

RESEARCH DIRECTIONS

Progression from Remote Learning to Postgraduate Research: What are the Barriers?

^aAlice Fraser McDonald*, ^bSally Jordan, ^aDavid Sharp and ^cTeresa Sides

^a School of Engineering and Innovation, The Open University, Walton Hall, Milton Keynes, UK.

^b School of Physical Sciences, The Open University, Walton Hall, Milton Keynes, UK.

^c School of Computing and Communications, The Open University, Walton Hall, Milton Keynes, UK

*Corresponding Author: Alice Fraser McDonald: alice.fraser-mcdonald@open.ac.uk

Keywords: *Barriers to Progression; Postgraduate Research; Remote Learning; Transitioning*

Abstract

In the conventional Higher Education (HE) sector, there is often a well-established pathway for students to progress from taught courses to postgraduate research within the same institution. However, increasing numbers of students studying online courses may impact this pathway and create barriers for progression to postgraduate research. In some STEM subjects, specific barriers can also result from students having limited experience of field- and lab-based practical work. The Open University (OU) is uniquely positioned to explore this pipeline, as the taught courses are largely delivered remotely.

This project investigates the progression of OU students from taught courses to postgraduate research, focusing on their reasons for pursuing or not pursuing this pathway and the associated barriers. Quantitative data analysis has determined the current rates of progression to postgraduate research in STEM. Additionally, students on taught courses have been surveyed to provide insights into whether they considered postgraduate research, the factors influencing their decisions and any barriers they faced.

The findings highlight several potential barriers for students who aim to transition to postgraduate research, including those related to studying remotely, such as university location and lack of confidence in practical work. Based on these findings, the project aims to determine whether recommendations could be made to improve current practice and better support students to transition from remote taught courses to postgraduate research. This study offers valuable insights into the barriers for progression from remote learning to postgraduate research, which are not only relevant to the OU but also the wider HE sector.

Introduction

Progression from taught programmes to postgraduate research (PGR) is an important pathway in the HE sector that can highlight issues relating to access and participation. In conventional HE institutions, students can often progress from taught courses to PGR within the same institution. However, progression rates are not widely reported which limits understanding of this pathway across different institutions and modes of study.

The recent emphasis on widening access to HE and ensuring equity of opportunity has led to an increased interest in the barriers students may face (Gaskell & Lingwood, 2019). This includes

Progression from Remote Learning to Postgraduate Research: What are the Barriers?

reviewing the progression of under-represented student groups, such as those from ethnic minorities, those with disabilities, or those from low socio-economic backgrounds (Lindner 2020; Sotiropoulou, 2022; Badrie et al., 2023). However, little is known about the rates of progression to PGR among students studying through part-time, distance-learning programmes. These modes of study attract a diverse range of students from varied backgrounds, many of whom balance studying with employment and other commitments. These students may encounter distinct barriers to progression, which should be taken into account when considering access to PGR pathways.

The mission of the Open University (OU) focuses on being open to people, including those with disabilities and those studying alongside other commitments (The Open University, 2025). This provides a valuable context in which to explore issues associated with progression to PGR for students studying part-time, distance-learning programmes. Limited data and anecdotal evidence suggest that there is a low proportion of OU PGR students who have previously completed a taught qualification with the institution. This indicates that there are potentially barriers impeding the progression of students from part-time, distance-learning qualifications to PGR.

This study investigated the progression of OU students from undergraduate and taught postgraduate courses in the Faculty of Science, Technology, Engineering and Mathematics (STEM) to PGR with the University. The aim was to establish current progression rates along this pathway and to identify students' reasons for pursuing or not pursuing PGR after completing a taught part-time, distance-learning qualification. This will potentially enable some of the barriers that these students face to be removed and highlight opportunities to improve support for those who do want to pursue this pathway.

Methodology

A mixed-methods approach was used to investigate the progression of students from taught undergraduate and postgraduate programmes to PGR within the STEM Faculty at the OU. This approach allowed for an evaluation of current progression rates as well as a deeper understanding of student motivations and potential barriers. The findings outlined here are part of a wider project and were presented at the 2025 Horizons in STEM Higher Education conference. While the quantitative data are specific to the OU context, the broader findings relating to barriers to access and participation are likely to be relevant across the wider HE sector.

