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# Go Further

**Ethics and Extended  
Project Qualifications**

**Student's Edition**

Ethical reasoning  
provides a powerful  
and helpful way of  
deciding on the right  
course of action

# Time to think

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## Introducing ethics

You have probably been told that, when working on your extended project qualification (EPQ), you should work ethically. But what does that mean?

Ethics is a discipline – a way of working and thinking – that is concerned with deciding what is the right, or the best, thing to do. Ethics is a branch of philosophy and an area of academic study in its own right, but that doesn't mean it is accessible only to people with specialist knowledge and skills – quite the opposite. Just about all of us, even young children, use ethical reasoning when deciding what to do, even though we might not knowingly describe our thought processes in such a way.

Ethical reasoning provides a powerful and helpful way of deciding on the right course of action, not just in project work but in all aspects of life. As you plan and carry out your project, you will be particularly concerned with **research ethics**: guidelines and regulations that have been developed to ensure that research is carried out responsibly. But before focusing specifically on research ethics, we'll take a more general look at ethics as a way of thinking.

To illustrate what's involved in ethical thinking, let's start by looking at something that most people believe is wrong: telling lies. You might argue that it's OK to tell white lies: small untruths told to spare someone's feelings, such as saying you like their new outfit when really you don't. But that's an interesting ethical question in itself (and some people maintain that even telling white lies is wrong), so let's put it to one side and focus on 'serious' lies.

## Activity 1: What is wrong with telling lies?

Spend a few minutes listing reasons why it might be wrong to lie. Don't worry about whether the reasons are good ones, just write down all that you can think of.

After writing your list, discuss your reasons in a pair or in a small group. Try to explore their implications. For example, you might have said that telling someone a lie (giving them false information) could lead them to do something dangerous. Not all lies would have this outcome – so are some lies worse than others?

## Activity 2: A virtuous researcher

What do you think are the characteristics that would make someone a virtuous researcher? Spend a few minutes making a list of 'research virtues', then compare notes with other students.

### DO ACTIVITY 1

## Part of the process

Having completed Activity 1 you have some experience of ethical reasoning and critical thinking. You probably found yourself not quite agreeing with everything everyone else said, arguing to put forward your own point of view, and maybe changing your mind in the process. This sort of critical thinking and arguing is something that you should expect to do as part of your project – not just when considering ethical aspects of your work.

## Ethical frameworks

In carrying out your project, you will almost certainly not intend to do anything so obviously wrong as lying or stealing. But there will probably be ethical issues and you will need to think about how to address them.

Identifying the rights and wrongs of a particular course of action, even involving an 'obvious' example such as telling lies or stealing, is often far from straightforward. When tackling ethical questions, it can be very helpful to have some thinking tools at your disposal – ways of reasoning known as **ethical frameworks**. Professional ethicists have identified and described several ethical frameworks, and here we describe three of the most commonly used.

### Consequentialism/utilitarianism

One way to decide whether an action is right or wrong is to consider what the consequences might be. This approach to ethical issues is called **consequentialism**. According to this way of thinking, an action is right if it leads to a good outcome, even if there might be other reasons for thinking that the action could be wrong.

This does raise the question of what we mean by a 'good' outcome. The form of consequentialism known as **utilitarianism** answers this by saying that the best action is one that leads to the greatest amount of happiness and the smallest amount of unhappiness. Using a utilitarian approach, each situation and possible course of action has to be considered afresh; there are no absolute rules. If you asked a utilitarian 'Is it wrong to lie?' the answer would probably be 'It depends...' If telling a particular lie led to an overall increase in happiness then it would be OK, but if it led to greater unhappiness then it would be wrong.

# “Are some lies worse than others?”

### Rights and duties

Another approach to ethics uses the idea of **rights and duties**. The starting-point here is that people have certain rights, for example the rights set out in the Constitution of the USA or in various documents produced by the United Nations Human Rights Council. Political discussions often refer to 'rights' when debating whether particular legislation should be introduced or changed.

An important aspect of this way of thinking is that, if someone has a right, then other people have a duty – a responsibility – to ensure that their right is respected. For example, if people have a right to food and shelter, then other people (e.g. governments, charities, individuals) have a duty to make sure that food and shelter are available. According to this framework, an action is wrong if it deprives people of their rights, and an ethically right action is one that involves upholding other people's rights.

### Virtue ethics

The ethical framework known as **virtue ethics** provides another approach to ethical reasoning. The focus here is on personal characteristics and behaviour rather than rules or consequences. When considering an ethical issue, a key question is 'What would a virtuous person do?' – which raises the question of what we mean by 'virtuous'. Think about someone whose character you admire, such as a teacher, a family member or a public figure. You might say that such a person is kind, patient, courageous... These characteristics of kindness, patience and so on are virtues.

