark for a correct judgement.</li> <li>1 mark each for up to <b>three</b> valid evaluative points (maximum 2 for one side only).</li> </ul> <p><b>0 marks</b> No credit worthy material. See note “<i>Do not accept....</i>”</p>

Question	Answer	Mark	Guidance
2	<p><b>Examples of 3 mark answers</b></p> <ul style="list-style-type: none"> <li>In para 2, the author <b>assumes</b> that the amount of space directly occupied by people is an accurate indication of the number who can be sustained/<b>assumes</b> that the resources required to sustain human beings can be compared to those required for sheep, cows and other animals.</li> <li>In para 3, the author uses <b>emotive language</b> to make the banning of fox-hunting and smoking in clubs seem unreasonable, ignoring the reasons which actually lay behind these legal changes. <i>Do not credit emotive language referring to decisions about reproduction, because that is not a weakness.</i></li> <li>The comparisons with fox hunting and smoking <b>diminish</b> the justification for state interference in decisions about reproduction, because there is a greater justification for the Government to intervene in the interests of the long-term social and economic benefit of the country than to prevent people from harming their own health or animal welfare.</li> </ul> <p><b>Examples of Marginal (1-mark) answers</b></p> <ul style="list-style-type: none"> <li>Decisions about reproduction are <b>more important</b> to the people concerned than fox hunting or smoking.</li> <li>In para 5, the author uses <b>insulting language</b> to refer to the opposition as "freaks" (<i>accept ad hominem argument, but only for 1 mark because the author <b>does</b> consider their argument</i>).</li> </ul>	2x3	<p>For each of two answers:</p> <p><b>3 marks</b> Valid point with clear explanation</p> <p><b>2 marks</b> Valid point with vague/incomplete/partially incorrect explanation</p> <p><b>1 mark</b> Vague/generic/marginal point</p> <p><b>0 marks</b> Nothing relevant (including points concerning credibility, because they are not weaknesses in the <b>reasoning</b>)</p>

Question	Answer	Mark	Guidance
3	<p><b>c = Criteria: Application and evaluation of selected criteria to choice</b></p> <p>Examples of 1 mark</p> <ul style="list-style-type: none"> <li>Valid simple assessment of <b>issue</b> (not stated choice) by reference to a valid criterion.</li> <li>Valid simple assessment of choice related to <b>public policy</b> by reference to a valid criterion.</li> <li>Valid simple assessment of stated choice by reference to an <b>inaccurately-stated criterion</b>.</li> <li>Largely <b>speculative</b> assessment by reference to a valid criterion.</li> <li>Largely <b>repetitive</b> assessment by reference to a different valid criterion.</li> <li><b>Invalid/marginal/trivial</b> assessment of stated choice by reference to a valid criterion.</li> </ul> <p>Examples of 0 marks</p> <ul style="list-style-type: none"> <li>Entirely <b>speculative</b> assessment.</li> <li><b>Invalid/marginal/trivial</b> assessment by reference to <b>invalid</b> criterion.</li> </ul> <p>The choices available for evaluation are listed on the question paper.</p> <p>Suitable criteria which might be used to evaluate the choice include:</p> <ul style="list-style-type: none"> <li>effects on the environment</li> <li>cost to the economy</li> <li>family welfare</li> <li>freedom of choice</li> </ul>	12	<p><b>c = 9 marks – 3 marks for each of 3 answers:</b></p> <p><b>3 marks</b> Valid assessment of stated choice by reference to a valid criterion including awareness of ambiguity and/or valid evaluation of criterion.</p> <p><b>2 marks</b> Valid simple assessment of stated choice by reference to a valid criterion.</p> <p><b>1 mark</b> Weak or marginal assessment of stated choice or issue by valid or inaccurately-stated criterion.</p> <p><b>0 marks</b> Very weak attempt at assessment of stated choice or issue by criterion.</p> <p>Ensure that the correct item is highlighted in the marks column in scoris, ie:</p> <p style="padding-left: 40px;"><b>3c1</b> (Criterion 1)  <b>3c2</b> (Criterion 2)  <b>3c3</b> (Criterion 3)</p> <p>and enter a mark out of <b>3</b> for each of three Criteria answers.</p>