Institutional data

Firstly, the project aimed to evaluate the current rate of progression from undergraduate and taught postgraduate courses to PGR at the OU. To achieve this, institutional data were obtained in April 2024 on all students registered on PGR programmes. Data were collected from each of the seven Schools within the STEM faculty relating to both full time and part-time PGR students. This allowed the identification of PGR students who had previously completed taught courses, including their School and study mode.

Surveys

The second project objective was to obtain information about student decisions relating to the pipeline to PGR, including the potential barriers along this pathway. Two surveys were sent, one to students who had completed taught qualifications (survey 1), and another to students in the final stages of studying OU taught qualifications (survey 2). Both surveys included multiple choice questions (single and multi-select) and open response questions. They were designed to gain insights from students/graduates about whether they considered applying for PGR, their awareness of PGR opportunities, and the main barriers they perceived in pursuing PGR. Survey 1 was sent to 4,342 students who completed STEM undergraduate and postgraduate taught qualifications in 2023 and 2024. There were 228 responses to this survey (5% response rate). Survey 2 was sent to 1,971 students studying the final modules in OU undergraduate and postgraduate taught qualifications in March 2025. There were 84 responses to this survey (4% response rate). The main themes arising from the open response questions were evaluated.

Progression from Remote Learning to Postgraduate Research: What are the Barriers?

Interviews

Additionally, semi-structured interviews were conducted with 21 current OU STEM PGR students who had previously completed an OU taught qualification. They were conducted by an independent PhD student. The interviews explored the factors that influenced their decision to pursue PGR study, how well prepared they felt and whether there were any barriers to pursuing this pathway. The interview responses were analysed thematically using Braun and Clarke's (2021) six phase approach to reflexive thematic analysis. NVivo 15 software was used to facilitate the systematic organisation and coding of the qualitative data. A multi-layered coding process with two iterative cycles was applied.

Ethical considerations

This research project has been reviewed and approved by The Open University Human Research Ethics Committee-HREC reference number: 2024-0543-2.

Results

Rates of progression

In April 2024, there were 220 PGR students in the STEM Faculty, with 138 (63%) and 82 (37%) registered to full-time and part-time study modes, respectively. Among the STEM PGR students, 22% had previously completed taught courses with the OU.

Table 1 shows the total number of PGRs in each School and the number and percentage of those who had previously completed an OU undergraduate or taught postgraduate qualification. The School of Maths & Statistics had the highest overall proportion of PGR students who had completed OU taught programmes (around 46%). In contrast, the School of Physical Sciences, Knowledge Media Institute and the School of Earth, Environment and Ecosystems had the lowest overall proportions of PGR students with OU taught qualifications (below 15%). It should be noted that some Schools have more PGR students in total than others. Consequently, the presence or absence of a single student with a previous taught qualification can have a much greater impact on the percentage in Schools with fewer PGR students in total.

Table 1 The total number of PGRs in each School. The number and percentage who had previously completed an OU undergraduate or taught postgraduate course.

School	Total number of PGRs	Number of PGRs with OU taught qualification	% of PGRs with OU taught qualification
Physical Sciences	55	7	12.7
Knowledge Media Institute	15	2	13.3
Earth, Environment and Ecosystems	28	4	14.3
Life, Health and Chemical Sciences	25	4	16.0
Computing and Communications	26	5	19.2
Engineering and Innovation	45	14	31.1
Maths and Statistics	26	12	46.2

Figure 1 shows the number and percentage of PGR students in each School who had previously completed OU undergraduate or taught postgraduate qualifications split by study mode (full-time or part-time). Percentages were calculated separately by mode of study. When separated by study mode, more of the PGR students with previous OU qualifications were studying part-time than full-time. The percentage of part-time PGR students with previous OU taught qualifications was higher than for full-time in every School except Life, Health and Chemical Sciences. Overall, 11% of full-time and 40% of part-time PhD students had completed taught qualifications with the University.

Progression from Remote Learning to Postgraduate Research: What are the Barriers?

