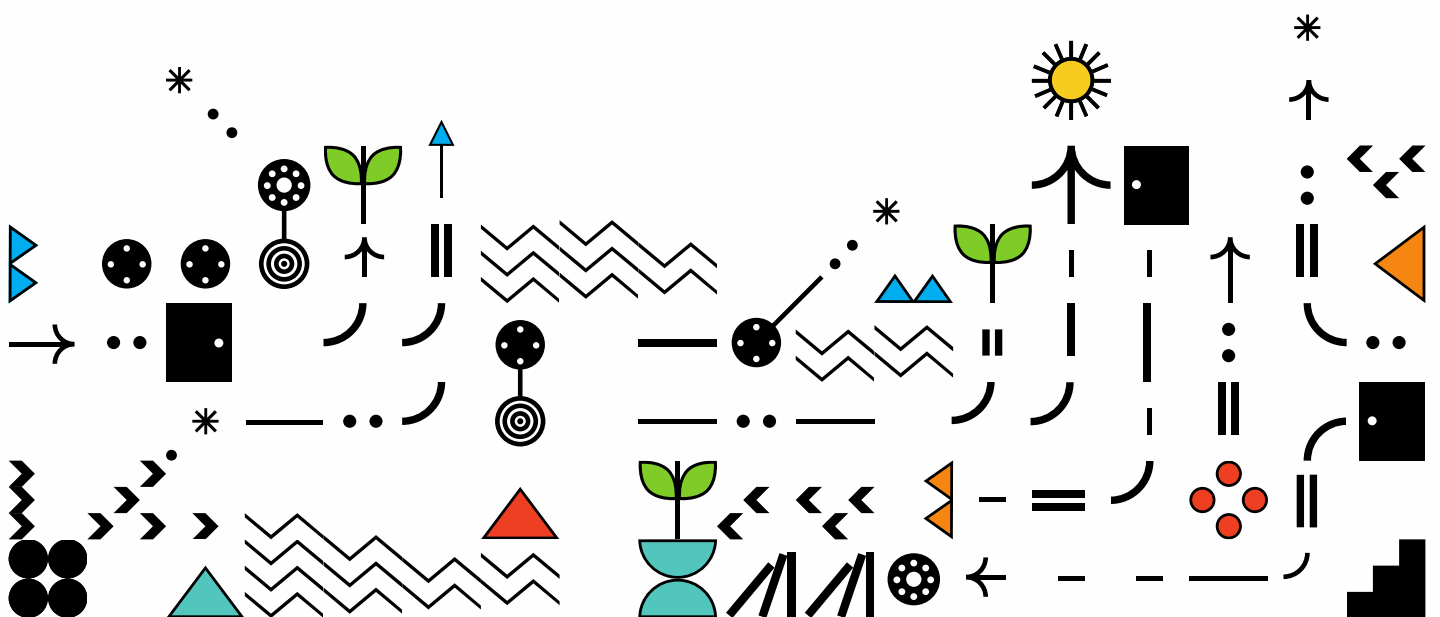


# Reflect, Explore, Act: an evaluation of the impact of the second Prosper career development pilot



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By Dr. Anjali Thomas and the Prosper team

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## A. Executive Summary

*“People are absolutely core to a vibrant research and innovation culture, and a major priority for UKRI and the wider sector. The UK’s postdoctoral community is a diverse pool of world-class talent. With the right support, postdoctoral researchers will play a key role in tackling the myriad social, economic, and scientific challenges of today and tomorrow, driving excellence both within academia and wherever their careers may take them.*

*“What Prosper has built in this regard is very impressive, and the impact it has had on postdoctoral researchers in its pilot phase is extremely promising. I believe Prosper can play a leading role in driving best practice in developing postdoctoral research careers and strongly encourage research institutions across the UK to adopt and make use of Prosper resources.”*

- Jessica Corner, Chief Executive, Research England

In 2019, Prosper was funded by Research England to develop a new and holistic model for postdoc career development, for eventual rollout across the UK Higher Education sector. Four years later, in 2023, its model and resources are now freely available to Higher Education Institutions up and down the country.

The ambition was to develop a model that would unlock the vast potential of the UK’s postdoctoral community – to enable all postdocs, regardless of gender, ethnicity and discipline, to thrive across multiple career pathways, both within and beyond academia. The longer-term objective is nothing less than a transformation of research culture in the UK – to pioneer an approach that empowers postdocs to take full control of their careers, to the benefit of themselves, the institutions they work for, and society as a whole.

Co-creation – with postdocs, Principal Investigators (PIs), employers, and the wider sector – has been at the heart of Prosper’s approach from the start; co-creation with postdocs themselves most important of all. The centrepiece of Prosper’s development was two pilot cohorts. The first, which ran between March 2021-22, involved 53 postdocs from across the University of Liverpool. The second, which ran from February 2022-23, involved 74 postdocs from across the Universities of Liverpool and Manchester, and Lancaster University.

The purpose of the second cohort was two-fold. Firstly, to further refine and develop Prosper's model and approach. Secondly, to test Prosper with a larger multi-institutional cohort, given the ultimate aim of nationwide use.

The focus of this report is to provide a comprehensive evaluation of the second cohort – the impact it had on participants' confidence and aspirations, as well as behaviours and outcomes relating to their future career plans. The findings from our first pilot were published in August 2022. Given the common aim of the pilots and the consistency of the evaluative methods used, this report also looks at the findings from both cohorts, both comparatively and taken together as a whole.

As with the first cohort, our evaluation of the second cohort was informed by both quantitative and qualitative data gathered over the course of the year, including surveys, participation and engagement statistics, focus groups, and the journal entries participants were encouraged to write to track their experiences and progress. The quantitative data for the second cohort is based on the 55 out of 74 participants (74%) who completed both cohort entrance and exit surveys.

One of Prosper's core aims, above and beyond facilitating career outcomes, is to engender a change in postdocs' mindsets regarding how they think about themselves and their future. Over the course of the pilot we tracked participants' confidence levels across 18 areas related to different aspects of personal career development, measured on a five-point Likert scale score.

The findings here are very positive. Participants showed a marked improvement across all 18 variables. In particular, postdocs showed significant growth in their ability to self-reflect and make proactive career plans, communicate with employers and apply for jobs beyond academia, and identify career development resources and goals. The most dramatic improvement was seen in areas relating to translating experience and skills for employers, and awareness of what employers beyond academia look for in candidates.

Another of Prosper's key aims is to enable postdocs to broaden their career horizons and understand the true breadth of options open to them – which necessarily includes changing perceptions about careers beyond academia. Here, we recorded an increase in postdocs both aspiring and expecting to one day work beyond academia.

The observed changes were not limited to mindset and attitude. The positive shift in confidence and perceptions translated to a notable shift in behaviour. Over the

course of the year, 73% of second cohort respondents explored opportunities or otherwise engaged and interacted with a range of employers beyond the confines of the Prosper pilot. 37% had conducted informational interviews with employers. In terms of concrete job applications, two thirds of the cohort reported using what they had learned to apply for jobs during the timeframe of the pilot.

A significant number of the second cohort postdocs were able to parlay their newfound skills into securing new roles, both within and beyond academia, within the timeframe of the pilot. One participant went on to work for a charity that specialises in improving outcomes for disadvantaged pupils. Another is lending their talents to the burgeoning field of AI, while another is now working with EUMETSAT on critical upcoming satellite missions. Another is now working within the Department of Transport to bring their scientific expertise to bear on the challenges facing UK infrastructure planning. These are just a few examples, but the diversity of the roles itself testifies to the attractiveness of postdoc candidates to a wide range of organisations and sectors, and the critical role that the postdoc community can play in addressing all manner of pressing social and economic challenges.

These are 'early days' with regard to both cohorts – Prosper aims to help postdocs develop skills and attitudes that will serve them well wherever their career takes them over the long-term. The full impact of Prosper's interventions will take many years to manifest. Accordingly, we are longitudinally tracking the progress of both cohorts as they continue their careers. Our longitudinal data for the first cohort is included in this report – we will soon begin gathering the same for the second.

We believe the cumulative data from both cohorts, taken together with qualitative accounts, paints a positive picture of the impact both Prosper pilots had on the lives and careers of participants. This report, [like the evaluation of our first cohort](#), illustrates and underlines the transformative potential of providing postdocs the holistic support that Prosper represents.

All of the outputs from the two pilots, alongside our work with employers and Principal Investigators via the PI Network, is now freely available to postdocs, managers of researchers and institutions across the UK. Our resources – which include guidance and ready-made materials for institutions looking to use our resources and approach – can be explored at [our new online hub, the Prosper Portal](#).

In May 2023 UKRI announced an extra £450k in additional funding for Prosper to accelerate take-up and use across the sector. We are delighted to have received this

vote of confidence from our funders, and to have this opportunity to build on what we've developed and ensure postdocs across the UK have access to the same resources the postdocs in this report benefited from.

## B. Introduction

Prosper was launched in 2019, the result of a £3.6 million grant from Research England. Led by The Academy at The University of Liverpool, in partnership with Lancaster University and the University of Manchester, its vision was to develop a new and transformative model for postdoc career development for roll out across the country at the end of the project. The aim was to create a model whereby postdocs are given the resources and tools to figure out their priorities, skills and strengths. To support them in developing the confidence and ability to self-direct their career development, and to widen their horizons in terms of career trajectories and opportunities beyond academia. (Chen, McAlpine and Amundsen 2015; McBride and Charlwood 2021).

As a key part of the creation of this model, Prosper ran two year-long pilot cohorts between 2021-23. The first (2021-22) involved 53 postdocs at the University of Liverpool, with the aim of creating a mini-community of postdocs with whom Prosper could co-create, refine, and test a range of interventions and develop the Prosper approach and model.

The second pilot ran from February 2022-2023, and involved a larger cohort of 74 postdocs drawn from across Prosper's three partner institutions, the Universities of Liverpool and Manchester, and Lancaster University. The purpose of this cohort was both to extend and refine the model, and – crucially – to test it in a multi-institutional context, with a view to its ultimate nationwide use. The participants were carefully recruited with a view to achieving a diverse mix of postdocs in terms of gender, ethnicity and discipline. This was done to ensure the makeup of the cohort was representative of the wider UK postdoctoral community, and to ensure that voices from all corners of that community were incorporated into the final model.

Both pilots were accompanied by an in-depth and rigorous evaluative process, in order to test its various elements and measure the impact on the participants. The findings from our first pilot were published in August 2023. This report contains the findings from the second cohort – examining the impact participants' year with Prosper had on their confidence levels, career perceptions, behaviours and outcomes. The findings are both quantitative and also qualitative, including individual remarks and feedback from second cohort members (anonymised) as well as

statistical data. It also includes data from the first cohort, both for comparative purposes and to give a sense of the combined impact of the two pilots as a whole.