Question	Answer	Mark	Guidance
	<p><i>Examples of 3-mark answers</i></p> <ul style="list-style-type: none"> <li>• By definition, having one child fewer than you would naturally have chosen goes against the criterion of freedom of choice to some extent. However, people who take this option are doing so of their own free will, for the sake of the common good. To that extent, therefore it fulfils the criterion of freedom of choice. <i>(ambiguity)</i></li> <li>• Having one child fewer than you would naturally have chosen goes against the criterion of freedom of choice. This is a very important criterion in relation to issues of procreation, because choosing to have children is a very personal and intimate matter and is recognized as such in the UN Declaration of Human Rights. <i>(evaluation of criterion)</i></li> <li>• Having one child fewer than you would naturally have chosen goes against the criterion of freedom of choice. However, this is an unimportant criterion in relation to issues of procreation, because the size of future populations is a vital matter for the long-term well-being of a state and it is therefore reasonable for it to subjugate their personal preference for the common good. <i>(evaluation of criterion)</i></li> <li>• Having lots of children (more than you would naturally have chosen) decreases family welfare to some extent, since each child will receive a smaller share of the family's material and emotional resources than they would have done if they had had fewer brothers or sisters. In the longer term, however, it will probably improve family welfare, since once the children have grown up there will be more people to share the responsibility of the extended family, especially the care of their aged relatives. This option therefore fulfils the criterion of family welfare to a limited extent. <i>(ambiguity)</i></li> </ul>		

Question	Answer	Mark	Guidance
	<ul style="list-style-type: none"><li>According to Doc 1, each child born in the UK will cause harm to the environment. It follows that couples who have two children will have a negative effect on the environment, but less so than if they had had more children. Therefore, couples who limit their families to two although they would otherwise have had more children can be said to be indirectly benefiting the environment to a very limited extent or, more precisely, to harm it less than they might have done. <i>(ambiguity)</i></li></ul> <p><i>Examples of 2-mark answers</i></p> <ul style="list-style-type: none"><li>Having lots of children decreases family welfare, since each child will receive a smaller share of the family's material and emotional resources than they would have done if they had had fewer brothers or sisters.</li><li>Couples who give birth to and bring up more children than they might naturally have chosen have a beneficial effect on the economy, because once the children have grown up they will be able to work for their living and pay taxes.</li><li>Couples who restrict the size of their family to two children will have a small beneficial effect on the environment, by limiting the damage which each child born in the UK causes, according to Doc 1.</li></ul>		

Question	Answer	Mark	Guidance
	<b>q = Quality of Argument</b>		<p><b>q = 3 marks</b></p> <p><b>3 marks</b> Evaluations well-supported by reasoning.</p> <p><b>2 marks</b> Evaluations generally supported by reasoning.</p> <p><b>1 mark</b> Evaluations clearly stated but largely unsupported. <b>or</b> Reasoning contains significant gaps or flaws.</p> <p><b>0 marks</b> Evaluations not clearly stated or not related to criteria.</p> <p>Ensure that the correct item is highlighted in the marks column in scoris, ie: <b>3q</b> and enter a mark out of <b>3</b> for Quality of Argument.</p>