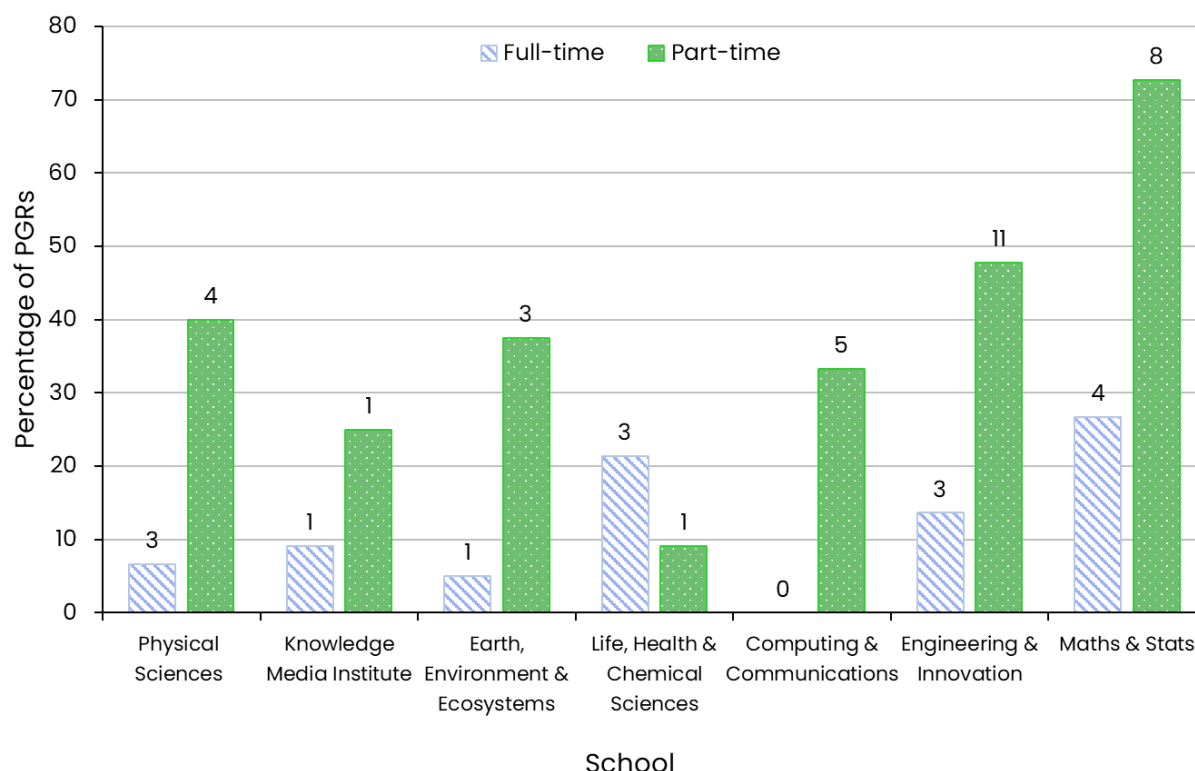


Figure 1 The percentage and number of STEM PGR students in each School who have completed OU undergraduate or taught postgraduate qualifications, separated by study mode (full-time and part-time). Bars represent the percentage of the PGR population within each School for each study mode, with percentages calculated separately for full-time and part-time PGRs. The actual numbers are shown as values above the bars. Some Schools have a higher total number of PGR students, so proportions differ even when the actual numbers are similar.

Student surveys

The survey sent to graduates of OU taught courses (survey 1) asked whether they had considered applying for PGR and whether they had applied for PGR at any university (not just the OU). The selection of multiple options was permitted. Figure 2 shows the results of this question, with the PGR qualifications differentiated by type and study mode. Of the 228 graduates who replied to the survey, 49% indicated that they had considered applying for a PGR qualification after their distance-learning taught course. For both the PhD and MPhil options, OU students were more likely to consider applying for a part-time study mode. Of the graduates who stated that they had considered applying for PGR, only around 28% stated that they had applied.

While it is not known how many of the surveyed students studying OU taught courses (survey 2) ended up applying for PGR, of the 84 respondents around 68% indicated that they would consider applying. It should be noted that there appeared to be some confusion around the definition of PGR for some respondents. This was evidenced by several open text comments in the 'Other postgraduate research qualification' category referencing taught postgraduate qualifications. This open response category was intended for students to share details of PGR qualifications they had considered that were not listed in the provided options, but some respondents listed taught courses instead.

Barriers to progression

Surveys sent to OU graduates (survey 1) and students on final modules (survey 2) asked participants what they felt were the main barriers to progressing to PGR. The main themes arising from both surveys were closely aligned and are outlined in **Table 2**.

Progression from Remote Learning to Postgraduate Research: What are the Barriers?

