• 37% of respondents are not studying in the country they grew up in. International (non-native) students are most likely to be completing their PhD in Europe (52%) and the US (25%).

• 19% of respondents have a job alongside their PhD studies. The main driver for this is to help make ends meet (53%), followed by a desire to develop additional skills (25%).

• Students were likely to rank their top concerns as uncertainty with career prospects, maintaining a work-life balance, completing studies on time and funding issues since starting their PhD.

• Interestingly, almost an even proportion of respondents believe their satisfaction has worsened (45%) since their graduate school experience, compared to increased (42%).

• 74% of respondents are satisfied with their decision to pursue a PhD. 71% of respondents are satisfied with their PhD experience. Factors which appear to correlate strongly with overall satisfaction include relationship with supervisor/PI, number of publications, hours worked, guidance from advisor in the lab and work-life balance.

• 27% of respondents report that they spend 41-50 hours on their PhD programme per week, and 25% report that they spend 51-60 hours. 85% of respondents who spend 41+ hours a week on their PhD are dissatisfied with their hours worked.

• 36% of respondents have sought help for anxiety or depression. 49% of respondents report a long-hours culture at their university.

• 21% of respondents have experienced bullying in their PhD programme. Supervisors (48%), other students (38%) and other staff (33%) were the most common perpetrators.

• 21% of respondents had experienced discrimination or harassment in their PhD programme. Gender (39%) and racial (33%) discrimination were the most common forms.
• 56% of respondents ranked academia as the sector they would most likely work in on completion of their PhD.

• The most popular career path is research in academia, followed by research in industry. Least popular paths appear to be non-research related roles.

• 41% of respondents suggest they are more likely to pursue a research career since commencing their PhD, compared to 26% who are less likely.

• Funding and work-life balance are key barriers to pursuing an academic research career.

• 67% of respondents believe their PhD will improve their job prospects either substantially or dramatically.

• A majority of respondents (46%) believe they will find a permanent position within the first 2 years of completing their PhD.

• Personal research is the main source of knowledge for students to base their current career decisions (60%). Observations and advice from supervisors and colleagues follows (30-28%).

• A third (33%) of respondents learn about non-academic career opportunities from people in their department.

• Over half of respondents (51%) agree that department staff are open to them pursuing a career outside academia, however only 29% agree that they have been given useful advice on this. Only a quarter agree that their programme is preparing them well for a non-research science-related career.

• 24% report that they would change their PI and 8% would not pursue a PhD at all, given the chance to start over.
The *Nature* team have run a biennial PhD Career survey since 2011. Shift Learning have supported on development, hosting and analysis of the 2019 results. To ensure topics covered within the survey were relevant and resonated with graduates, an initial exploratory qualitative phase took place. Findings from ten interviews informed development of the quantitative survey.

- The online survey was developed in collaboration with *Nature* and sent to their database and subscribers via a number of channels. In order to boost response in specific regions which have been previously under-represented, the survey was translated into 4 languages (Mandarin Chinese, Portuguese, Spanish and French) in addition to English. The survey was live for approximately 6 weeks. Only current PhD students were included within the final analysis. Respondents who provided poor quality responses were removed from the dataset, in addition to those with missing data.

**The survey included up to 56 questions**

**We received up to 14,260 responses* to the survey**

**Following data cleaning, we had a usable sample of 6,320**

*Including partial completes.
PROFILE OF RESPONDENTS
DEMOGRAPHIC BREAKDOWN

Q: What is your age?

- 12% 18 - 24
- 77% 25 - 34
- 8% 35 - 44
- 2% 45 - 54
- 1% 55 - 64

Q: Are you...

- 49% male
- 50% female

Q: Which of the following best describes you?

- Caucasian
- East Asian
- South Asian
- Latino/Hispanic
- Middle Eastern
- African
- Mixed ethnicity

Q: Do you have any caring responsibilities?