## Ethical research

In the context of your EPQ, it is particularly relevant to consider how ethical frameworks relate to research, as illustrated in the activities.

### DO ACTIVITY 2

The EPQ ethics guide produced by Wellcome ([wellcome.ac.uk/EPQethics](http://wellcome.ac.uk/EPQethics)) summarises the regulations and guidelines that govern how researchers should work and shows how research ethics relate to the EPQ. (Note that the EPQ ethics guide focuses on issues that are relevant to particular types of project, rather than setting out general rules of behaviour such as avoiding plagiarism.)

### Activity 3: Research ethics and ethical frameworks

Read through the Wellcome EPQ ethics guide and use three different colours to highlight words and phrases that relate to the three ethical frameworks described above. For example ‘benefits versus harms’ would suggest a utilitarian way of thinking, words such as ‘fair’ would suggest an approach based on virtue ethics, whereas ‘responsibility’ would indicate that rights and duties are being considered.

### Activity 4: Why is that wrong?

From the case studies of Mindi’s and Ethan’s projects, identify what each of them did that was ethically wrong. Refer to the Wellcome EPQ ethics guide and decide whether, and in what way(s), they violated guidelines on research ethics.

Use the ethical frameworks to explain *why* Ethan’s and Mindi’s actions were wrong. Use each of the three frameworks in turn, then compare the reasoning that each leads you to. Did you find all the frameworks equally easy to use? If you found one particularly easy, or difficult, was it the same one for both case studies?

#### DO ACTIVITY 3

It is unlikely that you would deliberately set out to do something ethically wrong in your project, but sometimes it can happen if things have not been properly thought through. In their case studies (below), both Mindi and Ethan had good research questions that were interesting, well-focused and with the potential to lead to excellent project outcomes. Both of them worked hard on their projects, but they each slipped up and did something that was ethically wrong.

#### Ethan’s case study: Alcohol and behaviour

Ethan was interested in the ways alcohol and other substances affect mood and behaviour, and how this behaviour might also be influenced by factors such as peer pressure, social context and legislation. His EPQ research question was: ‘Is legislation the most effective way to control alcohol-related antisocial behaviour?’

Ethan used textbooks and websites to find out how alcohol is processed in the human body and how it affects the body and brain. He also researched relevant legislation in the UK and other countries, both now and in the past. He then thought it would be interesting to carry out some of his own observations and gather primary data. At a party where students from his college were drinking alcohol, he decided to record video clips on his phone and see how people’s behaviour changed during the evening. He did this without telling people at the party what he was doing, as he did not want them to alter their behaviour.

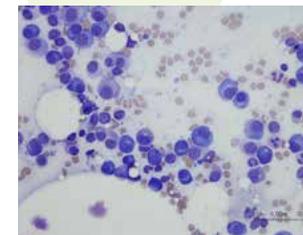


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#### Mindi’s case study: Genetic disease

Mindi’s EPQ research question was: ‘What is the best way to control genetic diseases?’ A lot of her work involved using textbooks and the internet to find out about a range of genetic diseases and the ways that embryos produced by IVF can be screened before being implanted in the mother. She also researched genetic counselling. Mindi learned that some genetic diseases were more common in certain ethnic groups, and decided to gather her own data on this.

Mindi produced a questionnaire that asked people about their ethnic origins, their family relationships, and whether there was any family history of genetic disease. She gave her questionnaire to students at her school and asked them to complete it in consultation with family members. Several students and their families found the questionnaire intrusive and upsetting. Some people became quite angry and complained to the school.



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## “Develop the habit of questioning whether something is right or wrong”

#### DO ACTIVITY 4

You might be wondering which ethical framework you should use. The short answer is that there is no best one, though if you find yourself attracted to one particular way of thinking then you will probably find yourself using that framework to help you think about ethical issues. Also, you will probably find that some frameworks fit some situations better than others.

Rather than choosing a framework and hoping it will do your thinking for you, it is much better to develop the habit of questioning whether something is right or wrong. By doing so, you are learning to be ethical. If you have a gut feeling that an action is wrong (or right) you can then draw on one or more frameworks to help you to articulate the reasons *why* it is wrong (or right).

#### Further work

The topic of research ethics is itself an area that you could explore in an EPQ. For example, it could be interesting to explore how ideas about what is acceptable in research have changed over time, or how such ideas may differ between cultures.