Question	Answer	Mark	Guidance
4	<p><b>p = Identification and Application of Relevant Principles</b></p> <p>General principles have implications that go beyond the case in point. Different kinds of principle a candidate can refer to might include legal rules, business or working practices, human rights, racial equality, gender equality, liberty, moral guidelines.</p> <p>Candidates are likely to respond to the issue by explaining and applying relevant ethical theories. This is an appropriate approach, provided the result is not merely a list or even exposition of ethical theories with little or no real application to the problem in hand. Candidates who deploy a more specific knowledge of ethical theories will be credited only for <b>applying</b> identified principles to the issue in order to produce a reasoned argument that attempts to resolve it. Candidates are <b>not</b> required to identify standard authorities such as Bentham or Kant, or even necessarily to use terms such as Utilitarianism etc, although they may find it convenient to do so; the word “however” is likely to deserve more marks than the word “deontological”.</p> <p>Credit must be given to any argument based on a principle in the sense outlined in the preceding note. Principles of that kind might include:</p> <ul style="list-style-type: none"> <li>• A duty to limit the harm done to the environment.</li> <li>• A duty to provide for one's old age.</li> <li>• A duty to improve the quality of the gene pool (or at least to prevent it from deteriorating).</li> </ul> <p>Some candidates may ask whether the moral obligation of Hedonistic Utilitarianism is to increase the happiness only of existing beings, or whether increasing the number of happy entities should be taken into account (sometimes referred to respectively as “Personal” and “Impersonal” Utilitarianism). Although limiting concern to existing entities only may seem</p>	36	<p><b>p = 12 marks</b></p> <p>To be located in level 4, the use of principles must normally be <b>all</b> of the following:</p> <ul style="list-style-type: none"> <li>• contrasting (in approach and/or outcome)</li> <li>• plausible (supported by reasoning and/or generally accepted)</li> <li>• applied (not necessarily at great length, but more than a brief summative judgment)</li> </ul> <p><b>Level 4 – 10-12 marks</b> Identification and developed application of at least 3 contrasting plausible ethical principles or theories.</p> <p><b>Level 3 – 7-9 marks</b> Identification and developed application of 2 ethical principles or theories.</p> <p><b>OR</b> Identification and accurate application of at least 3 relevant ethical principles or theories.</p> <p><b>Level 2 – 4-6 marks</b> Identification and developed application of 1 relevant ethical principle.</p> <p><b>OR</b> Identification and accurate application of 2 relevant principles.</p> <p><b>Level 1 – 1-3 marks</b> Identification and accurate application of 1 relevant principle.</p> <p><b>OR</b> Basic application of 1 or more principles to the issue.</p> <p><b>OR</b> An unsuccessful or unsupported attempt to identify at least 1 principle and to apply it to the issue.</p>

Question	Answer	Mark	Guidance
	<p>arbitrary, there is a strong argument against including any increase in the number of happy entities, since it leads to what Derek Parfitt has called “the repugnant conclusion”, namely that everyone should have as many children as they can up to the point at which standards of happiness are so low that an additional birth will not increase net happiness.</p> <p>If the focus of Hedonistic Utilitarianism is on persons who already exist, it seems intuitively likely that medium-sized families bring the most happiness to their parents and extended family. Candidates who weigh the issues raised in Docs 1 and 2 may conclude that the environmental harm caused by having children is more serious than the social and economic harm caused by not having them, but is also less certain and less immediate.</p> <p>Discussions from the perspective of human rights may support the choice to have as many or as few children as couples want on the basis of the right to [marry and] found a family (procreative autonomy) and/or the right to privacy.</p> <p>Arguably, this issue reveals a weakness in Kant’s theory of the Categorical Imperative. For example, some couples impressed by the reasoning in Doc 1 might decide to refrain from having children (knowing, of course, that other people would have enough children to guarantee the continuation of the species), but Kant would have condemned them for contravening the principle of universality. Having children so that they will look after their parents in their old age contravenes the second version of the Categorical Imperative, using the children as means only, but it may be unlikely that anyone would have children for only that reason.</p> <p>The two of Ross’s <i>prima facie</i> duties which are relevant to this issue are beneficence and non-maleficence. If having children will harm other people (via shortage of resources or</p>		<p><b>Level 0 – 0 marks</b> No credit worthy material.</p> <p>Maximum level 1 for Identification and Application of Relevant Principles for anyone who <b>only</b> re-cycles criteria from question 3 as principles.</p> <p>Do <b>not</b> credit any use of principles which relate <b>only</b> to public policy and not to personal choice.</p> <p>Ensure that the correct item is highlighted in the marks column in scoris, ie <b>4p</b>, and enter a mark out of 12 for Identification and Application of Relevant Principles.</p>