- 11% yes – child under 12
- 2% yes – child over 12
- 11% yes – adult
- 78% no caring responsibilities

Base n = 6320

6,320 respondents
South America: 3% of the sample

Africa: 3% of the sample

Europe: 36% of the sample

Asia: 28% of the sample

North & Central America: 27% of the sample

Australasia: 3% of the sample

Asia (1,743 respondents): 40% of Asian respondents were from China, 29% from India, 5% from Japan and 5% from South Korea.

Africa (158 respondents): 36% of African respondents were from South Africa, 23% from Nigeria, 6% from Morocco and 6% from Egypt.

Australasia (200 respondents): 91% of these respondents were from Australia and the remaining were from New Zealand.

Europe (2,280 respondents): 22% of Europeans were from the UK, 21% from Germany, 7% from Czech Republic and 6% from France.

North & Central America (1,729 respondents): 82% were from the US, 11% from Canada and 6% from Mexico.

South America (210 respondents): 63% were from Brazil, 14% Argentina, 10% from Chile and 9% from Colombia.
EMPLOYMENT AND STUDY DECISIONS
A LACK OF FUNDING IS DRIVING STUDENTS TO STUDY IN A DIFFERENT COUNTRY

37% of respondents are not studying in the country they grew up in. Students who are studying in a different country to that which they grew up in are most likely to be completing their PhD in Europe (52%) and the US (25%). Asides from experiencing a new culture, the main drivers for studying outside the country of origin were funding and employment considerations.

Q: Are you studying in the country you grew up in?

- Yes: 63%
- No: 37%

Q: What prompted you to study outside your country of upbringing? (Multi choice)

- To experience another culture: 45%
- Lack of funding opportunities in my home country: 40%
- More job opportunities post-study: 35%
- Lack of quality PhD programmes in home country: 30%
- Chance to pursue a specific research question: 25%
- Higher salaries post-study: 20%
- Lack of PhD programmes in my subject of choice: 15%
- To study at a specific university: 10%
- Family reasons: 5%
- Political reasons: 0%

Base n = 6320; Reasons Base n = 2311
Approximately a fifth of students have a job alongside their studies. The main driver for this is to help make ends meet (53%), followed by a desire to develop additional skills (25%). Respondents aged 35+ years were significantly more likely to have a job than students aged 34 years and under. Carers were also significantly more likely to be in work.

Q: Do you have a job alongside your studies?

- Yes: 19%
- No: 81%

Q: What is your main reason for having a job?

- To help make ends meet: 60%
- To develop additional skills: 20%
- To make myself more attractive to future employers: 10%
- To broaden my contacts: 10%

Base n = 6320; Reasons Base n = 1232
STUDENT SATISFACTION
Q: What concerns you the most since you started your PhD?

**Top concerns (% who ranked concern within top 5)**
- Uncertainty about my job/career prospects (79%)
- The difficulty of maintaining a work/life balance (78%)
- Inability to finish my studies in the time period I had set out to (74%)
- The number of available faculty research jobs beyond postdoc (70%)
- The difficulty of getting funding / low success rates for grant applications (68%)
- Financial worries after my PhD (cost of living, inability to save for a house, children, retirement) (67%)

**Mid level concerns (% who ranked concern 6th – 10th)**
- Concern about my mental health as a result of PhD study (29%)
- The high numbers of PhD holders who are doing or have done multiple postdocs (37%)
- Uncertainty about the value of a PhD (31%)
- Poor support and acknowledgement of my parenting/elder care responsibilities (30%)
- Impact of a poor relationship with my supervisor/PI (23%)

**Lower level concerns (% who ranked concern within bottom 4)**
- Impostor syndrome (16%)
- Political landscape (29%)
- Student debt during my PhD (50%)
- Poor support and acknowledgement of my parenting/elder care responsibilities (42%)

Students were presented with a list of concerns and were asked to rank them in relation to their own experiences. The top concerns were identified to be uncertainty with career prospects, maintaining a work-life balance, completing studies on time and funding issues.