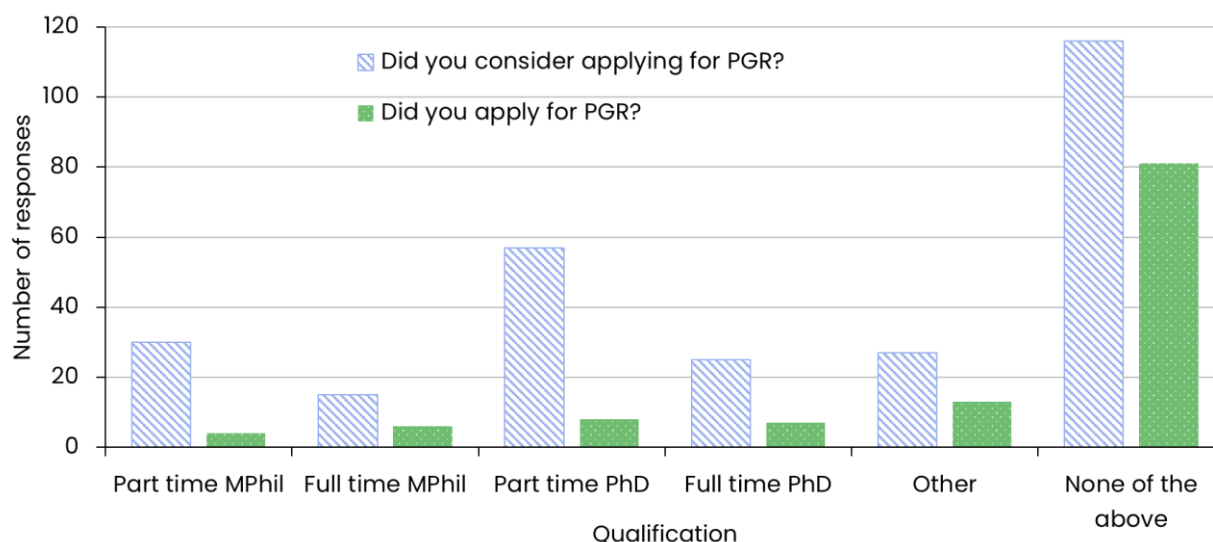


Figure 2 Comparison of the number of graduates of OU STEM taught courses who considered applying for PGR at any university with those who did apply.

PGR Interviews:

Interviews conducted with current OU STEM PGR students who had previously completed an OU taught qualification highlighted various themes in relation to factors that affected their decisions relating to when and where to pursue PGR. These themes were:

- Mental health and disability
- Practical experience
- Support
- Location
- Work commitments
- Prior study (continuity)

The PGR students were also asked about how prepared they felt for PGR after their OU distance-learning taught qualification. The main themes identified in their responses were:

- Previous study
- Application and registration
- Project modules
- Information and awareness
- Preparatory materials

Notably, some PGR students felt that qualifications that included a final, project module were helpful in preparing them for PGR:

“The final module that I did that I felt like that was probably the best primer for what postgraduate research would be like.”

A number of the interview discussions around preparedness for PGR related to the information that was available and the awareness of PGR as a student on a part-time, distance-learning course:

“Some of the sessions like how to get the best out of a PhD ... could have been offered maybe before we started.”

“I think PGR students need to have more exposure with the undergraduate community.”

Finally, the current STEM PGR students were asked about the support provided when pursuing PGR. The main themes that arose include social networks, mental health and mentoring. One PGR

Progression from Remote Learning to Postgraduate Research: What are the Barriers?

commented that *“if you'd been offered a buddy to be paired up with a couple of months before you started ... might have eased the transition a bit more.”*

Table 2 The main themes arising from student survey responses (graduates and students studying taught modules) regarding barriers to progression to PGR, with details on each theme and associated student quotes