Question	Answer	Mark	Guidance
	<p>damage to the environment) then doing so contravenes the duty of non-maleficence. If, on the other hand, having children will benefit others (by helping to provide a generation of workers and earners to maintain the economy and to provide for those who are too old to provide for themselves), then doing so fulfils the duty of beneficence.</p> <p>The propagation of the species was identified by Aquinas as a fundamental principle of Natural Law. The Roman Catholic tradition of Natural Law also condemns contraception, which is the most likely way for couples to limit the number of children they produce. Overall, therefore, the tradition of Natural Law would favour the choice of having more children than couples might want.</p> <p>Religious traditions tend to value procreation, caring for the elderly within the family and acting responsibly towards the environment.</p> <p>It is not easy to apply the “veil of ignorance” to this issue, partly because age is a key factor, and nearly everyone can expect to be of different ages during their life. One person may experience being young in a seriously or minimally depleted environment, being of working age under a heavy or light burden of taxation and being well or poorly provided for when they are too old to work.</p>		

Question	Answer	Mark	Guidance
	<p><b>s = Use and Critical Assessment of Sources</b></p> <p><b>Document 1</b> Population Matters is clearly motivated to encourage a decrease in the birthrate, which affects its choice of vocabulary and statistics (eg “may turn out to be an underestimate”). “One child less” may be an incoherent policy.</p> <p><b>Document 2</b> The title of the website indicates that the organization has a strong bias in favour of the care of the elderly, which influences its attitude to this issue.</p> <p><b>Document 3</b> See markscheme for q 1.</p> <p><b>Document 4</b> See markscheme for q 2.</p> <p><b>Document 5</b> The website is confessedly extremist. Some of its language is emotive.</p>		<p><b>s = 8 marks</b></p> <p><b>Level 4 – 7-8 marks</b></p> <ul style="list-style-type: none"> <li>• Relevant and accurate use of sources to support reasoning.</li> <li>• Sustained and persuasive evaluation of sources to support reasoning.</li> </ul> <p><b>Level 3 – 5-6 marks</b></p> <ul style="list-style-type: none"> <li>• Relevant and accurate use of sources.</li> <li>• Some evaluation of sources.</li> </ul> <p><b>Level 2 – 3-4 marks</b></p> <ul style="list-style-type: none"> <li>• Some relevant and accurate use of sources, which may be uncritical.</li> </ul> <p><b>Level 1 – 1-2 marks</b></p> <ul style="list-style-type: none"> <li>• Very limited, perhaps implicit, use of sources.</li> </ul> <p><b>Level 0 – 0 marks</b></p> <ul style="list-style-type: none"> <li>• No attempt to use sources.</li> </ul> <p>Except at Level 1, credit references to sources <b>only</b> if they support reasoning.</p> <p>Maximum level 2 for Use and Critical Assessment of Sources for <b>uncritical</b> use of sources.</p> <p>Typical indicators of L4 (any <b>two</b> of which normally locate an answer in L4):</p> <ul style="list-style-type: none"> <li>• more than 2 evaluative references to sources</li> <li>• nuanced evaluation</li> <li>• strong support to reasoning</li> </ul> <p>Do <b>not</b> credit any use of sources which relates <b>only</b> to public policy and not to personal choice.</p> <p>Ensure that the correct item is highlighted in the marks column in scoris, ie <b>4s</b>, and enter a mark out of 8 for Use and Critical Assessment of Sources.</p>