The top concerns did vary by region, however.

**Africa:** difficulty of getting funding, financial worries post-study, inability to finish studies on time, political landscape.

**Australasia:** number of faculty research jobs available, uncertainty about career prospects, maintaining a work-life balance.

**Asia:** uncertainty about career prospects, financial worries, uncertainty of the value of a PhD, poor support for elder care responsibilities.

**Europe:** impact of poor supervisor relationship, maintaining a work-life balance, concern about mental health, impostor syndrome.

**North or Central America:** imposter syndrome, the number of faculty research jobs available.

**South America:** uncertainty about career prospects, political landscape, the number of faculty research jobs available.

Respondents were asked to describe any other concerns they had since commencing their PhD. The most common concerns cited were publication pressures (10%), a lack of support, guidance and/or supervision (7%), financial pressures (7%), and progress and quality of work (7%).
16% of respondents are dissatisfied with their decision to pursue a PhD.

- 74% of respondents are satisfied with their decision to pursue a PhD.
- Students are most likely to enjoy the intellectual challenge of being a PhD student (38%) and working with interesting people (18%). They are least likely to enjoy the social life of a PhD student (1%).
- Other areas of enjoyment mentioned by respondents included flexibility, the positive impact of their work, independence, travel and personal development.

Q: How satisfied are you with your decision to pursue a PhD?

Q: Overall, what do you enjoy most about life as a PhD student?

- Intellectual challenge
- Working with interesting and bright people
- University/academic environment
- Creativity
- A chance to consider professional options
- Knowing I will have a chance for a permanent academic research post
- Knowing I will have a chance to use my skills in a non-research science job
- Knowing I will have a chance for a non-academic research job
- Social life

Base n = 6320
71% of respondents are satisfied with their PhD experience.

Respondents rated their satisfaction with their PhD experience an average of 4.9 out of 7. Factors which appear to correlate strongly with overall satisfaction include relationship with supervisor/PI, number of publications, hours worked, guidance from advisor in the lab and work-life balance.

Interestingly, almost an even proportion of respondents believe their satisfaction has worsened since their graduate school experience, compared to increased.

Only 10% of respondents believe their PhD programme has exceeded their expectations, whereas 37% believe it hasn’t met their expectations. The latter opinion particularly reflects those based in India (55%).

Q: How satisfied are you with your PhD experience?

- Dissatisfied: 18%
- Neutral: 11%
- Satisfied: 71%

Q: Since the very start of your graduate school experience, would you say your level of satisfaction has:

- Worsened: 45%
- Neutral: 13%
- Increased: 42%

Q: To what extent does your PhD programme compare to your original expectations?

- Does not meet original expectations: 37%
- Meets original expectations: 52%
- Exceeds original expectations: 10%

Base n = 6320
CAREER GUIDANCE, NUMBER OF PUBLICATIONS AND WORK-LIFE BALANCE ARE BIGGEST AREAS OF DISSATISFACTION

- Respondents are most satisfied with the degree of independence, relationship with their supervisor, ability to attend meetings and conferences, and the ability to present at conferences.
- Students’ relationship with supervisor/PI does seem to have a particular impact on overall satisfaction. 53% of respondents who are dissatisfied overall with their PhD experience are dissatisfied with this relationship.
- They are least satisfied with career pathway guidance, number of publications, work-life balance, benefits, and stipend.
- Respondents from Africa are particularly dissatisfied with funding availability (57%) and stipend (56%).
- Funding dissatisfaction also seems most prevalent amongst older students (35+ years).
- Those based in Asia are significantly likely to be dissatisfied with vacation time (39%), opportunities to attend meetings (23%) and benefits (42%).

Q: How satisfied are you with each of the following attributes or aspects of your PhD?