Prosper is committed to tracking the progress of participants of both cohorts on a longitudinal basis to measure the full longer-term impact of its interventions. Some of the initial longitudinal data from the first cohort is included as part of this report. It is too early yet to have any for the second cohort, but this will be gathered and shared with the wider sector in time.

It is our hope that these findings give a sense of just how transformative and impactful the approach has been on the lives and careers of the participants.

### C. Overview of the second cohort

In February 2022, 74 postdocs from across the Universities of Liverpool and Manchester and Lancaster University were enrolled into the second Prosper career development pilot. Participants were selected following an extended recruitment process, carefully designed around targets for gender, ethnicity, and disciplinary background to ensure Prosper be as open, useful and relevant to all postdocs as possible.

The pilot lasted for a year. As with our first pilot, the aim was to create an active and diverse community of postdocs with whom Prosper could develop and refine its offering according to their needs, adapting the model to their feedback along the way.

Prosper worked with participants to co-create and deliver a career development offering designed to cater to different aspects of their career development needs in a holistic way. Participants had access to a range of sessions, workshops and resources (many delivered by commissioned third party experts) structured around three broad, interconnected areas:

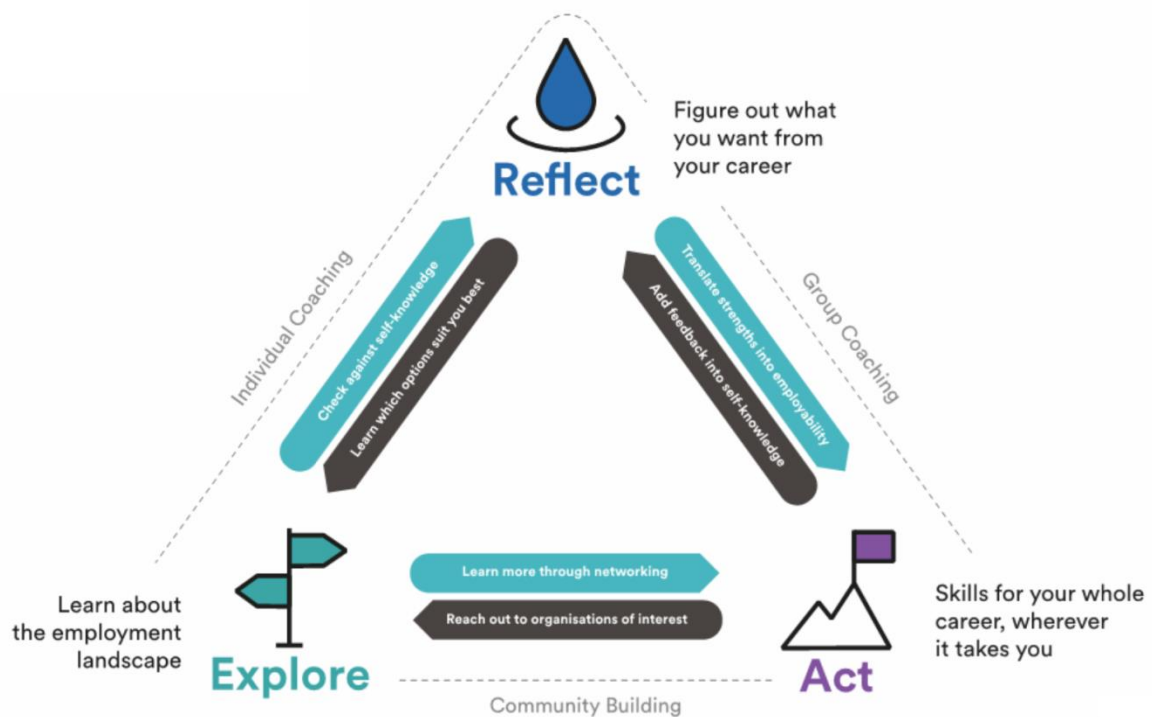
**Reflect:** Guided self-reflection, whereby postdocs are given the opportunity to take stock of their own personal career situation, identify their strengths, skills value and goals, and figure out what they want from their career.

**Explore:** Taking the self-knowledge accrued from Reflect and turning the gaze outwards to explore the wider world beyond academia, and the plethora of



opportunities, roles and career pathways open to postdocs in the modern economy, with resources structured around 12 'career clusters'.

**Act:** Where postdocs are invited to put the insights from the other two areas to concrete use and develop practical career skills and knowledge relating to recruitment processes, job applications, CV tailoring, self-marketing, professional networking building, and more.



The above diagram illustrates the ways in which these three areas are designed to complement each other as part of a holistic offering. Each offers value on its own (and participants were free to engage with whatever resources they felt most suited to their needs), but each also adds value to the others. These three interrelated areas form the structural basis of the 'final' Prosper model and resources that can now be accessed freely via the Prosper Portal.

As with the first cohort, the community aspect of Prosper was also important. Rather than a disconnected set of resources for participants to engage with purely as individuals, the idea was to create a shared space where participants, as well as contributing to the creation of Prosper itself, would be able to bond with each other and engage in their career development as a group, sharing their fears and insights and forming a mutual network of peers.

The year was peppered with a number of cohort-building activities, including social sessions, events, and a buddy scheme. Underpinning this was a programme of group career coaching. The cohort was divided into groups of no more than 11, with each group selected to represent an appropriate mix of postdocs from different backgrounds and disciplines. These group coaching sessions, run by professional career coaches, enabled the participants to connect with each other and share their reflections, learnings and experiences with each other - in a guided manner - as the year progressed. In addition to the group element, each participant was catered to as an individual with their own distinct circumstances, challenges and goals. Participants also had access to an individual session with their assigned coach. In total, the cohort engaged in 118 hours of group sessions, and 60 hours of 1-1 sessions.

All Prosper resources were collated onto the Prosper Portal, an online resource participants could log into to access asynchronous resources related to the different areas. Some of these were standalone resources, others provided the opportunity to catch up on live sessions and workshops that the participant may have missed (or wanted to revisit). This portal was essentially a prototype of the newly-developed Prosper Portal which, following rollout, can now be freely accessed and explored by postdocs, managers of researchers and institutions across the UK.

## D. Evaluation framework: impact of Prosper

Over the course of the second pilot, Prosper collected a comprehensive range of data quantitative and qualitative, in-depth and longitudinal, in order to measure and evaluate the impact of Prosper and its interventions. This section presents the different ways in which data was collected over the timeframe, and how this data has been analysed.

The first Prosper cohort consisted of 53 postdocs from the University of Liverpool. The second cohort consisted of 74 postdocs across the Universities of Liverpool and Manchester and Lancaster University. Cumulatively, the two cohorts consisted of 127 postdocs across the three universities, representing a diverse mix of postdocs across the variables of gender, ethnicity and discipline.

### D.1 Data collected to monitor and evaluate impact of Prosper on the second cohort of postdocs

**Quantitative data** collected from the second cohort includes:

- *An Entry survey* to benchmark the cohort's
  - a. EDI characteristics

- b. Map confidence, attitude and perceptions regarding career development prior to Prosper
- *Two Pulse surveys* in July 2022 and November 2022 to track
  - a. Engagement with Prosper
  - b. Changing patterns of career development
  - c. Feedback on different Prosper resources
- *Early Leavers Survey* to track [counted as exit survey in this report]
  - a. Reasons for leaving early
  - b. Active pursuit of career development within the cohort as they engaged with Prosper
  - c. The overall changes in confidence, attitudes and perceptions
  - d. Feedback on different Prosper resources
- *Leavers Survey* in February 2023 to track [counted as exit survey in this report]
  - a. Engagement with Prosper
  - b. Active pursuit of career development within the cohort as they engaged with Prosper
  - c. Feedback on different Prosper resources
  - d. Changes in confidence, attitudes, and perceptions
  - e. Future plans to develop their respective careers
- Data on participation of cohort members which monitored
  - a. Attendance of cohort members
  - b. Evaluation of each cohort session

The **Qualitative data** collected includes:

- *Journal entries* which were used by cohort members and coaches to track and develop personalised career development strategies and trajectories.
- *Focus group discussion* in 2022 which explored community building within Prosper
- Responses to the open-ended questions in the entry, pulse, early leavers and leavers surveys.

### Cohort 1 Longitudinal Data

This report also includes longitudinal data collected from the first Cohort in October 2022 (7 months after the end of the first cohort).

#### D.2 Analysis of data

The overall analysis is led primarily by the quantitative data, which allows for generalisation across the diverse and representatively-selected sample of postdoctoral researchers in the second cohort.

This is supplemented by the qualitative data which adds depth to the quantitative findings. The analysis of quantitative data involved preliminary descriptive analysis (averages and trends) followed by more complicated statistical processes where suitable. For this the quantitative data (from the entry survey, the pulse surveys and

the exit surveys) was cleaned, coded and entered into SPSS<sup>1</sup> (Statistical Package for Social Sciences). SPSS and Microsoft Excel were used to analyse this data and produce the findings discussed in the next section. A majority of the data on confidence, perceptions and feedback on the experience of being a member of the second cohort involve ordinal Likert scale data. This data was analysed to explore changes over time.

Table 1 demonstrates the diversity of the cohort across different EDI (equality, diversity and inclusion) characteristics and disciplines. It presents the demography (in numbers) of the participants who engaged with the different surveys. 75 participants were invited to join the cohort but 74 enrolled (completing the entry survey was a part of this enrolment procedure). The EDI data was further checked for accuracy with original application forms which were assumed to contain the correct EDI data about each participant. As a result, corrections were made in the entry survey data for responses regarding university, discipline, gender, sexuality, disability and caring responsibility.

Table 1: Demography and diversity of cohort 2

Category	Sub category	Completed Entry survey (N=74)	Completed Exit (Early leavers or End of cohort) survey (N=55)
Gender	Female	63.5%	63.5%
	Male	36.4%	36.4%
Sexuality	Straight/Heterosexual	87.8%	89%
	Bisexual	4%	1.8%
	Gay Man	1.4%	1.8%
	Gay Woman/Lesbian	1.4%	1.8%
	Prefer not to answer	5.4%	5.5%
Age group	26-30	23%	25.5%
	31-35	40.6%	41.8%
	36-40	31%	25.5%
	41-45	5.4%	7.3%
Disability	Prefer not to answer	2.7%	1.8%
	Long standing illness or health condition	1.4%	1.8%
	Mental health difficulty	5.4%	5.5%
	Specific learning disability	4%	3.6%
	No known disability	86.5%	87.3%
First generation graduate	No	46%	47.3%
	Yes	47.3%	45.5%
	Prefer not to answer	6.7%	7.3%
Ethnicity	BAME	31%	34.5%
	White	67.6%	63.6%

<sup>1</sup> A software developed by IBM for data management and analysis

	Prefer not to answer	1.4%	1.8%
Caring Responsibility	No	70.3%	72.7%
	Yes	24.3%	21.8%
	Prefer not to answer	5.4%	5.5%
Primary Carer	No	5.4%	3.6%
	Yes	17.6%	16.4%
	Prefer not to answer	1.4%	1.8%
	Blanks (No answer)	75.7%	78.2%
University	University of Liverpool	24.3%	29.1%
	University of Manchester	55.4%	56.4%
	Lancaster University	20.3%	14.5%
Faculty	Health and Life Sciences	51.4%	60%
	Humanities and Social Sciences	21.6%	16.4%
	Science and Engineering	27%	23.6%

Of the 74 participants who joined the second cohort, 55 participants completed an exit survey (13 the early leavers survey and 42 the end of cohort survey) as well as the entrance survey.