Theme	Details	Student quote(s)
Cost/funding	• cost of PGR • financial implications of time away from work commitments • supporting a family financially	“Cost - both in terms of finance and time taken away from other work” “Possibility of conducting this whilst trying to support a family financially.”
Time	• fitting in PGR around full or part-time employment	“Being able to fit in around full-time employment” “Available time around work commitments”
Location	• finding a nearby university with a suitable PhD topic • not wanting to have to relocate • the requirement to come to campus	“...it is necessary to be close enough to a university to study for a PhD”
Confidence	• not being sure if they are good enough to carry on to do a PhD after taught studies • being unsure about where to find information about suitability	“I don't think I am good enough to undertake a research qualification. How do you even know?!” “I was also unsure of my ability to complete a PhD - while I did well in my MSc, I wasn't sure I really had the capability to do research at a higher level.”
Opportunity or entry requirements	• few part-time options for PGR • entry requirements stated on websites differ between Schools	“There should be more robust part-time options” “Website explicitly says BSc inadequate preparation for OU PhD owing to lack of project.”
Support	• not knowing where to find more information or who to talk to about PGR	“No contact was ever made about the options and how I could do this.” “Not having a contact to talk to about it.”
Health	• concerns about mental health and how PGR would affect this • physical health challenges	“Worries about my mental health.” “...my own health challenges that have been somewhat exacerbated by transitioning to a brick university.”
Practical experience	• limited opportunities for face to face or real-life lab experience during distance-learning taught courses.	“Limited or no face to face opportunities to enhance the distance online learning” “The biggest barrier for me is that I do not have enough real life lab experience.”

Discussion

The findings from this project highlight several potential barriers to progression to PGR that may be faced by OU students but might also be applicable to students in the wider HE sector.

A lack of practical experience was expected to be a potential barrier to progression for OU students, but responses indicated that this was a greater concern than anticipated. The School of Mathematics and Statistics had a higher percentage of PGR students holding previous OU taught qualifications which may partly be due to this School not requiring students to have practical experience to be considered for a PhD studentship. The lack of practical experience is likely to present a greater barrier to part-time, distance-learning students and may disadvantage them when competing with applicants from other institutions whose taught courses included face to face practical elements. However, this

Progression from Remote Learning to Postgraduate Research: What are the Barriers?

barrier may also apply to students in other HE sectors in specific contexts. For example, graduates from taught master's courses may have less practical experience than those completing Master of Research qualifications, which place a greater emphasis on conducting original research. While this project highlights the extreme case of distance-learning students with limited or no practical experience, similar, though perhaps less pronounced, discrepancies may also exist among students graduating from different programmes in other institutions.

Another key theme that emerged from the findings concerned students' confidence in attempting to progress to PGR. Although this perceived barrier was less anticipated, several students who had completed taught courses with the OU expressed uncertainty about whether they possessed the necessary skills and aptitude to undertake a PhD. There appeared to be some related factors contributing to this lack of confidence among OU students and graduates. For instance, many commented that they were unsure about how to find out about PGR opportunities that were available to them after completing their taught qualification. Students enrolled on taught courses at the OU typically have limited or no direct contact with PGR students or academic staff involved in creating studentships or supervising PGR students. Therefore, many students on taught qualifications primarily rely on advertised projects, either on the OU's website or external platforms, as the main source of information about PGR opportunities. In some cases, students were not aware that the University even offers PGR qualifications. While students on taught programmes at other institutions might engage with PhD students through lab sessions, short courses, or workshops, those studying on distance-learning programmes are less likely to experience such engagement, and therefore will not necessarily foster an understanding of what PGR involves or how to best prepare for this pathway.

A lack of confidence among some students also appeared to relate to the amount of support they received in pursuing PGR opportunities. Findings from this project indicated that although several students on taught programmes were potentially interested in continuing to PGR, many were uncertain about how to access relevant guidance and support. This theme of support was also highlighted by OU PGR students who had successfully progressed from taught qualifications within the University. Some noted that attending PGR information sessions prior to commencing a PhD would have been beneficial. They also commented that stronger integration of current PGR students into the taught student community could help to raise awareness and foster a more supportive environment. This aligns with findings from previous investigations that highlighted the importance of providing support to remove barriers to progression to PGR. For example, students enrolled on undergraduate engineering courses were more likely to apply for a PhD programme if they had experienced positive interactions with current postgraduate students, encouragement by faculty advisors to pursue graduate opportunities, and mentoring (Borrego et al., 2018). Establishing support networks and implementing 'Bridge Programs' has also been shown to reduce inequities in the progression of students from underrepresented racial and ethnic minority groups to PGR (Hodapp and Woodle, 2017).

One potential recommendation emerging from these findings is to increase opportunities for students on taught programmes to engage directly with PGR students. For example, developing structured networking or mentoring schemes could help to mitigate barriers related to limited support or awareness and, in turn, strengthen the pathway between taught study and PGR. This action may be beneficial within the OU but could also be implemented in a range of HE institutions.