You could search the internet to find out about famous experiments that would now be considered unethical, such as Jenner’s work with smallpox vaccination, Milgram’s experiments on obedience, or Mengele’s studies of twins. Or you could perhaps research the development of ethical codes such as the medical Hippocratic Oath.

**If you build in ethical considerations from the start, there is a good chance you will be able to carry out your work without causing problems**

# Right all along

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## Section 2

### Right from the start

**Activity 5:**  
Ethical checklist

**Activity 6:**  
What to do?

**Good plan?**

**Best-laid plans**

**Activity 7:**  
Show and tell?

**Activity 8:**  
Good report?

**Right the way through**

**Right at the end**

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## Right from the start

In planning your project, you should think not only about what you intend to do but also about possible ethical implications. If ethical considerations are built in from the start, there is a good chance that you will be able to carry out your work without causing problems for yourself or anyone else.

Planning is a very important aspect of any project, and you can find helpful sources of advice on page 14.

The EPQ ethics guide produced by Wellcome sets out some questions you should ask yourself when planning your research. These questions form the basis of the ethical checklist on page 15. To help you to address potential ethical issues, complete a copy of this checklist as part of your project plan and discuss it with your EPQ supervisor/mentor. The Wellcome guide gives advice on how to think about these questions.

Health and safety – your own and other people’s – is an aspect of working ethically, and if your project involves any laboratory, workshop or field work, you will need to consider issues associated with using apparatus or working in a potentially hazardous environment. This includes completing risk assessments for all practical activities. Your school or college will have risk assessment forms that you should complete in consultation with your supervisor/mentor. Keep your completed ethical checklist and health and safety risk assessment in a safe place and include them with your project report.

## Activity 5: Ethical checklist

For this activity you will need the ethical checklist on page 15. First, look at each question in turn and explain why it is important. Refer to the three ethical frameworks to help explain your reasoning.

Now use the checklist to analyse the projects described in Ethan's, Mindi's, Dermot's and Florence's case studies. Work through the checklist and identify any questions where the student would have had to answer 'no', either at the initial planning stage of the project or later. For Ethan and Mindi, suggest how they might modify their research. For Dermot and Florence, explain how changes of plan helped address ethical issues.

## Activity 6: What to do?

Here are some things that Petra might have considered doing:

- explain to the mourners that she had permission, and continue working
- explain that she had permission, apologise for any upset, and leave
- continue working without saying anything
- leave immediately without saying anything
- write a letter apologising for any upset

Working in a pair or small group, discuss what you think Petra should have done. Suggest whether Petra could have done anything to prevent the problem arising.

## Good plan?

When you are planning your project, completing an ethical checklist will help you identify whether something you intend to do raises ethical concerns. If it does, then your plan will not be acceptable and you will need to rethink, as illustrated in the following case studies and activity 5.

### Dermot's case study: Anaesthetic

Dermot's ambition was to study chemistry or pharmacology at university. In the initial research for his EPQ, he found that a compound used in local anaesthetics could be synthesised using apparatus and chemicals available in his school. He thought it would be interesting to compare methods, so he carried out a health and safety risk assessment and his teacher agreed that he could make the compound in the school laboratory. His main aim was to find the best way to make the compound.

Dermot then suggested that he could test the compound by applying it to people's skin – his own, and some of his friends'. His teacher said no. He then thought he could work out a way of testing it on some pet mice. Again his teacher said no.

In discussions with his teacher, Dermot changed his plan so that he could still go ahead with the laboratory synthesis but found other ways to evaluate his methods without testing the compound on people or animals. He used chemical tests to determine the purity of his samples so that he could calculate the yield obtained using the different methods. He interviewed a dentist about merits and drawbacks of different types of local anaesthetic, and a visit to a local pharmaceutical company gave him valuable information for his report.

*Dermot's teacher was absolutely correct to forbid the tests on people and mice. Any sort of testing on living subjects carries health and safety risks as well as raising issues about consent. Professional researchers wishing to carry out tests on living subjects have to obey very strict rules in order to be granted a licence. There is no way that such a licence would be granted to an EPQ student, so if you are considering doing anything similar to what Dermot suggested, don't even think about it.*

### Florence's case study: Care home

Florence hoped to become a nurse, and she had a weekend job in a care home for people with dementia. For her EPQ, she decided to draw on her work experience and study an aspect of dementia. Her first idea was to look at the residents' medical records and see whether there were any patterns in their medical history that might relate to the date when their dementia was diagnosed. When she mentioned this to the home manager and her EPQ supervisor, they both said no immediately. They pointed out that medical records are confidential and would not be available to her.