The number of participants (with smaller numbers for each subdivision by discipline, and so on) is too low to allow for meaningful statistical analysis of each intersection individually (this would still be the case even if all 74 participants had filled out both entry and exit surveys).

For instance, when age is statistically mapped, since there are only 4 participants who are between the age of 41-45 who also responded to the exit survey, even the mean for the 41-45 age group is misleading. The problem is the same for other sub-categories relating to discipline, ethnicity, and so on. These limitations (due to the size of the sample) were circumvented in instances where all participants had similar responses. For instance, all the cohort members had positive feedback to Prosper and positive feedback to coaching.

## E. Findings

The findings presented in this report are categorised into two broad areas: findings which examine impact and outcome (confidence, perceptions, exploring and seeking information and applying for jobs), and a second set of findings which focuses on feedback from the postdocs regarding their experience of Prosper and its resources.

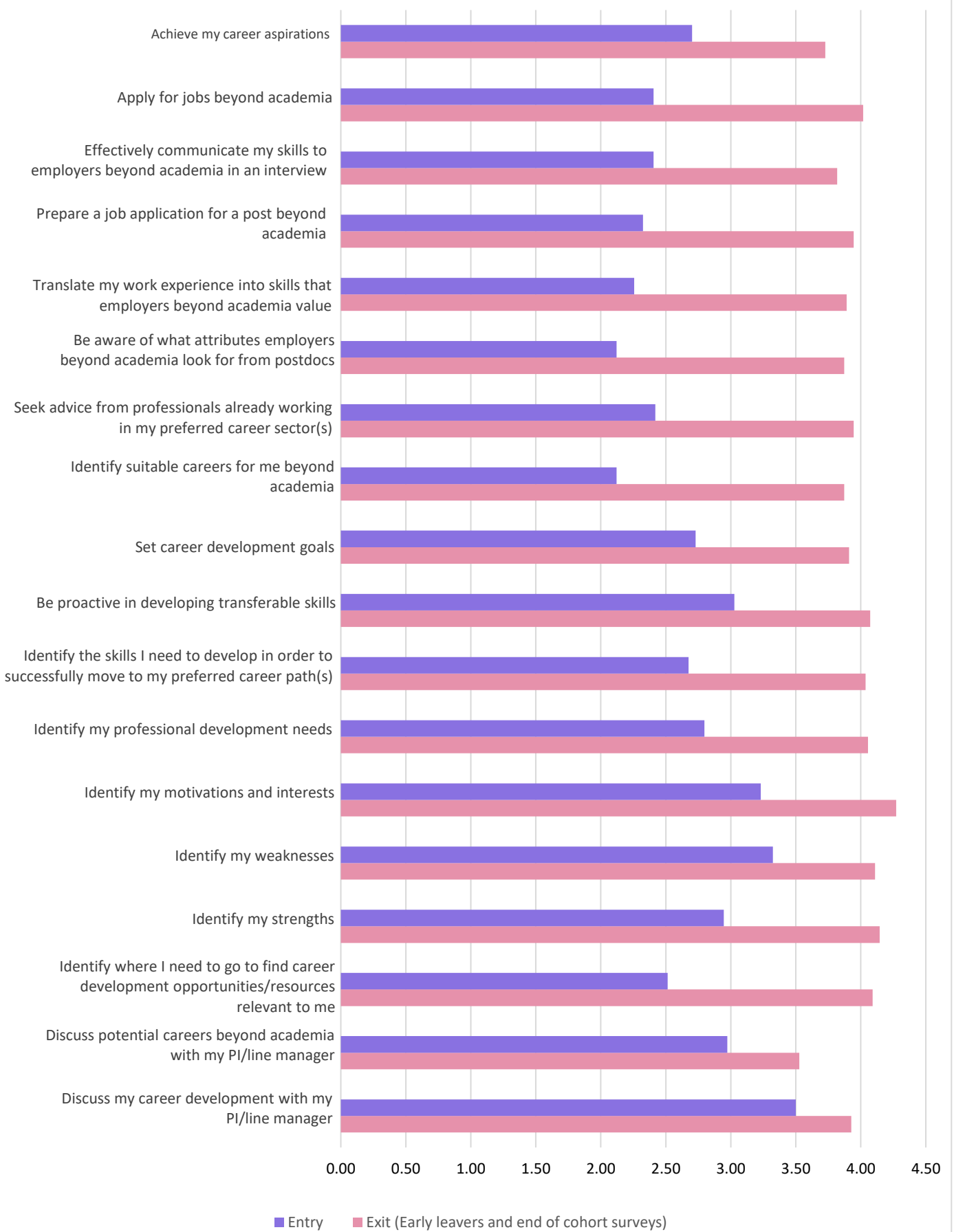
## E.1 Impact and outcome-based findings

### E.1.a Impact on postdocs: change in confidence

Prosper aims to improve the confidence of postdocs to reflect upon and actively pursue their career development. This section explores how the members of both the first and second cohorts reported changes in their confidence levels over the course of their time with Prosper.

Confidence in different aspects of career development such as identifying personal skills (for career development and job applications), identifying careers which interest them, transforming their skills, developing job applications and discussing their respective career development with PIs were identified across a combination of 18 questions or variables (see figure 1 and 2). This was asked at two points of time; at entry and then at the conclusion of their engagement with Prosper. The cohort members were asked to rate their confidence on a five-point Likert scale score between 1 (not at all confident) to 5 (completely confident).

Change in confidence (cohort 2)



## FIGURE 1: CHANGE IN CONFIDENCE (COHORT 2)

Figure 1 traces the different levels of confidence reported by members of the second cohort at the entry and exit stages, whereas figure 2 traces the average (weighted) confidence reported by members of the first and second cohort at their respective entry and exit stages.

Clear improvement can be seen across all 18 variables. Figures 1 and 2 illustrate that the degree of improvement is different for each of them. For instance there is a relatively larger growth in variables such as identifying where they can identify career development opportunities and resources, and being aware of attributes which employers seek from postdocs. At the same time the improvement in the two variables relating to 'discussion with my PI' is more muted.



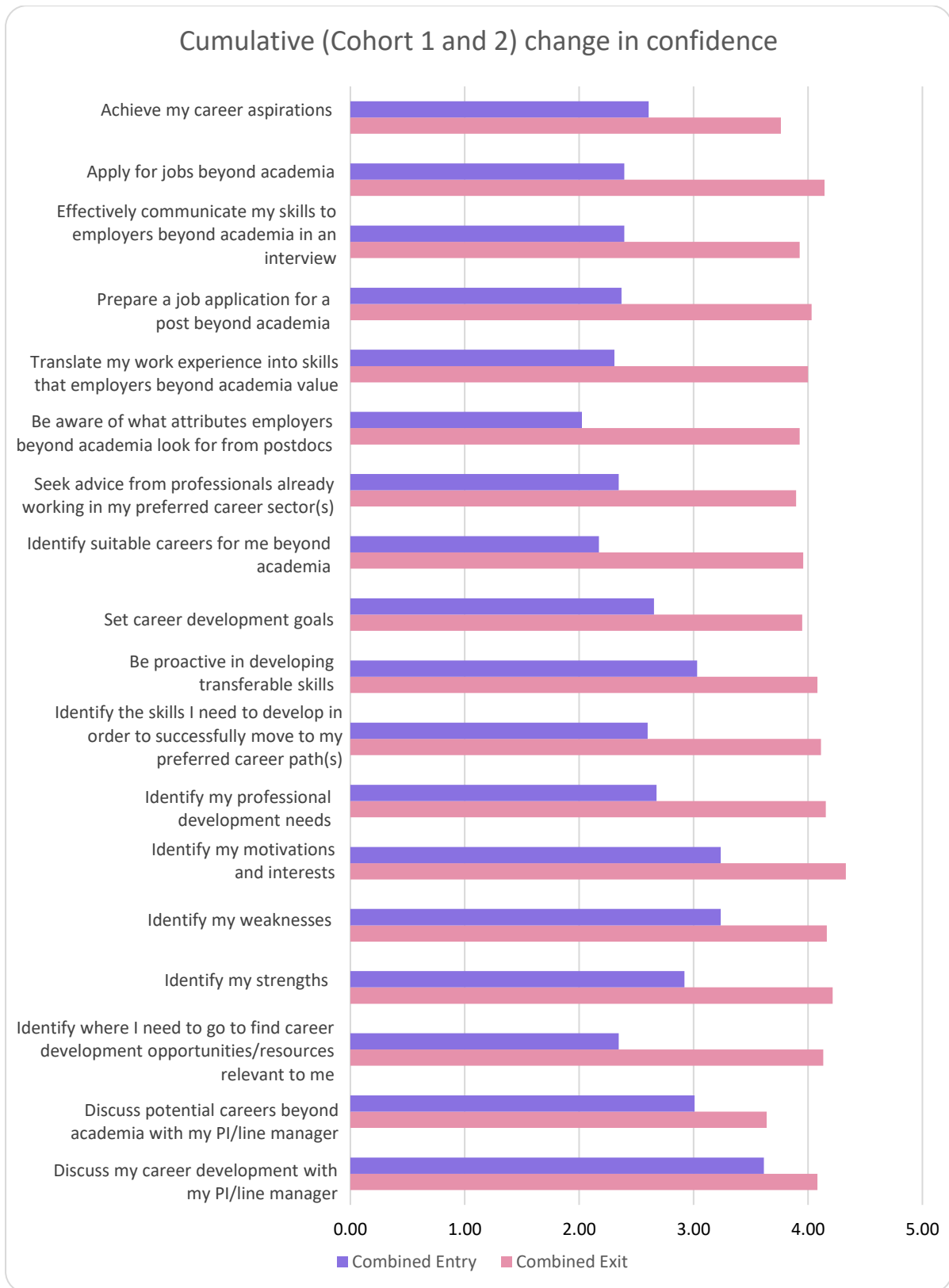


FIGURE 2: CUMULATIVE (COHORT 1 AND 2) CHANGE IN CONFIDENCE

As many of these variables are closely linked to each other, a factor analysis was undertaken to identify variables which change together and are likely reflect an

underlying factor across the two cohorts (a combined data set of cohort 1 and 2). This analysis produced a set of four underlying factors:

1. Self-reflection and initiate career development
2. Identify career development resources and goals
3. Discuss career development with PI
4. Communicate with employers and apply for jobs beyond academia

Full details of our approach are included in Appendix 1. The improvement in confidence in these 4 Factors is presented in Figure 3. The results show an improvement in confidence for all 4 factors across both cohorts taken together. The largest positive improvements are observed for identifying career development resources and goals, and for communication with employers and applying for jobs beyond academia (1.32 standard deviation of change each), followed by self-reflection and identifying career goals (1.29 standard deviation of change).