A prominent theme associated with student support that emerged from both the surveys of taught students and graduates and interviews with PGR students related to mental health. Students on taught programmes identified mental health challenges as a potential barrier to pursuing PGR, while current PGR students noted that enhanced support for students with mental health issues would be beneficial. This finding reflects a wider issue of mental health support within the HE sector, particularly at PGR level (Bergvall et al., 2025). Evidence suggests that poor mental health in undergraduate students can reduce resilience, which is a key competency for successfully navigating the pathway

Progression from Remote Learning to Postgraduate Research: What are the Barriers?

to, and progression through, PGR (Ahluwalia et al., 2023). This is particularly relevant to OU students, many of whom experience mental health issues, but it also highlights the importance of effective mental health support for all students pursuing PGR pathways in HE institutions.

While these barriers and related factors are particularly relevant to part-time, distance-learning students, they may also be applicable to students at a range of HE institutions. A lack of awareness of pathways to PGR, varying access to information about PGR opportunities, and differing levels of support can present barriers relating to a student's confidence in pursuing PGR wherever they are studying.

Conclusion

Overall, this study has enhanced understanding of the current pipeline from taught, part-time, distance-learning courses to PGR within the OU STEM Faculty. It has also highlighted some of the key barriers in pursuing this pathway that are relevant to the wider HE sector. A lack of practical experience, limited awareness of PGR opportunities, low confidence, and mental health challenges were identified as key factors influencing students' decisions to pursue PGR. While some of these barriers may be more pronounced in the context of part-time, distance-learning, similar challenges may also affect a range of students. These findings aid in identifying opportunities for mitigation strategies to reduce the barriers preventing some students from progressing to PGR. For example, interventions such as mentoring, PGR information sessions, and dedicated mental health support could increase the awareness of PGR opportunities and enhance students' confidence in pursuing this pathway. Reducing these barriers could therefore promote more equitable access to PGR qualifications, particularly for graduates of part-time, distance-learning qualifications.

References

- Ahluwalia, M., Shillington, K. and Irwin, J. D. (2023). The relationship between resilience and mental health of undergraduate students: A scoping review, *Journal of American College Health*, 73(3), pp. 1-14.
<https://doi.org/10.1080/07448481.2023.2252925>.
- Badrie, R., MacDonnell, J. and Patel, B. (2023). Barriers to pursuing postgraduate research study among final year undergraduate minority ethnic students at a post-1992 UK university, *Equity in Education & Society*, 2(2), pp. 206-222.
<https://doi.org/10.1177/27526461231158814>.
- Bergvall, S., Fernström, C., Rahenill, E. and Sandberg, A. (2025). The impact of PhD studies on mental health - a longitudinal population study, *Journal of Health Economics*, 104, 103070.
<https://doi.org/10.1016/j.jhealeco.2025.103070>.
- Borrego, M., Knight, D. B., Gibbs Jr, K. and Crede, E. (2018). Pursuing Graduate Study: Factors Underlying Undergraduate Engineering Students' Decisions, *Journal of Engineering Education*, 107(1), pp. 140-163.
<https://doi.org/10.1002%2Fjee.20185>.
- Braun, V. and Clarke, V. (2021). Thematic Analysis: A practical guide. 1st edn. London, England: Sage Publications Ltd.
- Gaskell, S. and Lingwood, R. (2019). Widening opportunity in higher education: The third phase: beyond graduation', UK Universities.
<https://www.universitiesuk.ac.uk/sites/default/files/field/downloads/2021-07/widening-opportunity-third-phase.pdf>.

Progression from Remote Learning to Postgraduate Research: What are the Barriers?

Hodapp, T. and Woodle, K. S. (2017). A bridge between undergraduate and doctoral degrees, *Physics Today*, 70(2), pp. 50-56.

<https://doi.org/10.1063/PT.3.3464>.

Lindner, R. (2020). Barriers to doctoral education: Equality, diversity and inclusion for postgraduate research students at UCL, *UCL Doctoral School*.

https://www.ucl.ac.uk/doctoral-school/sites/doctoral_school/files/barriers-to-doctoral-education_0.pdf.

Sotiropoulou, P. (2022). Literature review on EDI barriers to postgraduate research relevant to funding', *AdvanceHE*.

<https://www.ukri.org/wp-content/uploads/2023/09/UKRI-20092023-UKRI-Literature-review-on-EDI-barriers-to-postgraduate-research-relevant-to-funding.pdf>.

The Open University (2025). Mission.

<https://about.open.ac.uk/policies-and-reports/mission>