

Making Ethical Decisions

How does one make a well-reasoned response to an ethical dilemma?

Consider your duties and obligations. What are the responsibilities that you should live up to, and why? What values and principles inform those responsibilities?

Identify all of the interested parties, and what their interests are. Start with those directly involved in the situation and move outward as needed, to people in the same institution, to the larger community, to society in general.

Identify and address the issues and points of ethical conflict. Move beyond naming the issue (eg, plagiarism, data access, honesty), to the nature of the conflict. What obligations, interests, and principles are in conflict? What is the choice between?

Develop list of options. Be imaginative, try to avoid simply “yes” or “no,” but be specific. What to say or do? Who to tell? When? How? People may fail to see different options due to a limited imagination, bias, ignorance, or fear. There may be another choice besides ‘yes’ or ‘no,’ such as ‘negotiate an agreement.’

Consider the consequences to all parties. Recognize and consider the specific consequences of acting in the various ways to all the interested parties. What are the possible outcomes of each option, and how would the interested parties be affected by each? Consider the benefits, the costs, and the risks.

After considering these questions, a person facing an ethical dilemma may decide to ask more questions, gather more information, explore different options, or consider other ethical rules. It may be useful to **seek advice** from a colleague, a senior researcher, your department chair, or anyone else you can trust. You might want talk to your supervisor and research team before making a decision.

However, at some point he or she will have to make a decision and then take action. Ideally, a person who makes a decision in an ethical dilemma should be able to justify his or her decision to himself or herself, as well as colleagues, administrators, and other people who might be affected by the decision. He or she should be able to articulate reasons for his or her conduct and should consider the following questions in order to explain how he or she arrived at his or her decision.

- Moral Reasoning in Scientific Research: Cases for Teaching and Assessment. Bloomington, Indiana: Poynter Center (1995)
- Ethics and the University. Michael Davis, and the Penn State online course. <https://onlinecourses.science.psu.edu/statprogram/ethics>.
- Ethical decision-making in research: Identifying all competing interests. Michael Kalichman, Science and Engineering Ethics (2002) 8, 215-218
- What is Ethics in Research & Why is it Important. David B. Resnik, J.D., Ph.D. <http://www.niehs.nih.gov/research/resources/bioethics/whatis/>
- Ethical Guidelines for Statistical Practice, Prepared by the Committee on Professional Ethics of the American Statistical Association, Approved by the ASA Board in April 2016 <http://www.amstat.org/ASA/Your-Career/Ethical-Guidelines-for-Statistical-Practice.aspx>

The Marty Brown Case

Marty Brown, a plant biologist at a major research university, is investigating the potential utility of transgenic tobacco plants as “factories” for the production of foreign proteins. The potential benefit of this research to human medicine is clear. For instance, the non-plant gene that Brown is working with right now is human Factor VIII, a protein essential for blood clotting and the protein that most people with hemophilia lack.

In his current experiment, Brown has introduced a construct of the Factor VIII gene into tobacco and has 100 transgenic plants that he is studying in a developmental time course. He is following both Factor VIII production and the plants’ growth to assess the effect of the foreign gene on the plant’s development, and vice versa.

Brown is excited about the success of his experiment thus far, and he feels that the potential uses for his findings make it imperative that he publish as soon as possible. A disease-free, inexpensive source of Human Factor VIII would be of great benefit to hemophiliacs, who run the risk of contracting disease from plasma-derived sources and who must find a way to pay about \$100,000 per year for their treatment. The urgency is all the more real to Brown, whose infant son is a hemophiliac. The sooner Brown’s promising results are published, the sooner other scientists will be able to follow his line of work, and the sooner his discovery can have a practical, clinical impact.

One Friday, late in January, Brown checks on the 100 transgenic tobacco plants that have now been in the greenhouse for about a month. He discovers that twelve of them are beginning to look sickly. Their leaves are drooping a bit and turning yellow on the edges. He records this in his notebook, and also notes that all of these plants are close to the door. Later, in the lab, when he checks his previous results, he finds that these twelve plants have been producing Factor VIII at a consistently higher level than the other plants. Only one other plant had Factor VIII in this range, although quite a few came close.

Feeling pressed for time, Brown decides not to investigate the cause of the poorer growth of the twelve plants any further. He concludes that because they happen to be near the greenhouse door, they have been repeatedly exposed to lower temperatures than the other plants, and that this is the problem. He records this conclusion in his notebook along with the other entries.

Early the following week, Brown is working on integrating his most recent transgenic plant data into the first draft of the manuscript on which he is working. He has entitled it “Human Factor VIII Production in Transgenic Tobacco Has No Deleterious Effect on Plant Growth.” When Brown comes to the data on the twelve sickly plants, he considers whether he should exclude these plants from his analysis. He thinks that doing so would be justified because of the plants’ proximity to the greenhouse door. In addition, the paper would be more impressive without the uncertainty associated with the data from these plants. He weighs the relevance of the data from those twelve plants against the principle that there is nothing wrong with excluding outliers and irrelevant data. Besides, he thinks these results are too important to risk letting them get held up in the review process.

Should Brown leave out the data from those twelve plants? Why or why not?

What are Marty's obligations and responsibilities? [Marty has a obligation to...]

Who are the other parties and what are their interests?

What are the points of ethical conflict?

What are some options?

What are the consequences of these options to each of the other parties?
Consider benefits, costs, and risks.

Name: _____

Tell me something interesting or new you learned today about making ethical decisions.
Thanks.

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