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# DISCUSSION

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## The Cost of Standing Strong for *Replacement*

Katy Brown

*To what extent does maintaining a stand against the use of animals in experiments harm the career progression of a young researcher today?*

The experience of young researchers choosing to avoid animal experiments varies greatly, depending on the situation in which they find themselves. A series of interviews with young researchers, that were carried out as part of a Lush Prize Background Paper, pointed to the importance of centres or research groups dedicated to animal alternatives. It is clear that those students lucky enough to find themselves at one of these institutions have a much easier time in pursuing this career route. That said, there are still obstacles and challenges, including funding issues and resistance from those working outside these institutions. Those who choose this often difficult path outside specialist institutions may face a very tough time – in fact, two of the young people interviewed had no option but to decide on a career change, in large part due to issues around animal use. Individuals from a number of organisations involved in promoting alternatives to animal experiments and/or animal rights were asked to give their opinions on the feasibility of this career path choice by young researchers. What clearly came out of these interviews is that young researchers who wish to go into a career without ever being expected to use animals need to be determined, resourceful and tenacious. This is illustrated by comments such as:

- “You’ve got to get used to the fact that it may not always be an easy route.”
- “Forging an entire career in toxicology where you’re never involved in animal testing, is much more challenging.”
- “Some budding scientists may well be put off entering science, particularly toxicology, because of the issue of animal welfare.”

### Interviews with young researchers

The issues surrounding this area were investigated in more depth by talking to six young researchers, not just from the UK, but also from Portugal, Denmark, Italy and the USA. Four were the recipients of the 2012 Lush Prize, and the two other individuals

entered the life sciences, but chose to change career path, at least in part due to issues concerning animal use. Their full stories can be found in the Young Researchers Lush Prize Background Paper on the dedicated website (see <http://www.lushprize.org/wp-content/uploads/Young-Researchers.pdf>).

### Sofia – the early-exiter – Portugal

Sofia started to study for a Biology BSc, but dropped out in the first year. At the point she decided to leave, she had not been asked to dissect or vivisection, but knew that before the end of the year she would be asked to do so. Sofia was concerned that the lecturers weren’t discussing these matters with the students and that the students were, in fact, apparently indifferent to the subject and perceived themselves as powerless. She felt that the general opinion of the student body was that dissection and vivisection were scientifically mandatory, and, even if they didn’t want to do it, there was nothing they could do to prevent it – and indeed that conscientious objection was something the great majority of students would not consider. In the end, she felt excluded from the course.

### Joe – the committed conscientious objector – UK

Joe studied for a life science degree, then a related PhD, and finally took up a post-doctoral position. He avoided the undergraduate degree modules that would have involved dissection. During his PhD studies, there was increasing pressure on him to become involved in rodent studies, but he resisted this pressure, having stated at the start of his PhD that he would not be willing to carry out animal experiments. Initially, he was able to guide his own research in a way that avoided animal testing, by using non-animal methods. This did, however, get harder and harder as the research progressed, and he was encouraged

more and more to use non-human models to look at some of the key areas that he was investigating. He said that the position he ended up in, “essentially had me boxed into a corner from which changing career or carrying out animal experimentation (either directly or indirectly) were the only options.” He added that “the alternatives were pushed to one side, or not seen as being able to give the whole picture, by the people leading my research group.” Joe has changed his career path, and now works in the field of conservation.

### **Chiara – the well-supported enthusiast – Italy**

Chiara works for Anna Maria Bassi, at the Analysis and Research Laboratory in Pathophysiology (LARF), in the Department of Experimental Medicine of the University of Genova, Italy. This laboratory is involved in the development and validation of *in vitro* models for use as alternatives to animal testing. Despite being based in this institution, with its non-animal research stance, Chiara’s major difficulty has been fundraising and finding partners with whom to develop new and competitive projects. She explained that, in Italy: there are very few research groups that promote *in vitro* models as alternatives to animal testing; the Italian Parliament has only very recently banned certain animal tests and endorsed funds for research on *in vitro* models with particular attention to the policy of the Three Rs and the European legislation; there are very few academic courses on alternative methods; and not very many research groups are devoted exclusively to working on *in vitro* models.