- Degree of independence
- Ability to attend meetings and conferences
- Overall relationship with supervisor/PI
- Ability to present research at conferences
- Recognition from supervisor/PI
- Opportunities to collaborate
- Guidance received from other mentors
- Social environment
- Guidance received from adviser in lab/research
- Availability of funding
- Hours worked
- Stipend / financial support
- Vacation time
- Benefits (health care, leave, etc.)
- Teaching duties
- Work-life balance
- Career pathway guidance and advice
- Number of publications

Base n = 6320
MENTAL HEALTH AND DISCRIMINATION
Of the respondents who had sought help for anxiety and depression caused by PhD study, 43% done so via their institution. However, only 26% found this helpful. 9% indicate they sought help but none was available.

Qualitative interviews indicated that mental health support within the universities was usually available, but interviewees often mentioned having to seek it out themselves – it wasn’t promoted around campus and supervisors seemed unlikely to advise accessing mental health support. If support was available, there were often long waiting times, a lack of counsellors and few hours given for free or at an affordable price.
76% of respondents are working 41+ hours per week.

- 27% of respondents report that they spend 41-50 hours on their PhD programme per week, and 25% report that they spend 51-60 hours. 85% of respondents who spend 41+ hours a week on their PhD are dissatisfied with their hours worked.
- Almost half of respondents (51%) suggest they receive less than an hour 1-2-1 contact time with their supervisor per week.
- Younger students (25-34 years) are most likely to spend the most hours per week on their PhD (51+).
NEARLY HALF OF RESPONDENTS REPORT A LONG-HOURS CULTURE AT THEIR UNIVERSITY, ALTHOUGH 37% STILL SUGGEST A GOOD WORK-LIFE BALANCE

Qualitative findings suggested there were issues of upholding the reputation of universities – some interviewees felt that discrimination and mental health incidents were played down to protect the university’s reputation. These results suggest more could be done by universities to promote available support students.

Q: To what extent do you agree or disagree with the following statements?

- There is a long-hours culture at my university, including sometimes working through the night
- My university offers different types of support to promote mental health and wellbeing beyond one-to-one support (e.g. workshops, seminars)
- My university supports good work-life balance
- My university offers adequate one-to-one mental health support
- Mental health and wellbeing services in my university are tailored and appropriate to the needs of PhD students
- My supervisor/PI has a good awareness of support services and was able to signpost me to them if needed

Base n = 6288 - 6307

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Over a fifth of respondents have experienced bullying and 57% of these students feel unable to speak out about their experiences.

- 21% of respondents have experienced bullying in their PhD programme.
- Supervisors (48%) and other students (38%) were the most common perpetrators.
- Qualitative findings suggested bullying from supervisors took different forms, such as acting aggressively towards students, asking them to work outside of their remit, or being overly critical.
- Over half of those who had experienced bullying felt unable to speak out about their experiences (57%).
- Qualitative interviews suggested fear of repercussions due to not being able to speak up anonymously.
21% of respondents had experienced discrimination or harassment in their PhD programme.

- Gender (39%) and racial (33%) discrimination were the most common forms.
- 85% of those who had experienced gender discrimination were women. 88% who had experienced sexual harassment were women.
- Sexual harassment was most prevalent in North & Central America.
- Other forms of discrimination or harassment mentioned by survey respondents included xenophobia, socio-economic, cronyism, cultural and political.
FUTURE CAREER PLANS
56% of respondents ranked academia as the sector they would most likely work in on completion of their PhD.

Industry appears to be the 2nd most popular option, with 28% of respondents ranking this #1.

Respondents were significantly likely to rank medical and non-profit sectors as the least appealing career paths.

Those based in Asia and South America were most likely to rank academia #1. European and US respondents were most likely to be open to industry.

Men were significantly more interested in academia than women.
The most popular career path is research in academia, followed by research in industry. Male respondents are significantly more likely to pursue research in academia and industry than female students.

Least popular paths appear to be non-research related roles.

Those interested in a research career are likely to expect to move into a postdoc in academia role.
41% of respondents suggest they are more likely to pursue a research career since commencing their PhD, compared to 26% who are less likely. Drivers include specialism interest and awareness of career opportunities. Female respondents are significantly likely to cite work-life balance as a barrier, whereas men are more likely to suggest the low salary as off-putting.