With the method used, a score of +1 or above indicates a statistically important improvement. We found that though there had been an improvement for “Discuss career development with PI”, this was slightly less than 1 standard deviation of change. Nonetheless the other 3 positive shifts show an unmistakable and statistically significant improvement over the timeframe of the respective Prosper cohorts.

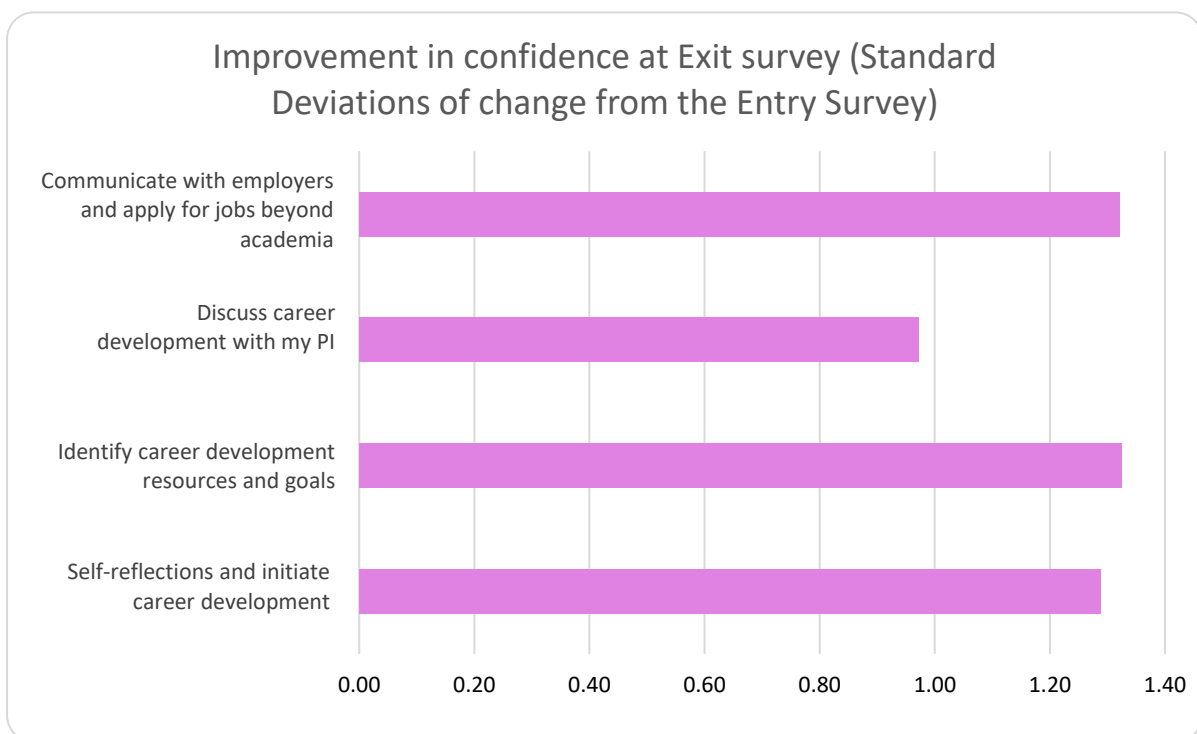


FIGURE 3: IMPROVEMENT IN CONFIDENCE AT EXIT SURVEY (STANDARD DEVIATIONS OF CHANGE FROM THE ENTRY SURVEY)

A glimpse of this positive change in confidence can be seen from the following feedback provided by members of the second cohort (similar positive feedback from members of the first cohort was recorded in the first cohort evaluation report):

*The pilot has been really valuable for me. It has increased my confidence in identifying my values and skills. The time for reflection has been really great for helping me to make some realisations about next steps (even if I haven't quite figured out the end goal yet). Lots of the resources have been really useful and it has been comforting to hear the experiences of other postdocs in similar situations to me.*

### E.1.b Impact on postdocs: change in perceptions about careers beyond academia

One of the key objectives of Prosper is to broaden postdocs' horizons in terms of awareness of and interest in career opportunities beyond academia. Prosper aims to furnish postdocs with information about the wide range of options open to them given their skills and accomplishments to date. This effort to transform perceptions is crucial to stoking aspirations to both consider and actively pursue careers beyond academia.

The quantitative surveys that cohort members took at the beginning and end of their time with Prosper asked about aspirations and expectations with regard to their professional future. The questions were designed to trace their perceptions regarding careers within and beyond academia.

This was done through a set of five questions. The following figure (4) illustrates the mean responses for these questions at the start and end of participants' time with Prosper. It shows a change over the course of the cohort in the direction of openness to the possibility of career pathways beyond academia.

The largest change is observed in participants perceiving that they will end up working beyond academia. This is accompanied by a marginal decrease in the participants' aspirations and expectations regarding working within academia.

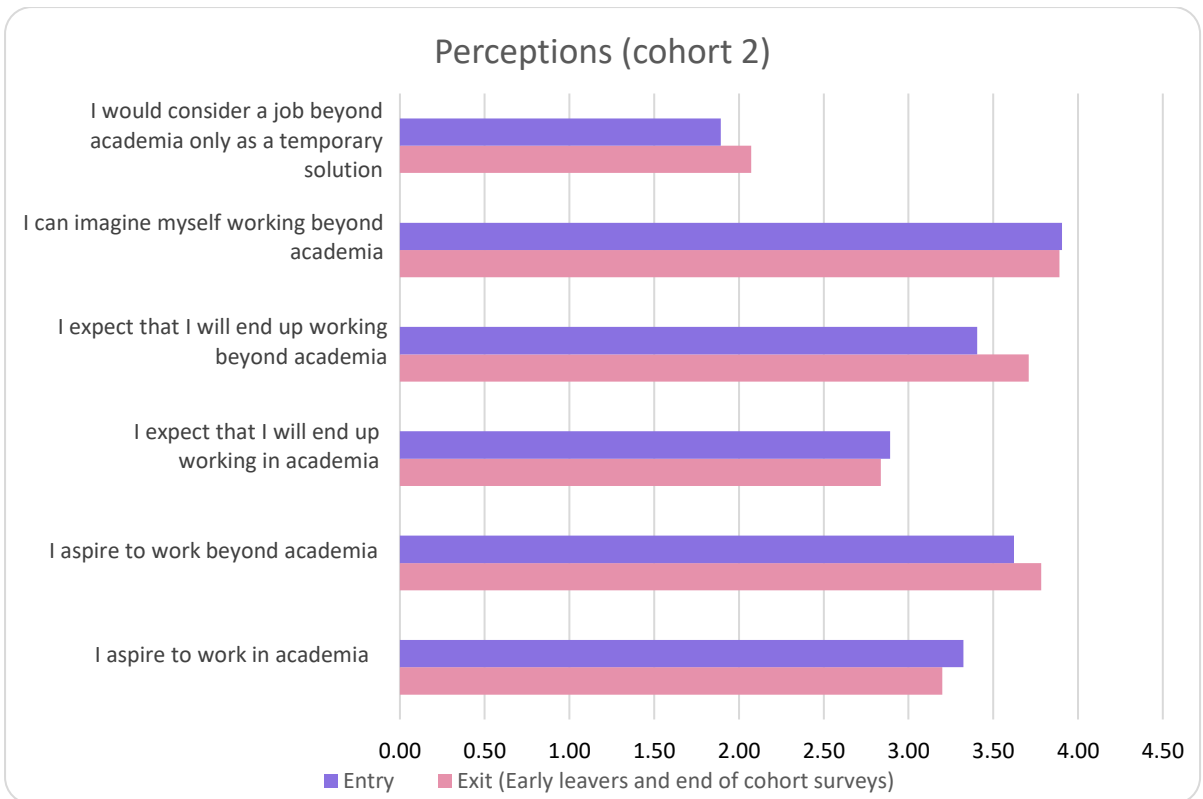


FIGURE 4: PERCEPTIONS (COHORT 2)

The following graph (figure 5) maps the overall change in perceptions across the first and second cohort (weighted average). It paints a similar picture, showing an increase in both aspirations and expectations regarding working beyond academia, and an attendant decrease in the same for academic career pathways.

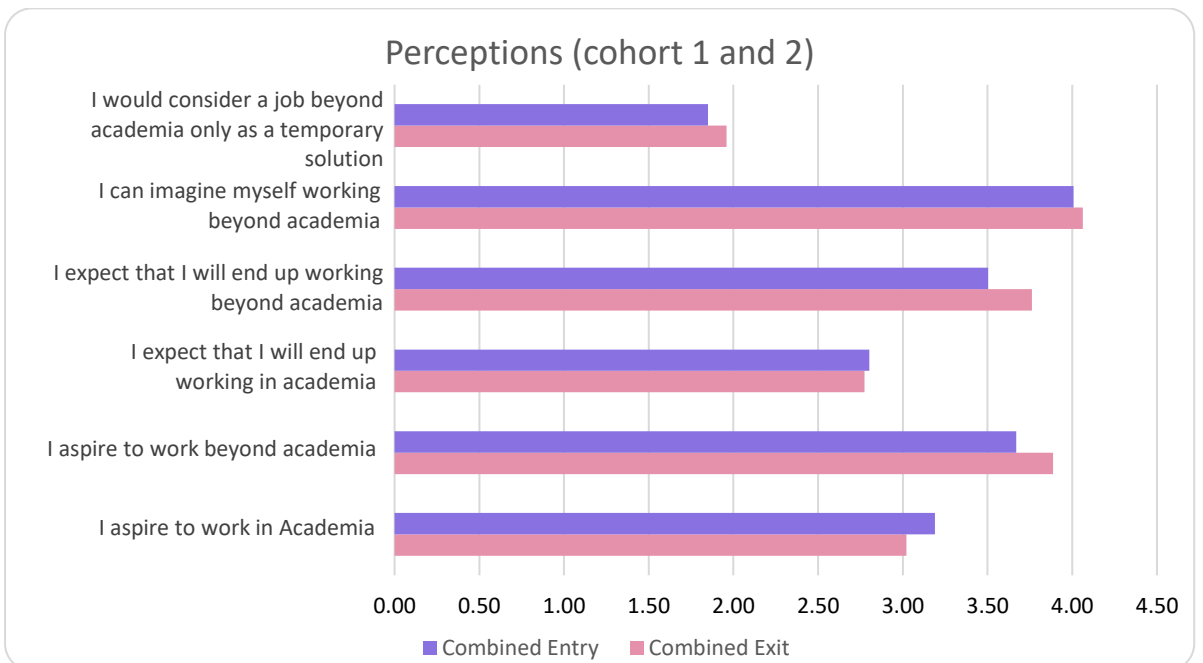


FIGURE 5: PERCEPTIONS (COHORT 1 AND 2)

These shifting perceptions can be seen in the following feedback:

*My experience with Prosper changed the way I think about non-academic options. Before, I had negative thoughts and considered a failure to not secure an academic position. Currently, I am more interested and aware of other options and feel less judgemental about trying new opportunities beyond academia.*

*I said at the start that I did not aim to leave academia in the near future so I did not expect to be applying for jobs etc outside academia by the end of this. However I do feel I have a better grasp of things now - I think I have come to appreciate that I have actually developed quite a broad skillset in academia which would map onto other careers and I can articulate what those skills are more precisely now. I feel as though if I did want to apply for jobs outside of academia now, I would have some tools to enable me to do this whereas I previously had no idea where to start.*

*I knew I wanted help thinking about the future but didn't really know what that looked like. The breadth of perspective that Prosper uses to think about career development was more so than I was aware of or at least knew I could engage with.*

A deeper and more thorough exploration of this change in perceptions in favour of careers beyond academia is provided in appendix 2.

