

The Ethical Dilemma

Problem owner: PhD-student (self)

The dilemma: You have just succeeded at producing some interesting results in your first project. Your supervisor is thrilled and wants you to submit a paper describing your findings before the end of the year (you have one month to do it). You think the results are promising, but are unsure of their validity. You need to repeat the experiment at least twice and statistically validate the data (this will take at least 3, but most likely 6 months). What do you do?

Possible outcomes:

1. Agree with supervisor. Write paper now.
2. Disagree with supervisor. Continue with experiments.

OLE

Ethics, internal relations and relations to society at large

1. Will there be any ethical problems or conflicts in the context, in the organization or in the group where your project or the results of it will be applied or used?

Yes. There is an ethical problem in whether fast results and good results are comparable. It conflicts with good research practice. The duty to publish in order to share results of your work conflicts with the duty to validate research. Financial security is in conflict with personal values.

2. Will your project or the results of it cause any ethical problems or conflicts?

The results, if they are not validated and turn out to be erroneous, can bring forth problems of various severities, from loss of trust, funding, jobs, popularity to harm to research field because of the losses mentioned.

If results are not validated, but turn out to be correct (validated by someone else), mistrust may be created in the research community. Following good research practice means validating results. The ethical issue here is between being first with something that might have a great impact for the whole scientific community (or a small part of it) and compromising the research process itself.

If results are validated by oneself and turn out to be correct, no problems can be foreseen.

3. What groups, individuals, organizations, etc, will in any way be affected by or have a stake in the development, use or mere existence of your project or the results of it?

Oneself, one's supervisor, the department one works at, possible colleagues and collaborators, the scientific community in general as well as the general public (who may be the end users of our discovery).

4. What values, interests, duties, standpoints and attitudes are involved in the use of your project or the results of it?

Following good research practice

Duty to publish results

Expectations from supervisor/department to produce (and publish) results

Interest from funding agencies (government, companies, individuals) to get results

5. What effects will your project or the results of it have on each of these values, etc? Will your project or the results of it fit certain values and conflict with others? What values and how?

Publishing invalidated results damage good research practice

Validation of results requires time and may lead to delay in publishing

Validation of results can lead to a better publication (if results are good) or no publication at all (if results prove to be bad)

Invalidated results that prove to be wrong can damage career (both for self and supervisor)

Funding agencies are not interested in bad results and may not grant new money in the future

6. What will you do to make sure that the use of your project or the results of it will be optimal with regards to ethical aspects? For instance if it is an IT system, adapt the design of the product, user training, organizational changes, inform stakeholders, etc? How exactly are you going to succeed with this?

Weigh all the risks and decide whether to publish or not. If other research groups are working on a similar project, collaboration may lead to better publication (even if it means publishing together, instead of being first with new discoveries).

HA

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Possible outcomes:

3. Agree with supervisor. Write paper now.
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Heteronomy (Authoritarian and constrained thoughts)												
Reflexes or emotional reactions (Dominated by one automatic thought) Outcome 1: It's the <u>fastest way</u> to get the supervisor off my back. Outcome 1: If the results are bad it's my <u>supervisor's responsibility</u> . Outcome 1: I'll agree with my supervisor to <u>avoid conflict</u> . Outcome 1: <u>This is how</u> they do things at the department. Outcome 2: I <u>don't want to look stupid</u> in front of my colleagues. Outcome 2: It may <u>damage my career!</u>												
Dogmatic and uncritical thoughts (Fixation to one important principle) Outcome 1: My <u>supervisor knows best</u> . He has lots of experience (at least more than I). Outcome 1: It is <u>expected</u> of me. My duty as a PhD-student is to produce and publish results. Outcome 2: My <u>duty</u> to the scientific community is to validate results. Good research practice.												
Autonomy (Systematic, critical and holistic searching)												
Valid, relevant values, interests etc. (Who is affected? What are their values?) <table><tr><td>Affected:</td><td>Values:</td></tr><tr><td>PhD-student (self)</td><td>Financial situation, successful career, science in itself, relations with colleagues</td></tr><tr><td>Supervisor</td><td>New results, funding, career</td></tr><tr><td>The department where I work</td><td>Money: good results mean new investments</td></tr><tr><td>The scientific community</td><td>Validity of results: possibility of setting back researchers</td></tr><tr><td>My family/friends</td><td>Happy at work, happy at home</td></tr></table>	Affected:	Values:	PhD-student (self)	Financial situation, successful career, science in itself, relations with colleagues	Supervisor	New results, funding, career	The department where I work	Money: good results mean new investments	The scientific community	Validity of results: possibility of setting back researchers	My family/friends	Happy at work, happy at home
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Possible actions and values (What can be done? How are all values affected?) <ol style="list-style-type: none">1. Agree with supervisor. Write paper now.2. Disagree with supervisor. Continue with experiments.												