Question	Answer	Mark	Guidance
	<b>q = Quality of Argument</b>		<p><b>q = 8 marks</b></p> <p><b>Level 4 – 7-8 marks</b></p> <ul style="list-style-type: none"> <li>• Claims well supported by clear and persuasive reasoning.</li> <li>• Consistent use of intermediate conclusions.</li> <li>• Reasoning supported by relevant use of some of: hypothetical reasoning, counter argument/assertion with response, analogy, evidence, example.</li> <li>• Few errors, if any, in spelling, grammar and punctuation.</li> </ul> <p><b>Level 3 – 5-6 marks</b></p> <ul style="list-style-type: none"> <li>• Claims supported by clear reasoning.</li> <li>• Few significant gaps or flaws.</li> <li>• Generally clear and accurate communication.</li> <li>• Few errors in spelling, grammar and punctuation.</li> </ul> <p><b>Level 2 – 3-4 marks</b></p> <ul style="list-style-type: none"> <li>• Claims mostly supported by reasoning.</li> <li>• Some significant gaps and/or flaws.</li> <li>• Some effective communication.</li> <li>• Fair standard of spelling, grammar and punctuation, but may include errors.</li> </ul> <p><b>Level 1 – 1-2 marks</b></p> <ul style="list-style-type: none"> <li>• Little coherent reasoning.</li> <li>• Perhaps significant errors in spelling, punctuation and grammar.</li> </ul> <p><b>Level 0 – 0 marks</b></p> <ul style="list-style-type: none"> <li>• No discussion of the issue.</li> </ul> <p><b>Reduce</b> mark by <b>2</b> if the reasoning is <b>wholly</b> about public policy instead of personal choice; reduce mark by <b>1</b> if the reasoning is <b>partly</b> about public policy instead of personal choice.</p> <p>Capped at <b>Maximum L2</b> if Principles and/or Sources mark is L1 or L0.</p> <p>Ensure that the correct item is highlighted in the marks column in scoris, ie <b>4q</b>, and enter a mark out of 8 for Quality of Argument.</p>

Question	Answer	Mark	Guidance
	r = Resolution of Issue		<p><b>r = 8 marks</b></p> <p><b>Level 4 – 7-8 marks</b></p> <ul style="list-style-type: none"> <li>• Resolution of the issue on the basis of a persuasive account of the arguments in favour of a clearly-stated choice</li> <li>• and developed consideration of at least one alternative, including some awareness of why some people might favour it.</li> <li>• Perhaps an awareness that the resolution is partial/provisional.</li> </ul> <p><b>Level 3 – 5-6 marks</b></p> <ul style="list-style-type: none"> <li>• Clear identification of a choice.</li> <li>• Some consideration of at least one alternative.</li> <li>• Some attempt to resolve the issue.</li> </ul> <p><b>Level 2 – 3-4 marks</b></p> <ul style="list-style-type: none"> <li>• Discussion of the issue, resulting in support for one choice.</li> <li>• Perhaps mention of an alternative.</li> </ul> <p><b>Level 1 – 1-2 marks</b></p> <ul style="list-style-type: none"> <li>• Discussion of the issue without supporting a particular choice.</li> </ul> <p><b>Level 0 – 0 marks</b></p> <ul style="list-style-type: none"> <li>• No discussion of the issue.</li> </ul> <p><b>Reduce</b> mark by <b>2</b> if the resolution and choice(s) are <b>wholly</b> about public policy instead of personal choice; reduce mark by <b>1</b> if the resolution and and/or choice(s) are <b>partly</b> about public policy instead of personal choice.</p> <p>Capped at <b>Maximum L2</b> if Principles mark is L1 or L0.</p> <p>Ensure that the correct item is highlighted in the marks column in scoris, ie <b>4r</b>, and enter a mark out of 8 for Resolution of Issue.</p>