### E.1.c Outcome: changes in behaviour

A positive change in confidence and perception is more tangibly measured with changing patterns of behaviour. For instance a positive change in confidence to self-direct one's own career development, combined with a greater openness to career pathways beyond academia, might result in an increase in job applications and engagement with employers beyond academia – a concrete and measurable variable.

Our analysis shows that changes in confidence and perception did indeed have this observable 'knock-on effect' on behaviours relating to career development. This impact is reflected in the following feedback shared by a member of the second cohort:

*I have a better sense of my career and personal values and how to prioritise them. I have identified some personal characteristics that can be a barrier to achieving these values (e.g. people pleasing) that I will be aware of and work on moving forward. I have gained lots of practical knowledge and resources around marketing yourself / applying for jobs that will be useful going forward. I think most valuably I have been given permission to prioritise my career and*

*personal development and reflection and a sense of what that looks like and the motivation to continue this.*

This section details the impact of the second cohort to date in terms of:

- a. cohort members engaging with employers and organising informational interviews
- b. cohort members applying for jobs
- c. job offers
- d. future plans at the end of their engagement

It should be noted that these figures are, by nature, ‘early figures’ – and the full impact of Prosper across these metrics would not be expected to fully materialise within the timeframe measured (some participants, for example, are still finishing their current postdoctoral contracts, others may secure jobs in the period following their engagement with Prosper and their completion of the exit survey from which this data has been compiled).

Cohort 1 finished in February 2022 and the latest survey data from them included here is taken at January 2023. Cohort 2 finished in January 2023 and the latest survey data taken from them included here is March 2023. We are continuing to track the career destinations and the longer-term impact of Prosper on both our cohorts through longitudinal surveys.

Also included here are the relevant results from the end of Cohort 1 survey and the first longitudinal survey of Cohort 1.

### **E.1.c.i Interactions with Employers**

Prosper provided cohort members with insights about employers, organisations and career trajectories across 12 career clusters. It also encouraged participants to engage with employers beyond Prosper, and proactively identify and seek information about opportunities to help them develop their careers.

For example, Prosper has developed resources to support postdocs in undertaking informational interviews. An informational interview can be a means to discover the skills and competencies that they will need to succeed in a particular career pathway, and to develop knowledge about potential career trajectories, opportunities for career development and everyday working experiences.

The following piece of feedback illustrates the positive impact this had on participants:

*As a result of attending the Prosper programme, I have a better understanding of who I am and what I want. I am also no longer fearful of*

*leaving academia, and aware of all the transferable skills I possess. I am excited to see what the future holds.*

The following table details the behaviour of both cohorts in terms of employer engagement and informational interviews. Over 70% of the second cohort reported interacting with employers beyond the confines of Prosper, within the timeframe of the pilot – a slightly higher percentage than reported by the first cohort. Nearly 40% conducted informational interviews over the same period.

The longitudinal data from the first cohort (data taken from the follow-up survey conducted in January 2023) demonstrates the extent to which this behaviour is being kept-up following the completion of postdocs' time with Prosper. Nearly 70% of the first cohort report continuing to engage with employers in the ~11 months since leaving the pilot.

This indicates the extent to which Prosper has been able to successfully inspire postdocs to explore career opportunities beyond academia, and engage with employers in their own time. This behaviour plays a crucial role in career success and fulfilment.

Table 2: Interaction with Employers

<b>Behaviour</b>	Cohort 1 Total at End of cohort surveys (May 2022) N <sub>1</sub> =42	Cohort 1 Total at Longitudinal Survey (January 2023) N <sub>2</sub> =46*	Cohort 2 Total at End of cohort surveys (March 2023) N <sub>3</sub> =64**	Combined N <sub>4</sub> =110 (N <sub>2</sub> +N <sub>3</sub> )
Explored and/or Interacted with Employers beyond Prosper	29 (69%)	31 (67.4%)	47 (73.4%)	78 (70.9%)
Arranged/had Informational Interviews	15 (38%)	NA***	24 (37.5%)	NA
*N <sub>2</sub> =46 includes cohort 1 members who responded to early leavers survey, end of cohort survey and/or the longitudinal survey **N <sub>3</sub> = includes cohort 2 members who have participated in Pulse survey 2, early leavers survey and/or end of cohort survey ***the longitudinal survey did not enquire about informational interviews; hence this data is missing.				

For instance, one participant shared:

*We were already connected via LinkedIn, but based on my increased activity in 2022, an old acquaintance got back in touch, and we had a video call discussing my career interests and her start-up and whether I might be interested in working for her start-up in the future (once they have customers in the UK).*

These quantitative and qualitative reports from cohort members indicate that the Prosper model can engender useful and beneficial career development behaviours in postdocs.

### E.1.c.ii Applying for jobs

Job applications are the second concrete criterion through which we can observe tangible behavioural changes. It is also one of the key success outputs being tracked by the Prosper project team.

In addition to engaging with employers, postdocs in the first cohort (71.7% in January 2023) and second cohort (65.6% in March 2023) have been applying for jobs. The following table breaks this down further, illustrating how cohort members are applying to jobs within and beyond academia.

Table 3: Applying for jobs

	Cohort 1 Total at End of cohort surveys (May 2022) N <sub>1</sub> =42	Cohort 1 Total at Longitudinal Survey (January 2023) N <sub>2</sub> =46*	Cohort 2 Total at End of cohort surveys (March 2023) N <sub>3</sub> =64**	Combined N <sub>4</sub> =110 (N <sub>2</sub> +N <sub>3</sub> )
Applying for jobs	25 (59.5%)	33 (71.7%)	42 (65.6%)	75 (68.2%)
Only applying for jobs beyond academia	14 (33.3%)	17 (36.9%)	15 (23.4%)	32 (29.1%)
Only applying for jobs within academia	6 (14.3%)	8 (17.4%)	13 (20.3%)	21 (19.1%)
Applying for jobs within and beyond academia	5 (11.9%)	8 (17.4%)	14 (21.9%)	22 (20%)
*N <sub>2</sub> =46 includes cohort 1 members who responded to early leavers survey, end of cohort survey and/or the longitudinal survey				
**N <sub>3</sub> = includes cohort 2 members who have participated in Pulse survey 2, early leavers survey and/or end of cohort survey				

A higher percentage of second cohort participants reported using what they had learned from Prosper to apply for positions within the timeframe of the pilot than the first cohort. However, the longitudinal data shows an increase in the proportion of first cohort postdocs applying for jobs over the months following the completion of the first pilot.

There is a shift in the overall direction of job applications between the cohorts – fewer members of the second cohort applied for jobs *solely* beyond academia, with a higher proportion applying either solely for jobs within academia, or both. The possible factors behind this are beyond the scope of this evaluation – the important point is that the numbers show a broadening of career horizons and associated behaviour in pursuit of a wider range of career pathways. Around half of both cohorts (looking at the longitudinal data from the first cohort) report applying for positions beyond academia.



The benefits and impact of the encouragement and resources Prosper offered in this respect can be seen in the following pieces of feedback:

*I really enjoyed exploring a new career area (policy) and was motivated to do this following the policy panel session. Feedback from the interview I did was that I need more experience in the specific area, which of course is frustrating. But they were really positive and encouraged me to keep applying for jobs in policy.*

*It's a lot more challenging than I expected. Prosper was a really nice confidence boost about my skills as a post-doc but I'm yet to see this play out in reality.*

*I wish I had started applying earlier. I gained so much from the applications and interview processes in my latest job search, and it really did help me to consolidate my long-term career goals in a more thorough manner. Lots of the uncertainty in academic roles can be remedied by staying grounded and keeping a finger on the pulse of what is going on outside academia. There is, essentially, a huge safety net of high skilled jobs out there for people with all kinds of research experience, and it's almost a secret. It's very easy to get caught up in academia, and to feel like the next job search is going to be difficult, overly competitive, and to take a huge personal toll on the researcher. There are challenging, fulfilling, rewarding, and worthwhile jobs outside of academia and I wish I'd taken them seriously earlier.*

### E.1.c.iii Job offers

Within the timeframe of the second cohort, 19 (29.7%) of the 64 postdoc participants successfully secured new roles (12 within academia and 7 beyond academia).

#### Destinations Beyond Academia

The following table (4) illustrates how consistent proportions (45% in both the first and the second cohort) of postdocs applied for positions beyond academia during the timeframe of the respective pilots.

The proportion of second cohort postdocs actually recruited to new roles beyond academia is lower than for the first cohort. There are many possible factors behind this difference, from changing economic circumstances to the average length cohort members had remaining on their postdoctoral contracts. Speculation here is beyond the scope of this report and the data collected. What is evident is that nearly equal proportions of both cohorts were inspired to apply for roles beyond academia.

The intended impact of Prosper is a long-term one – and our longitudinal follow-up with members of our first cohort shows a steady growth in terms of numbers of postdocs that have successfully secured new roles both within and beyond academia.