### **Felix – the motivated human research-focused scientist – USA**

Felix has, since being an undergraduate, found it more useful to focus his research on a human-based approach, rather than an animal-based approach. He strongly believes that a human-based approach can provide more-relevant information, adding that he feels that “there was, and still is, some type of resistance by those that argue that much more information can be gathered from animal-based research.” He thought that “the most difficult steps are in the very early stages, such as undergraduate and post-graduate studies, where our scientific freedom is limited. However, for me, the post-doctoral stage has been most challenging, because our non-animal system has unfortunately been viewed with some level of resistance by some of our colleagues.”

### **Line – the animal-free testing convert – Denmark**

Line started with the intent of working with animals, because she thought that she could help the animals

“from the inside – i.e. so that the animals used would be as few as possible, and would be as well taken care of as possible.” She then changed her career path, because she felt that it was stressful to be around animal suffering every day. She now works entirely on human tissue, which she feels is “very interesting from a scientist’s point of view”, because “when researching human health, the use of animal models will always be far less accurate than using humans.” She thought that the undergraduate level can be the most challenging when it comes to avoiding animal use, because “often you are not able to choose, as the institutions are streamlined and every student has to do the same courses.”

### **Liz – the slow-burner – UK**

Liz studied A-level Biology, which involved a rat dissection. She was concerned about animal welfare and didn’t want to do the dissection, but she wanted to pass the course and go to university. She added, “It was said that we could apply to dissect a plant, but that we wouldn’t get as good a mark!” When she went to university, she didn’t study Biology. This was, in part, due to advice at her college that it would involve a lot of dissection. Having completed a work placement in the chemical industry and enjoyed it, she decided to go down that career path, but during the course of her degree she was more and more drawn to the options that involved a biological element. For her MSc course, she chose Toxicology, with the long-term aim of working in a hospital and thus with humans, not animals. Her friend, who had completed the course, ascertained that there was no practical animal work involved.

She obtained a graduate job in a hospital toxicology laboratory, and then in a cancer prevention unit. Here, she was involved in examining human samples (breast tissue, etc.) from biopsies and surgery, for biomarkers of cancer, and she was also required to test organs from experimental animals. Liz said, “I was still training and learning, but felt that the experiments were not always well planned and the animal data derived were not always very informative.” She then decided to take more proactive action, and since then has completed a PhD in neurotoxicology, based on developing an *in vitro* brain model from human cells. This was followed by a post-doctoral position funded by the Humane Research Trust. After this first post-doctoral position, despite the promising nature of the brain cell model, Liz was unable to secure further funding, despite that fact that she “really felt that I had to get back to my original work, not only for myself, but also for the sake of those who’d supported me thus far.” Thankfully, due to the Lush Prize and funding from the British Brain Research Fund, she has been able to get her research aims back on track, at least for the time being. Liz added, “Because I have now chosen a career that specifically deals with developing *replacement* models, with a supervisor specifically involved in this field, avoiding animal use will not be

an issue until I find myself unemployed. But due to it still being an emerging field, employment opportunities and funding are an issue, as is convincing our traditionalist colleagues of the worthiness of our research.”

## Summary

The testimonies of these individuals largely speak for themselves. The responses point to the importance of specific institutions or research groups that focus on the development and use of alternatives, and these should, of course, be better supported. Those who find themselves outside such institutions or teams, are more likely to feel stranded and iso-

lated. Then again, Liz did have the support of a research group dedicated to *replacement*, but she has still had a significant struggle to find funding. The interviews with some of these particular young researchers indeed pointed toward a tangible ‘cost’ in terms of having to steer their career on the often difficult path toward the use of non-animal based methods.

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