What is most important to me?

Financial situation at the moment: If I produce papers, I will have a job; if I have a job I can provide for my family and secure my future.

Successful career: Bad results may hold me back. Other groups will not want to work with me. It will be hard to publish new papers. However, if the results turn out to be great, I will get an immediate career boost. It will be easy to get research grants and everyone will want to work with me.

Conflicts: I do not work well under constant pressure. Conflicts make me nervous. My results will suffer if I am stressed. If I do not agree with my supervisor, I may lose my job immediately or he might stop talking to me and I will not be able to produce new results. On the other hand if I let my colleagues down, it will create a hostile environment at work.

What is most important to my supervisor?

To be first with new results: If the results are good, it will bring forth new research. He will get new grants and can continue research, begin new collaborations and hire new PhD students. It is good both for his career and the scientific community in general.

Importance of multiple publications: If the PhD student publishes a paper, the supervisor's name will be among the authors. His publication list will grow and it will be easier to get financing for new projects.

What is most important to the department?

Good results: New publications (with good results) lead to a better status of the department and more money allocated. Popularity of the field will be increased and more and better students will come to study at the department. A more competent personnel can be hired, who can bring fame to the department.

Increasing the number of publications: The impact factor (counted by the university) will increase the status of the department, even if the paper is of poor quality.

Successful department means happy employees. People will be less stressed out about their financial situation and devote more time and effort to pure research.

What is most important to the scientific community?

Trust in a good research practice: Published results are expected to have been validated, so that new research can build on them. Publishing bad results undermines research in general. If results are later refuted it is hard to convince the general public (or government who allocates money for research) that such research is important.

The value of knowledge: Research value in itself assumes it is based on a good research practice.

What is most important to my family/friends?

Value of happiness: If I am happy with what I do, my family and friends are also happy.

AT

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Possible outcomes:

- 1 **Agree with supervisor. Write paper now.**
- 2 **Disagree with supervisor. Continue with experiments.**

Autonomous Thinking	All principles, values, interests, duties, feelings, needs of all involved parts				
	PhD student	Supervisor	Department	Scientific community	Family/friends
Outcome 1	<p>Possibilities: Be first with a new discovery Publish an article Supervisor happy Relationship with supervisor great PhD position renewed for next year</p> <p>Risks: Bad results – bad for career Publication in a less renowned journal Stress about not being sure about results</p>	<p>Possibilities: Be first with a new discovery Add an article to the publication list Easier to get grants Easier to recruit new PhD students</p> <p>Risks: Bad results – bad for career Publication in a less renowned journal</p>	<p>Possibilities: Good publicity, easier to recruit competent personnel, research field becomes more attractive for students, get more funding from the government</p> <p>Risks: Bad publicity if bad results, harder to recruit competent personnel, students do not want to study, less funding</p>	<p>Possibilities: Good results can be used by others faster, facilitate the accumulation of knowledge and can lead to new discoveries</p> <p>Risks: Bad results undermine the research field for the general public (and government), trust in good research practice is damaged</p>	<p>Possibilities: Good results, happy researcher, happy friends and family</p> <p>Risks: Bad results, unhappy researcher, more stress, more work, unhappy family and friends</p>