Table 4: Destinations beyond academia

	Cohort 1 Total at End of cohort surveys (May 2022) N <sub>1</sub> =42	Cohort 1 Total at Longitudinal Survey (January 2023) N <sub>2</sub> =46*	Cohort 2 Total at End of cohort surveys (March 2023) N <sub>3</sub> =64**	Combined N <sub>4</sub> =110 (N <sub>2</sub> +N <sub>3</sub> )
Postdocs applying for jobs beyond academia	19	25	29	54
% Postdocs applying for jobs beyond academia	45.2%	54.3%	45.3%	49.1%
Postdocs shortlisted for jobs beyond academia	10	16	10	26
% Postdocs shortlisted for jobs beyond academia	23.8%	34.9%	15.6%	23.6%
Postdocs recruited into jobs beyond academia	10	16	7	23
% Postdocs recruited into jobs beyond academia	23.8%	34.9%	10.9%	20.9%
*N <sub>2</sub> =46 includes cohort 1 members who responded to early leavers survey, end of cohort survey and/or the longitudinal survey **N <sub>3</sub> = includes cohort 2 members who have participated in Pulse survey 2, early leavers survey and/or end of cohort survey				

The positive impact on applications illustrated in the above table (4) is further illustrated by the following pieces of feedback from cohort members:

*I don't think I would have had the confidence to apply - and certainly not to get the position - at my new job if I hadn't done Prosper. I needed the push to get out of the postdoc bubble (though it was about to pop anyway!). But I didn't know how to even approach getting a job outside of academia. And Prosper gave me the tools to let me do it.*

*I have explored new avenues of employment outside of academia. Prosper programme greatly helped me to understand my skills, strengths, and values. I hope I will translate these into an alternative career path in beyond academia.*

*I had a quite simplistic view of industry jobs at the beginning. I was completely lost in what jobs 'I was allowed to apply'. Not only was a limited view, but I missed to see the real companies values behind the roles. During this year, I have also appreciated values I take for granted at university (and not only flexibility!). After 12 months I have had the time to improve several times my CV, cover letters and LinkedIn profile, to explore different approaches to connect with people and initiate conversations. Now, I feel more confident in getting a job than before starting the programme because I know what I should do, although this is not always translating into a confidence in getting a job. Right now, I am applying for very competitive jobs at the*

*government/NHS/universities... but even for these jobs, I have learnt useful tips that could make the difference when two candidates are very similar in skills. The difference is much bigger when companies that are not extremely interested in the technical skills are looking for your CV. We live in very uncertain times, but confidence in getting a job, know what to do and talk to, is key to secure a job.*

### Destinations Within Academia

The following table (5) details applications and job secured for positions within academia. A consistent and significant proportion of postdocs across both cohorts applied for, and secured, roles of this sort.

Table 5: Destinations within academia

	Cohort 1 Total at End of cohort surveys (May 2022) N <sub>1</sub> =42	Cohort 1 Total at Longitudinal Survey (January 2023) N <sub>2</sub> =46*	Cohort 2 Total at End of cohort surveys (March 2023) N <sub>3</sub> =64*	Combined N <sub>4</sub> =110 (N <sub>2</sub> +N <sub>3</sub> )
Postdocs applying for jobs within academia	10	16	27	43
% Postdocs applying for jobs within academia	23.8%	34.9%	42.2%	39.1%
Postdocs shortlisted for jobs within academia	9	14	12	26
% Postdocs shortlisted for jobs within academia	21.4%	20.4%	18.7%	23.6%
Postdocs recruited into jobs within academia	7	13	12	25
% Postdocs recruited into jobs within academia	16.7%	28.2%	18.7%	22.7%
*N <sub>2</sub> =46 includes cohort 1 members who responded to early leavers survey, end of cohort survey and/or the longitudinal survey				
**N <sub>3</sub> = includes cohort 2 members who have participated in Pulse survey 2, early leavers survey and/or end of cohort survey				

The following excerpts illustrate how Prosper has helped postdocs to better understand and pursue their career goals within academia:

*I started Prosper thinking I wanted to stay in academia, but with its competitive nature I thought I needed a back-up plan or to leave and find a job I would enjoy in industry. After some of the Prosper sessions I started looking at industry jobs on LinkedIn, reading people's job descriptions on their pages to see what I found interesting, and realised that nothing I read appealed to me except for academic research. Since then I've realised that my need for a back-up plan was probably out of fear of failing in academia because it is so competitive. From a suggestion in the group coaching sessions I got a mentor*

*who has helped me with applying for small grants for early career researchers and she has given me lots of opportunities to improve my CV for academic jobs. I have now got a new postdoc position with her, and am feeling more optimistic about pursuing a career in academic research.*

*Surprisingly, the Prosper process also helped me with applying for lectureships. It helped me feel more confident about what I was looking for in a job, so I was able to focus my applications on what I wanted to bring, and what I could offer, not just what I thought the recruiters might be looking for.*

The following list illustrates the variety of positions beyond academia secured by members of the second cohort:

***Jobs beyond academia secured by members of the second cohort:***

1. Senior Research Scientist at Ambition Institute, a charity that helps disadvantaged students
2. Data Scientist at Peak AI, a decision intelligence company
3. Senior Laboratory Research Scientist on an industry-academia collaboration between the Frances Crick Institute and AstraZeneca
4. Consultant Software Engineer at EUMETSAT
5. Senior Science Advisor at the Department for Transport
6. Bioremediation Specialist at Advanced Bacterial Sciences, a company that creates treatments for waste and water management
7. Scientific Curator at Genomics England, which works with the NHS to bring forward the use of genomic healthcare

**E.1.c.iv Career development and future plans at the end of their engagement with Prosper**

Job applications are not the only behavioural change targeted by Prosper – the aim is to enable postdocs to make clearer and more pro-active plans for their professional futures more broadly.

This section will explore cohort members' future plans and strategies. The following graph (figure 6) shows how participants from both cohorts responded to a multiple answer question regarding their future plans. This figure was generated through a single question which encouraged respondents to identify all the statements which are true for them.

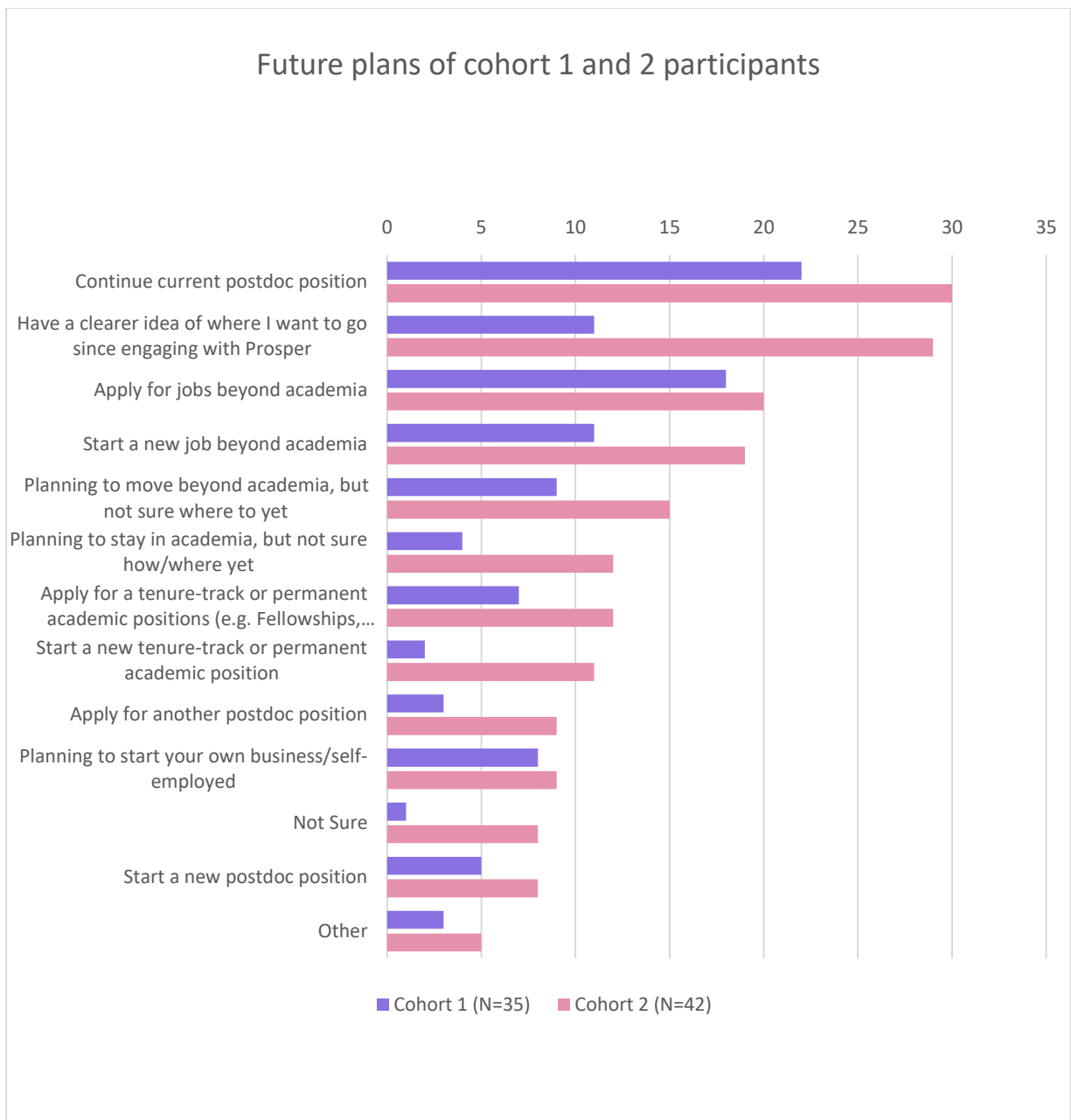


FIGURE 6: CAREER PLANS AT THE END OF COHORT 1 AND 2

In terms of future career plans, across both cohorts (51% for the first cohort and 48% for the second) around half plan to apply for jobs beyond academia, with a significant proportion in both cohorts (31% from the first cohort and 45% from the second) planning to start new jobs beyond academia. Additionally, a sizeable proportion of participants from the second cohort (29%) wish to pursue and start new jobs within academia.

The fact that a substantial proportion of both cohorts plan to continue with their current position is not surprising given the time at which the question was asked. Many will still be developing and pursuing alternative career plans over a longer time frame. A significant proportion of the second cohort (69%) reported greater clarity about their next steps following their engaging with Prosper.

One of the most significant changes brought about by Prosper has been a statistically significant improvement in postdocs' confidence to pursue various aspects of their career development. This confidence is also aligned with clarity regarding career goals. This is evident in the following piece of feedback:

*I started the Prosper programme unsure about the direction to take in my future career. Prosper helped me to explore my skills, motivations and aspects of work which are important to me. This, in turn, has helped me to identify future paths to pursue, and concrete actions I can make towards progressing along these paths. Although I am still unsure about where the future will take me, I feel more confident in the next steps I can take forward.*

There are some inconsistencies with regard to how participants have reported applying for jobs, receiving job offers and future plans. This will be followed up in subsequent longitudinal surveys.

#### **E.1.c.v Starting own business:**

At the end of the second cohort, seven participants shared that they plan to start their own businesses. One participant shared that they have been developing their business idea and plan throughout their time on Prosper. On the other hand, another participant shared:

*I would like to have a side gig on the side (I'm especially a big fan of passive income), but this does not mean working full time on my own business. I would always have a steady job on the side.*

Other business plans include setting up their own coaching business, becoming a public-engagement specialist, and creating a start-up focused on phage therapies. This also includes plans to get grants. For instance, one participant shared:

*I'll be working towards seed grant funding schemes to create a start-up, however, I also plan to keep working in academia.*

These plans are occasionally part of long-term career development plans. One participant shared:

*All I know at this point is, I have to start my own company down the line of 4-5 years from now. Nevertheless, I have lots of gaps that I identified, which needs to be filled in. I also want a short industry experience to understand what a company is all about and learn about how to build one. There is a steep learning curve, but I am prepared to take that path. My ideal next move would be a job in start-up.*

These plans further illustrate the positive impact Prosper had on the career development trajectory and strategies of postdocs across the cohorts.