Q: How much more likely are you now to pursue a research career than when you launched your PhD programme?
- Less likely: 26%
- Neutral: 31%
- Likely: 41%
- Unsure: 2%

Q: What is the main reason why you are more likely to pursue a research career?
- I have become more interested in my area of specialism: 43%
- I have become more aware of the future career opportunities: 20%
- I have realised I don’t want to do anything else: 15%
- The support of a mentor has fuelled my interest in a research career: 11%
- I have identified a specific research group that I would like to work with: 7%

Q: If you’re unlikely to pursue an academic research career, what are the main reasons?
- The funding climate is discouraging: 63%
- Lack of work/life balance: 59%
- Don’t think I can launch a research career in academia: 47%
- I am not interested in a research career in academia: 41%
- The salary would be too low in academic research: 41%
- It is too demanding: 39%
- Academic research requires too much administration: 29%
- Political climate where I am based is hostile to science: 17%

Base n = 6320; Likely base n = 2614; Unlikely base n = 1172
67% of respondents believe their PhD will improve their job prospects either substantially or dramatically. This increased to 78% when exploring results from African respondents specifically.

7% of respondents believe it would have barely any impact, or no impact at all. This was significantly likely to be the case for European respondents (8%).

A majority of respondents (46%) believe they will find a permanent position within the first 2 years of completing their PhD.

A quarter of African respondents (25%) were unsure of how long it would take to find a permanent position.
CAREERS SUPPORT
Social networks and online resources are the main source for info on careers outside of academia.

- Personal research is the main source of knowledge for students to base their current career decisions (60%). Observations and advice from supervisors and colleagues follows.
- A third (33%) of respondents learn about non-academic opportunities from people in their department.

Q: How did you arrive at your current career decision?

- My own internet or other research on the topic: 60%
- Observing my supervisor/PI: 30%
- Advice from colleagues: 29%
- Advice from my supervisor/adviser: 28%
- Advice from researchers who had secured the job I was interested in: 23%
- Careers training/seminar: 20%
- Family influence: 15%
- Other science-careers publications: 9%
- Nature Careers: 9%
- Unsure/Not applicable: 7%

Q: How do you learn about available career opportunities that are beyond academia?

- LinkedIn, Twitter & other social networks: 45%
- Online resources including blogs: 38%
- Scientific conferences: 34%
- Speaking with people in my department: 33%
- Speaking with people in my lab: 32%
- Other science publications/jobs boards: 28%
- Professional societies: 22%
- Nature Careers: 20%
- Another journal related to speciality: 7%

Base n = 6320
Over half of respondents (51%) agree that department staff are open to them pursuing a career outside academia, however only 29% agree that they have been given useful advice on this.

Q: To what extent do you agree or disagree with the following statements regarding other faculty members or scientists in your department?

- They are open to the idea of me pursuing a career outside academia
  - Disagree: 16%
  - Neutral: 32%
  - Agree: 51%
  - N/A: 11%

- They've encouraged me to attend career-promoting training and events
  - Disagree: 32%
  - Neutral: 41%
  - Agree: 16%
  - N/A: 10%

- They make time for frank conversations about my career
  - Disagree: 32%
  - Neutral: 37%
  - Agree: 36%
  - N/A: 0%

- They have useful advice for careers outside academia
  - Disagree: 36%
  - Neutral: 37%
  - Agree: 29%
  - N/A: 0%

- They have contacted potential employers on my behalf
  - Disagree: 11%
  - Neutral: 53%
  - Agree: 12%
  - N/A: 10%

- They've discouraged me from attending career-promoting training/events
  - Disagree: 58%
  - Neutral: 0%
  - Agree: 0%
  - N/A: 0%
GRANTS AND BETTER INFO ON AVAILABLE CAREER OPPORTUNITIES ARE DESIRED

• 53% of students believe finding out what career possibilities exist is difficult for students within their discipline.