Autonomous Thinking	All principles, values, interests, duties, feelings, needs of all involved parts				
	PhD student	Supervisor	Department	Scientific community	Family/friends
Outcome 2	<p>Possibilities: More thorough results – better article Validating data – publication in a better journal</p> <p>Risks: Someone publishes similar article before and gets all the credit or no publication at all (articles too similar), doing more extra work for nothing (if results were good), supervisor unhappy, tense situation at work.</p>	<p>Possibilities: Thorough results, better article, better journal, reputation intact</p> <p>Risks: Someone publishes before and gets all the credit, no publication at all</p>	<p>Possibilities: Good publicity associated only with good results, better publication index, reputation intact</p> <p>Risks: Missing a publication opportunity</p>	<p>Possibilities: Good research practice, faith in science from the general public is preserved</p> <p>Risks:</p>	<p>Possibilities: Good results, happy researcher, happy friends and family</p> <p>Risks: Longer time to do work, away from family and friends for a longer time</p>

Evaluation questionnaire

OLE, HA, AT and EthXpert

1. Which tool did you use first after OLE?

HA

2. How good was the tool in identifying the following?

(Rate 1 to 5, 1=Bad, 5=Good)

	OLE	HA	AT	EthXpert
Stakeholders	4	4	5	4
Values/interests	4	4	4	5
Options/alternatives	3	3	5	4
Possibilities	3	3	5	4
Risks	3	3	5	4

3. Did it help you to?

(Rate 1 to 5, 1=No, 5=Yes)

	OLE	HA	AT	EthXpert
Get a good overview?	3	3	5	4
Understand the problem?	3	3	5	4
Make a decision?	2	2	5	3
Get confidence with the decision made?	2	2	5	3
Explain and defend the decision?	2	2	5	3
Get prepared for dialog?	3	3	5	3

4. How do you feel about the tool?

(Rate 1 to 5, 1=No, 5=Yes)

	OLE	HA	AT	EthXpert
Does it work?	4	5	5	4
Do you understand how to use it?	4	5	5	4
Is it easy to use?	4	4	5	1
Does it support achievement of your goals?	3	4	5	3
Does it help you make a morally better decision?	3	3	4	3

Evaluation of the ethical tools OLE, HA, AT and EthXpert

In our opinion all of these tools are useful when practicing ethical decision making. The strength of each of these is not in the way one solves the ethical dilemma at hand, it is in the attempt to rationally grasp the problem. All methods are based on asking questions, identifying sides and interests and figuring out possible outcomes.

OLE is more of a general tool, the purpose of which is to encourage the user to open up to the fact that one's decision will inevitably present some ethical problems. It is rarely possible to do anything without affecting others, and once others are affected ethical issues are brought up. Knowing that is a good start.

HA is quite straight-forward, but we found it difficult to identify *single* automatic thought. In our opinion, any heteronomous response is triggered by several different reactions, all of which are interdependent. We also think that the nature of a person is to always find excuses, so each automatic thought is almost always followed by *many* different rationalizations.

Our favorite among the tools is AT. The simplicity of it is rather baffling; and some of us were genuinely surprised at what it did. By identifying possibilities and risks of a particular action it was actually possible to make a decision or at least one of us was inclined to make one. The fascinating thing about it was that it pointed out a solution that automatically felt like the wrong thing to do.

EthXpert, although interesting as a concept, is still unrefined and messy. Our understanding of its function is that it tries to combine all the other methods in one large matrix. Naturally the idea is to see the complexity of an ethical problem, yet it may scare potential users because of its sheer volume. It is very much an IT-tool, it feels and handles like a computer program. For a non-IT person it is its greatest shortcoming.