Florence then suggested a different project. She had noticed that some of the residents seemed more alert at certain times of day, and thought she could design tests to see if there really was a difference. She had some ideas for simple memory and recognition tests that could be presented like games so the residents would not find them distressing. The manager and her EPQ supervisor were supportive. They gave her advice about doing research with vulnerable people and obtaining informed consent.

The residents themselves could not give consent, so Florence explained her project to the relatives who were responsible for them. She wrote a document explaining how she would work with them and how she would collect and store the data, ensuring that it was secure, and stating that all her findings would be reported anonymously. The manager approved the document, the relatives signed the consent form and Florence went ahead with her project.

*Work experience can provide a good starting-point for project work. It is important to remember that, in a workplace, you must behave professionally, just like people who work there as their main job and hold more senior positions. You might have access to confidential information, and you need to respect that – even if Florence had been able to see medical records, it would not have been ethical for her to use them in her project.*

### DO ACTIVITY 5



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## Best-laid plans

Working ethically involves more than thinking about ethical matters when planning your project and completing a checklist. That is only the start. No matter how carefully you plan, things sometimes happen that you had not predicted. Throughout your project, you need to be aware of how you are working, looking out for potential problems and thinking how to avoid them. You should aim to work carefully and respectfully and, as far as possible, avoid upsetting people. If unfortunate things happen, you need act swiftly to minimise the damage.

The following two case studies illustrate some of the sorts of things that can happen in the course of a project. In each of these examples, the student carrying out the project was in a difficult position and had to think 'What is the right thing to do?'

### Petra's case study: Weathering

For her EPQ, Petra was investigating the weathering of materials used for buildings in her local area. Her research question was 'Does atmospheric pollution in towns increase the rate at which building materials become damaged by weathering?' Her project involved laboratory work with samples of stone and other materials in different conditions, as well as internet research. She also wanted to gather data on how materials weathered naturally over time. She realised that one way to do this would be to look at the weathering of gravestones in a local churchyard, which contained a large number of gravestones with dates ranging from a few hundred years ago to the present day and showing various degrees of weathering.

Petra explained her project to the church verger and vicar, who gave her permission to gather data using the gravestones. To help with her data collection, she took a few friends along to the churchyard. As they were working, cars drew up outside the church for a funeral. Some of the mourners noticed Petra and her friends at work and became quite upset, thinking that the students were being disrespectful. Petra had to decide, quickly, what to do.

### DO ACTIVITY 6

## Activity 7: Show and tell?

Here are some things that Seb might have considered doing:

- nothing – analyse the questionnaires as if the comments were not there
- destroy the relevant questionnaires and analyse the rest
- ask his friends or family what to do
- identify the students and tell them their comments were unacceptable
- tell the teacher what had been written
- show the comments to his EPQ supervisor

Working in a pair or small group, discuss what you think Seb should have done.

Seb collected the questionnaires himself and stored them in a secure place. Discuss the problems that might have arisen if he had asked the teacher or another student to collect the questionnaires for him.

## Activity 8: Good report?

In a pair or small group, discuss the following questions. Refer to the ethical frameworks to help you explain your reasoning.

Why is plagiarism ethically wrong? Think about this from the point of view of someone whose work has been plagiarised, and of someone reading a report containing plagiarised work.

Why is altering data ethically wrong? Why is it wrong just to select data that seem to fit an expected pattern? Think about this from the point of view of people making decisions based on the reported results, and of future researchers who might want to draw on the report for their own work.

Then discuss what Sol and Heather should have done.

### Seb's case study: Sports

Seb's main interest was in sport. For his EPQ he was organising an event at his school with the aim of getting younger students to take part in sporting activities. As part of his preparation, he used a questionnaire to research students' attitudes towards sport and to find out what might encourage them to take part in sports activities.

With the permission of their teachers, Seb gave his questionnaire to some Year 9 classes, explaining to the students that their responses would be confidential and that any information included in his project report would be anonymous. When he came to look at the completed questionnaires, he found that some students had written silly and hurtful comments about a teacher. Seb had to decide what to do.

### DO ACTIVITY 7

The Research Ethics Guidebook ([ethicsguidebook.ac.uk](http://ethicsguidebook.ac.uk)) contains other examples of problems arising during research, and explains how the researchers addressed them.

## Right the way through

The need to act ethically extends right the way through your project, including the way you present your data and refer to other people's work. You need to act ethically towards other researchers – people you have probably never met – as well as everyone directly involved in your project. This means considering researchers whose work you draw on, and possible future researchers who might refer to your work. The following two case studies illustrate that it is easy to make mistakes, for example if you are up against a deadline. Both Heather and Sol had interesting, well-focused projects and did some excellent work – but each slipped up towards the end.