• 12% of women believe gender-specific mentorship would help them establish a satisfying career.

Q: Which of the following 3 things would you say are the most difficult for PhD students in your discipline? (Max 3)

- Learning what career possibilities exist: 53%
- Finding research careers within academia: 52%
- Finding non-research careers that use my skills: 42%
- Obtaining skills for careers in industry: 40%
- Finding research careers within industry: 31%
- Finding research careers within government: 23%
- Finding research careers within charity/non-profit: 11%
- Obtaining skills for careers in non-profits: 11%

Q: Which of the following resources do you think PhD students need the most in order to establish a satisfying career? (Max 3)

- Grants to help PhD holders transition to permanent positions: 57%
- Better data/information about available career opportunities: 55%
- More jobs in academia: 49%
- Mentorship with individuals in my field/department/institution: 45%
- A record of, or data on, career paths of previous graduates from my programme: 28%
- Lower competition for grants: 27%
- Gender-specific mentorship with individuals in my field/department/institution: 8%
FINDING RESEARCH CAREERS IN ACADEMIA IS A CHALLENGE ACROSS THE GLOBE

- For the majority of respondents, finding research careers within academia is the biggest challenge.

- Learning what career possibilities exist is also a challenge across the board.

- South American respondents were significantly likely to suggest finding research careers within industry is difficult.

- During the qualitative stage, several interviewees based in Africa talked about going abroad for work after their PhDs because job prospects where they were studying were poor.

Q: Which of the following would you say are the most difficult for PhD students in the country where you are studying? (Max 3)

- Learning what career possibilities exist
- Finding research careers within academia
- Finding research careers within industry
- Finding research careers within government
- Finding research careers with charity/non-profit
- Finding non-research careers that use my skills

Base n = 6320

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These findings suggest that PhD students feel prepared for a career in academia, but perhaps less prepared for industry skill requirements.

Q: How well is your programme preparing you to carry out each of the following activities?

- Analysing data: 75%
- Collecting data: 75%
- Presenting findings to a specialist audience: 73%
- Designing robust reproducible experiments: 69%
- Writing a paper publication in a peer-reviewed journal: 67%
- Managing complex projects: 48%
- Developing resilience for rejection by peer review panel: 46%
- Presenting findings to a non-specialist (public) audience: 46%
- Applying for funding: 35%
- Managing people: 30%
- Finding a satisfying career: 26%
- Managing a large operational budget: 15%
- Developing a business plan: 13%
- Presenting findings to a non-specialist audience: 10%
- Developing resilience for rejection by peer review panel: 10%
- Designing robust reproducible experiments: 10%
- Writing a paper publication in a peer-reviewed journal: 10%
- Managing complex projects: 10%
- Presenting findings to a specialist audience: 10%
- Collecting data: 10%
- Analysing data: 10%
- Very badly: 10%
- Neutral: 10%
- Very well: 10%
- Unsure: 10%

Base n = 6320
ONLY A QUARTER AGREE THAT THEIR PROGRAMME IS PREPARING THEM WELL FOR A NON-RESEARCH SCIENCE-RELATED CAREER

71% agree  12% disagree

I feel that my programme is preparing me well for a research career

25% agree  40% disagree

I feel that my programme is preparing me well for a non-research science-related career

37% agree  30% disagree

I feel that my programme is preparing me well for a career that straddles both industry and academia

Base n = 6320
LinkedIn is most commonly used social channel for networking.

Q: Which, if any, of the following activities have you done to advance your career?

- Attended career seminars and/or workshops: 68%
- Attended networking events: 52%
- Developed my social media profile: 51%
- Discussed my career future with a supervisor/PI: 49%
- Discussed my career future with a mentor: 37%
- Worked out an individualized development plan: 29%
- Discussed my career future with a careers counsellor at my institution: 12%

Q: Which of the following social media networks have you used to build your professional network?