## E.2 Resources and Prosper Experience Findings

### E.2.a Engagement with Prosper (Cohort 2)

This section refers to Cohort 2 only. A similar analysis for Cohort 1 can be found in the Cohort 1 Evaluation report.

On average, the members of the second cohort spent 83 hours engaging with Prosper. This engagement was traced over pulse survey 1 (PS1), pulse survey 2 (PS2) and the end of cohort surveys. The following figure (7) illustrates how cohort members spent different proportions of this 83 hours this time engaging with different resources and activities.

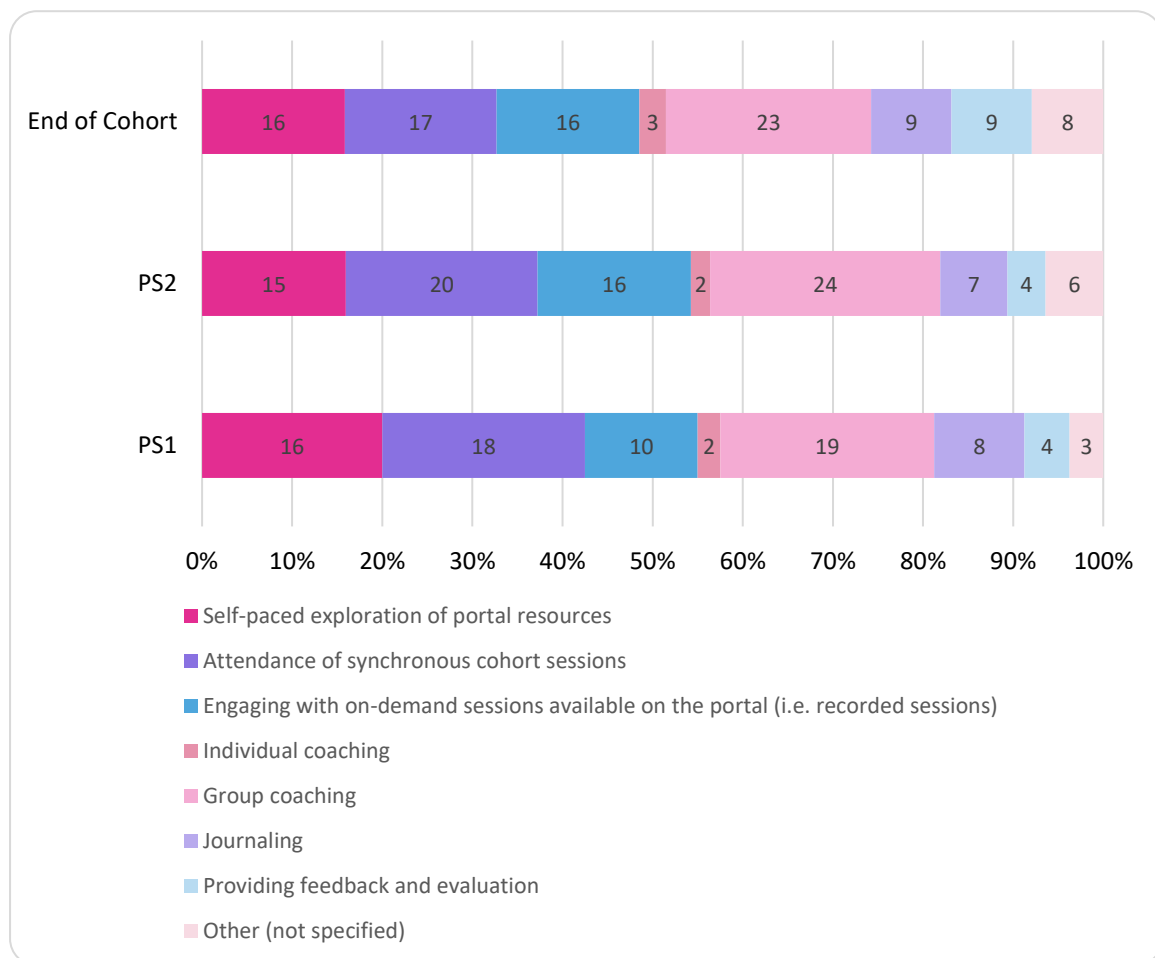


FIGURE 7: COHORT 2 TIME SPENT ON DIFFERENT RESOURCES DURING COHORT 2

It is evident that the largest proportion of time was spent with group coaching, followed by engagement with synchronous events. It also shows a slight peak (PS2) and drop (end of cohort) over the course of the year in terms of the proportion of time spent engaging with live events, along with a slight increase in the time spent on recorded on-demand sessions and journaling.

The following graph (figure 8) further illustrates that this engagement was largely flexible in nature, with postdocs engaging when they were able to identify time within their schedules.

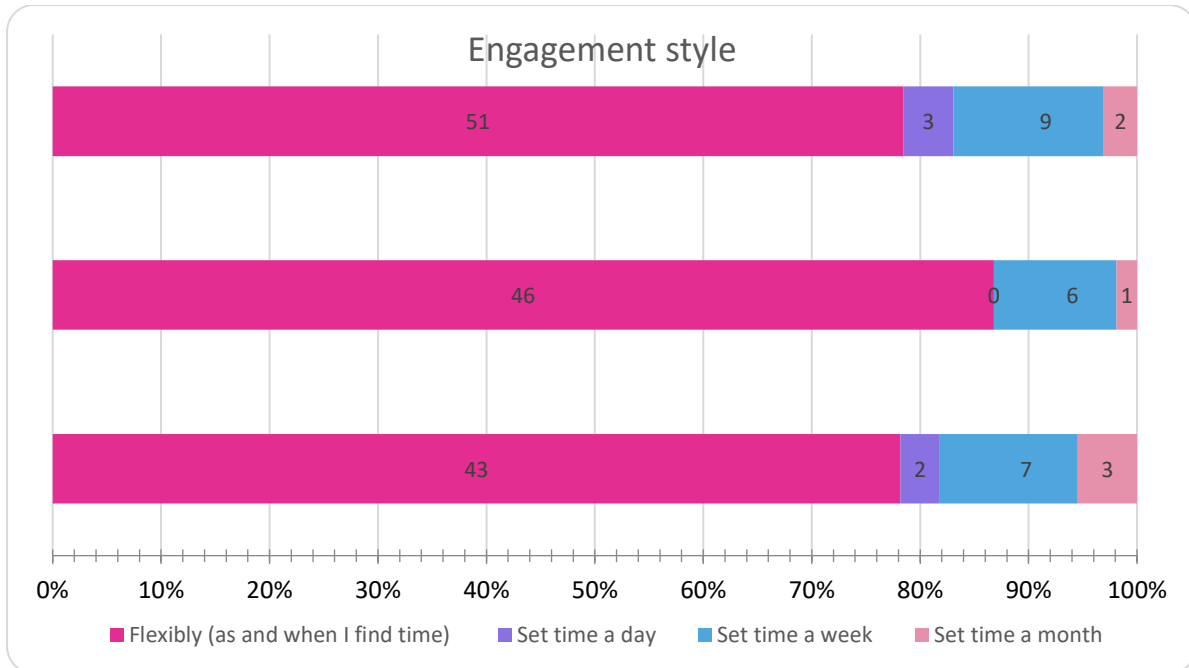


FIGURE 8: ENGAGEMENT STYLE

The following graph (figure 9) further illustrates the overall pattern of engagement reported by postdocs. It is evident that a majority of postdocs' engagement fluctuated through the year. This is congruent with the participants sharing that they engaged with Prosper as and when they were able to find time within their respective schedules.



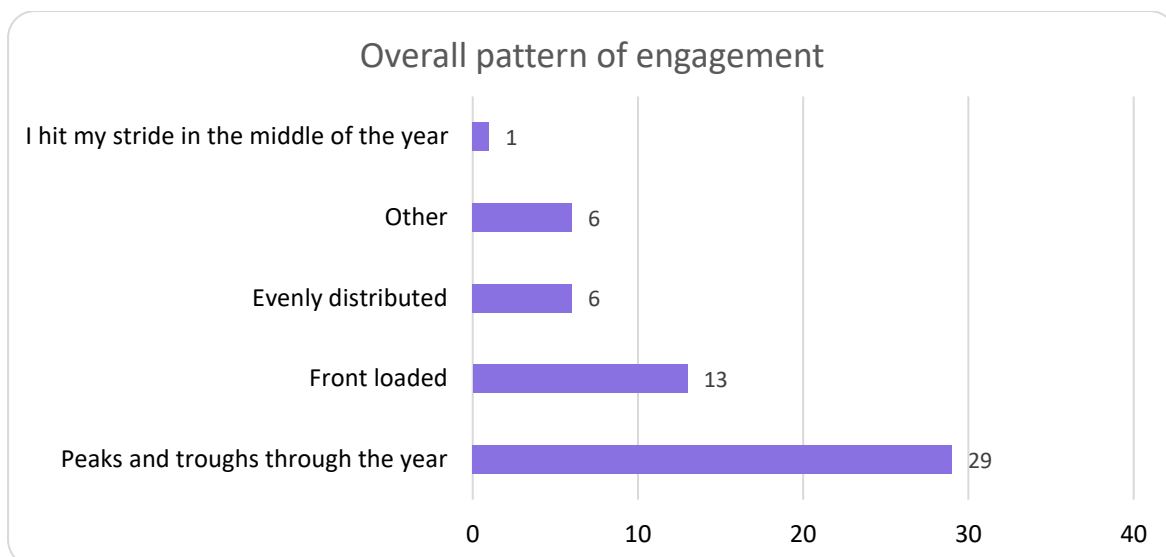


FIGURE 9: OVERALL PATTERN OF ENGAGEMENT

Similar patterns of engagement were observed in the first cohort. Further details of this can be found in the first cohort evaluation report. However, there was a change in the proportion of time spent in group and individual coaching between the first and second cohorts. This was due to a planned strategy whereby the first cohort had more time allocated to individual coaching than the second cohort. In both patterns, across both cohorts, coaching has been identified as one of the most useful resources provided through Prosper.

### E.2.b Feedback on most and least useful resources (Cohort 2)

Second cohort members, like members of the first cohort, were very positive about coaching and its benefits for their career development journey. Across the two pulse surveys and the end of cohort and pulse surveys the most appreciated resource was coaching. 80% (44 out of 55) participants at the end of their engagement identified coaching as the most useful resource provided by Prosper.