## APPENDIX

**PE's answer** (1021 words) **NB** This does **not** represent the standard of response expected from candidates.

As the resource documents indicate, people of child-bearing age are currently faced by three distinct problems relating to the birthrate, two of which have directly opposite implications. Doc 1 explains why there are pressing reasons for people to limit the number of children they have, in order to reduce the harm done to the environment. Simultaneously, however, Doc 2 is right in the concerns it expresses that unless the birthrate further increases, there will be too few people of working age to support those who are too old to work; recent government initiatives, such as gradually postponing the age of retirement, confirm that this really is a serious problem. Both these documents originate from interest groups and may therefore overstate the respective problems, but there is no doubt that each of them is addressing a real issue. The third problem – expressed in Doc 5 – is that if intelligent people limit the number of children they have, the average intelligence of the population will decline. Although this document comes from an extremist website, it draws attention to a genuine problem. The article assumes that intelligence is wholly or principally based on genetics; although this assumption is not entirely true, both experience and research suggest there is some truth in it.

For the purpose of this discussion I will assume that people can control the number of children they have, but this is, of course, an over-simplification. Even with the procreative and contraceptive technologies available today, some people who want children are still unable to have them, whereas some people find that they have brought a child into being without having had any intention of doing so. In addition, people are sometimes unsure of how many children they want, or may change their minds in the light of altered circumstances.

It is very widely agreed that individuals have a duty to minimise the harm done to the environment. Some people regard this as part of a duty to God, others as a duty to future generations, and some as a duty to the environment itself. Similarly, very few people would disagree that communities have a duty to provide for the needs of the elderly or that individuals have a duty to provide for their own retirement, which amongst other things implies that each generation should ensure that enough children are born to shoulder these burdens when they reach adulthood. According to Doc 1, the duty to minimise the harm to the environment implies that we should reduce the birthrate in the UK, whereas the implication of Doc 2 is that we should increase it. Both these duties are consistent with the Principle of Universality, which is the first version of Kant's Categorical Imperative. Those people who have "one child less" or "stop at two" presumably hope that others will do the same, while those who try to keep up the birthrate in order to provide enough workers to provide for the elderly also hope that others will follow their example. Since it is not logically possible to fulfil both these duties, hard choices have to be made.

Some people claim that when it is uncertain what one should do, especially when there is a conflict of moral duties, it is permissible to choose whatever one chooses. This is a dangerous principle, since it can be used in order to evade duties which are almost certain. The alternative is to say that one should follow the more probable duty. In this case, raising the birthrate may be a more probable duty than lowering it, since the dangers of an increased population are more speculative and long-term than the problems caused by a low birthrate; however, there can be little doubt that both duties are genuine and the differences between them are far from certain. So it seems reasonable to conclude that in the absence of a clear moral duty, people can legitimately have as many or as few children as they want, but if in doubt they should go for more rather than fewer.

A different approach is to compare competing choices with reference to their consequences. Hedonistic Utilitarianism would approach this issue by asking which choice would produce the most net happiness. According to Docs 1 and 2, both having and not having children will create some unhappiness. The environmental harm caused by an expanding population could be worse than the economic harm caused by a reduced birthrate, but it is also less certain and more distant, since people may possibly reduce the damage by changing their lifestyle or by means of new inventions, and according to some authorities it is already too late to prevent the damage anyway. It is hard to compare the two sets of consequences, although that is what Bentham said must be done, but if a low birthrate has a greater chance of reducing happiness than a high birthrate does, then people should overall have more children, not fewer. Because the two sets of adverse consequences are so finely balanced, however, the issue raised in Doc 5 should be taken into consideration.

Preference Utilitarianism seeks to maximize the fulfilment of preferences rather than net happiness, although they are, of course, in many situations the same thing. There can be little doubt that everyone who thinks about it would prefer to live in a safe and bountiful environment rather than one in which resources were scarce and the protection offered by the ozone layer had been removed. Equally, however, they would prefer to look forward to a comfortable old age than one in which they were unable to afford the resources they needed. In the short term, people who have the number of children they want are by definition fulfilling their preference.

My conclusion is that people should have as many children as they want. However, if in doubt, they should have more rather than fewer. For the sake of improving the quality of the gene pool, people of low intelligence should consider voluntarily limiting the number of children they have, even to the extent of perhaps not having any, while relatively intelligent people should consider having more children.

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