- LinkedIn: 68%
- Twitter: 44%
- Facebook: 39%
- None: 6%
- WeChat: 5%
- Blogs/Online threads: 4%
- Other social media networks: 1%

Other channels mentioned included ResearchGate, Instagram, Xing, Orcid and Publons.

• Students were most likely to have attended career seminars and networking events to advance their career.

• Other career-advancing activities mentioned by respondents included internships, part-time jobs, speaking to recruiters and discussions with peers.
**STUDENTS’ DESCRIPTIONS OF THE ACADEMIC SYSTEM WERE OVERWHELMINGLY NEGATIVE**

- "The academic system is stressful because of the "publish or perish" mentality. I fear that some academics lose sight of scientific integrity in order to publish a high impact story."

- "The academic system doesn’t always help the position of the PhD student. The PhD student is very dependent on their supervisor(s) and this means that a good relationship with your supervisor is a necessity for an enjoyable PhD experience. I’m lucky that I have a good relationship, however I’ve seen plenty examples where this isn’t the case."

- "It highly depends on lab/supervisor. A good supervisor can either make you happy during your PhD journey or destroy your life/career."

- "The academic system needs a drastic overhaul. It has become a corrupt and abusive system. I would like to see major reforms at every single level."

- "Negative and toxic. People are stressed and many seem on the edge of a mental breakdown. There is huge pressure to work long hours and to overachieve. The pressure to publish seems to result in rushed science and papers, which could jeopardise their quality."

- "Broken from the top down. The pressure to publish to get grants and tenure has filtered down to the PhD student. Faculty push to publish all work rather than support good work that may take more time. There is too much pride associated with the number of publications. That number determines which grants you will get and which positions you will get. For those students who do not have successful results in their first 2-3 years, they are seriously hurt by this."

**Q: Overall, how would you describe the academic system, based on your PhD experience so far?**

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<thead>
<tr>
<th>Description</th>
<th>%</th>
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<tbody>
<tr>
<td>Good / fair</td>
<td>23%</td>
</tr>
<tr>
<td>Broken / flawed / corrupt</td>
<td>11%</td>
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<tr>
<td>Competitive</td>
<td>10%</td>
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<tr>
<td>Influenced by relationship with PI / supervisor</td>
<td>9%</td>
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<tr>
<td>Publish or perish mentality</td>
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<td>Abusive / toxic / exploitative</td>
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<td>Stressful / demanding / high pressure</td>
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<td>Out-dated / old-fashioned</td>
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<tr>
<td>Needs improvement</td>
<td>4%</td>
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</tbody>
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Base n = 1873 (a random selection of open responses were coded)
24% report that they would change their PI and 8% would not pursue a PhD at all, given the chance to start over.

Q: What would you do differently right now if you were starting your programme?

- Change area of study: 45%
- Change supervisor/PI: 24%
- Not pursue a PhD at all: 20%
- Nothing: 8%

Q: With the benefit of hindsight, what one thing do you know now which you wish you’d known about when you started your PhD?

<table>
<thead>
<tr>
<th>Topic</th>
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<tr>
<td>Financial / funding knowledge</td>
<td>19%</td>
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<td>Career options outside of academia</td>
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<tr>
<td>The nature of research culture</td>
<td>13%</td>
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<tr>
<td>Impact on mental health and wellbeing</td>
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<td>Work-life balance expectations</td>
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<td>Time management / likely length of studies</td>
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<td>Impact of bad relationship with supervisor / staff</td>
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- “That the alternative funding would not materialise, that there is no financial support beyond a government loan. That academia is now so much about profit, that working class students are completely priced out of reaching their full potential without a full stipend.”

- “That there are very limited amount of academic positions, so I would focus during my PhD also on other career paths and try to work towards them.”

- “I knew that PhD programs can affect your mental health and I knew that graduate students often have mental health difficulties. However, there was really no way to understand how it would feel to worry about research 24/7 for several years. It has certainly been difficult.”
ANY QUESTIONS?

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