# “It's easy to make mistakes if you are up against a deadline”

### Heather's case study: Biodiversity

Heather was interested in the way that land management affects biodiversity. Her EPQ research question was 'How does controlled burning of moorland affect biodiversity? And what is the optimum time between burns?' She visited a moorland national park and, with the help of a park ranger, identified areas that had been burned – some recently, others longer ago. Using techniques from her biology course, she surveyed the areas and collected data on plant and insect species in spring and in summer. She read reports of similar work published in journals and on websites.

When she came to analyse her own data, Heather found that her results did not seem to fit the patterns described in the published work. She wondered whether to alter her data to give the results she thought would be correct, but decided just to leave out the data that did not seem to fit.

### Sol's case study: Sundial

For his EPQ, Sol designed and made an ornamental sundial for a garden. His project involved surveying the site, developing a design brief, researching historical and modern sundials, sketching and making scale models, and exploring different materials before producing the final object. He evaluated the sundial's performance by photographing it at intervals over several weeks.

When writing his project report, Sol was short of time to complete some sections. He went to the websites that he had used for his research and, changing a few words, pasted in some text that he thought was better than he could have written himself.



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Presenting someone else's work as your own is **plagiarism**, which is regarded as a serious wrongdoing. It is sometimes said to be theft of intellectual property, but it is also a form of lying – you are pretending that you did some work but really you did not. Changing a few words does not help – it is still plagiarism. Even if someone agrees to write a section for you, and even if you pay them, it is still plagiarism.

There are software packages that teachers and examiners can use to scan the internet and identify work that has been plagiarised, so one reason to avoid plagiarism is that you will probably be found out and penalised.

### DO ACTIVITY 8

## Right at the end

When you write your final project report, include a discussion of any ethical issues that arose and explain what you did to address them. Be honest and don't try to conceal any problems. A thoughtful account of what you did and what you have learned from the experience will be to your credit rather than otherwise.

### Further work

Professional researchers occasionally act in ways that are unethical. Such misconduct is rare and is regarded very seriously.

Use the internet to search for terms such as 'research misconduct' and 'scientific fraud'. Choose one case and try to find out what happened and why. Was the researcher under pressure to produce results? Was their misconduct deliberate or careless? Were people harmed (for example, if they took part in an unethical experiment, or if they were misled by incorrect results being published)? What happened to the researcher? What steps were taken to prevent future misconduct?

## References

### Ensuring your research is ethical: A guide for Extended Project Qualification students

A guide produced by the Wellcome Trust, focusing on ethical issues in research projects relating to people and the environment, and containing additional references. [wellcome.ac.uk/EPQethics](http://wellcome.ac.uk/EPQethics)

### The Research Ethics Guidebook

A guide to research ethics in the social sciences produced by the Economic and Social Research Council, the Researcher Development Initiative and the University of London's Institute of Education. There is a useful section on 'Conducting your research', which includes case studies illustrating how researchers dealt with unexpected problems during their fieldwork. [ethicsguidebook.ac.uk](http://ethicsguidebook.ac.uk)

### EPQ guidebooks

OCR: Crossland B, Walsh-Atkins P. Extended Project Student Guide. Hodder Education; 2009.

AQA: James M. Extended Project Student Companion. Nelson Thornes; 2009.

Edexcel: Swinbank E, Taylor J (eds). Level 3 Extended Project Student Guide. Pearson Education; 2009.

## Contributors

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## EPQ ethical checklist

Use this checklist to help you identify and address ethical issues as part of your project planning. Answer each question yes/no/not applicable and give details of how you intend to address the issue, if applicable. Refer to the Wellcome Trust EPQ ethics guide for advice on each question.

Name of student:		Project title:	
<b>Brief description of research:</b>			
Question	Y/N/NA	Notes	
Will everyone who takes part be informed about the research, their role in it and any risks? How will you inform them?			
Will people be able to make a free choice about whether to take part in your research? How will you make sure this is the case?			
Will you choose your participants fairly? How will you choose them?			
Have you completed a health and safety risk assessment?			
Have you considered the impact of your research on your participants, the environment, or the wider community? How will you minimise any negative impact?			
Will information you collect from participants be kept secure and confidential? How will you do this?			
Will you make sure that information from participants is reported anonymously? How will you do this?			
Will the risks and benefits of your research be shared fairly between participants? How will you do this?			

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