This was also observed in the two pulse surveys (45 mentions in pulse survey 1 and 28 mentions in the second pulse surveys). The useful resources identified by participants also included resources which corresponded to the reflect, explore and act phases of the year. For instance, in the first pulse survey there were 9 mentions of self-assessment tools and in the second pulse survey most postdocs identified different sessions (30 mentions) with 15 postdocs particularly identifying sessions on CVs and LinkedIn.

A quarter of the participants (14 out of 55) could identify or pin-point a 'least useful resource/activity' when prompted to do so. Similarly, 13 participants (20%) in the first pulse survey and 7 participants (13%) in the second pulse survey were unable to pin-point any particular resources which were not useful. The buddy scheme (11 mentions) and journaling (7 mentions) were the least popular resources recognised by participants at the end of their engagement with Prosper. The buddy scheme was also identified by 12 participants in the first pulse survey and 14 participants in the second pulse surveys. This was often accompanied by explanations indicating either a lack of agenda or a personal discomfort with unstructured socialising and small

talk, and perceived lower return to investment of time. Additionally, journaling also was identified by 8 participants each in the first and second pulse surveys. It was also interesting to note that in spite of a near universal popularity a few postdocs across the second and end of cohort survey identified group coaching as a less useful resource, expressing frustrations and dissatisfaction with the engagement from group members, lack of structure and the relevance of the content of the sessions.

### E.2.c Feedback on the overall Prosper experience

This section examines how cohort members evaluated their experience of Prosper. Cohort members were asked to share their feedback through Likert-scales. The following graph (figure 10) demonstrates that from the pulse surveys (PS1 and PS2) and the end of cohort survey, there has been a periodic improvement in the overall experience (see further details in appendix 3), satisfaction of expectations (see further details in appendix 4) and positive recommendations from the cohort members (see further details in appendix 5).

These average scores are slightly lower than the average feedback provided by participants at the end of the first cohort (details provided in the cohort 1 evaluation report). However, the graph shows periodic improvement in the feedback across the surveys (similar improvement was observed in the first cohort). The slight decline in average feedback is possibly due to the fact that the first cohort was tailored to a very specific institutional cohort, while the second cohort was spread across multiple institutions. Nonetheless, on the whole, the feedback was almost universally positive across all three partner institutions (see appendix 6).

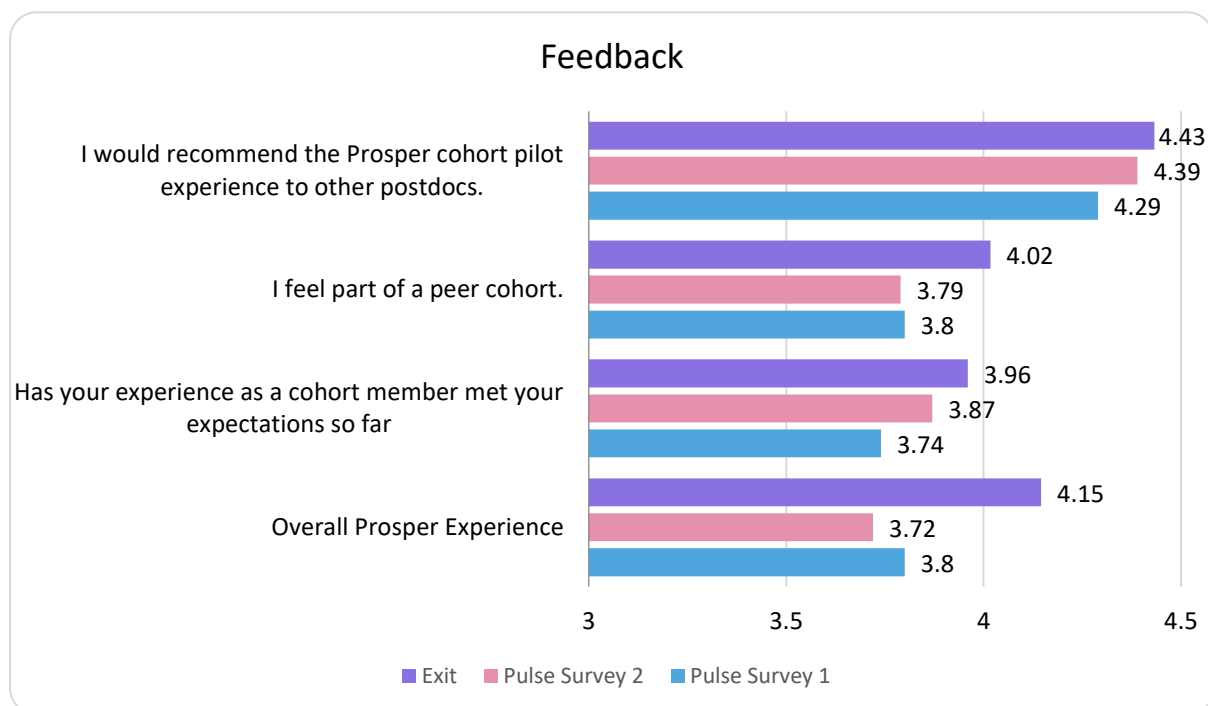


FIGURE 10: FEEDBACK

The following graph (figure 11) demonstrates that at the end of the second Cohort, participants largely found their engagement to be positive. They reported a significant increase in confidence to apply for jobs beyond academia (89%) and within academia (60%). They reported greater clarity regarding future career plans (83%). 86% found the Prosper cohort engaging, 95% of the second cohort reported that the prosper resources were useful, and 90% stated that Prosper resources were more relevant than other career development resources. 95% of the second cohort also shared that their engagement with Prosper has aided their career development.

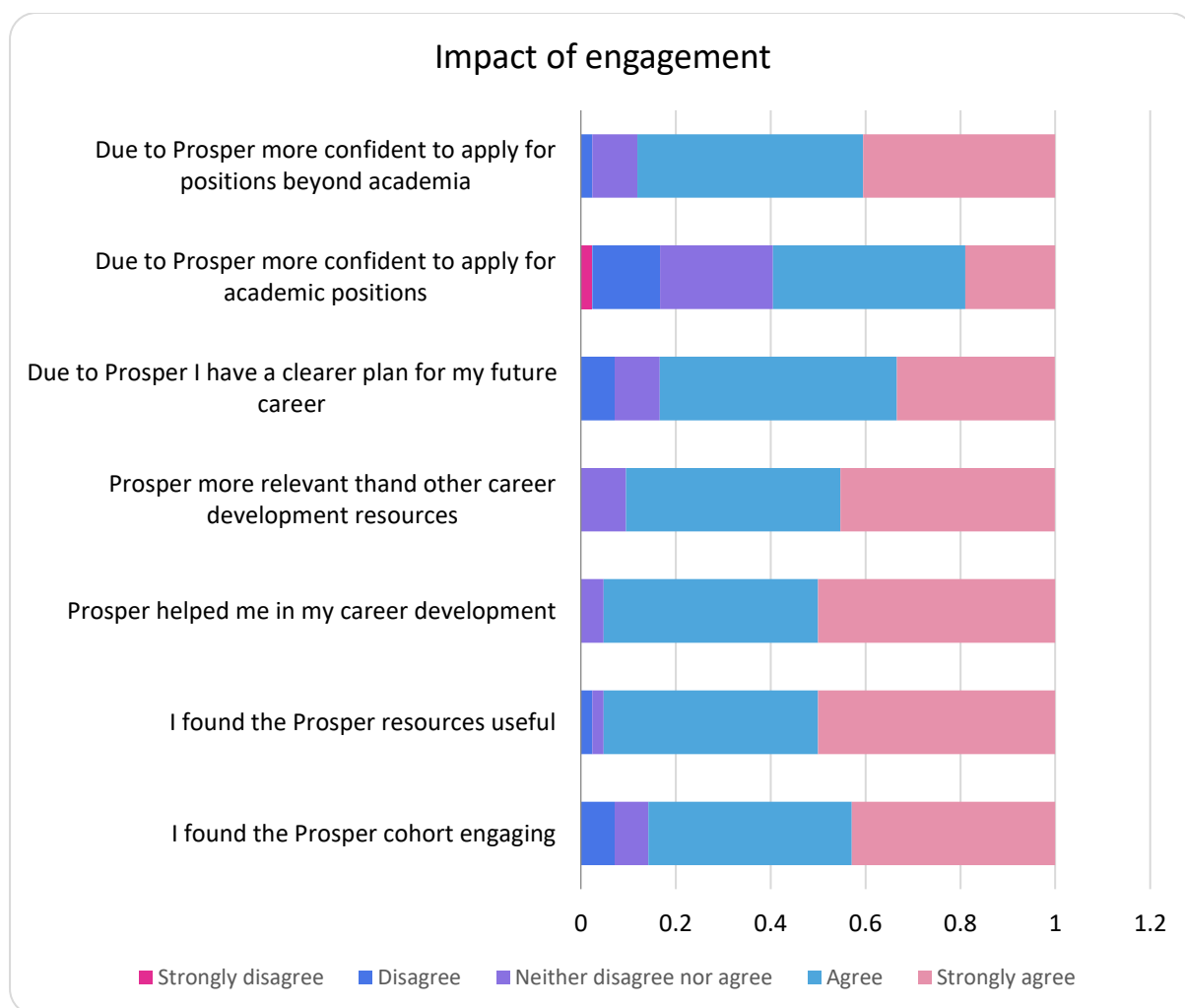


FIGURE 11: IMPACT OF ENGAGEMENT (COHORT 2)

The graphs illustrate that a majority of participants have a very positive view of Prosper. This is further evident in the following pieces of feedback:

*Without Prosper, I wouldn't know how to transition from academia to industry. Thank you for this opportunity!*

*I will definitely recommended prosper as mandatory to all post docs or even final year PhDs. It is a very valuable course for your professional and personal growth.*

*As postdocs we sometimes believe we are the 1% top knowledgeable people in the world. We are probably right. But unfortunately, although very skilled people, we miss to take the time to put our values first and trace a big plan in our career. Although skilled people, we missed the communication skills to translate our knowledge into sentences that can be understood by non-PhDs people of our sector. Prosper is quite useful to get a better understanding in what you need to learn, in engaging with other people that share the same worries that you do, and for building the confidence you need to get a role in or out the academy. Even if you are 100% sure you want to be at university, it does not damage you in any way explore what is out and be sure of the why you want to continue at the university.*

*Prosper made me realize that transitions can happen anytime. That it is possible to change job more easily than I thought and therefore, Prosper is a journey that lasts for the entire 'working-life' of an individual. It is never too late to change, if that means to improve and be better in what you do and above all, in who you are.*

This feedback which reflects the usefulness and impact of Prosper is also illustrated in the following word cloud (figure 12). Participants were asked to provide three words describing their experience of Prosper, resulting in the following word cloud:



FIGURE 12: FEEDBACK ON EXPERIENCE (COHORT 2)

The word cloud emphasises that the Prosper experience has been enlightening, informative, supportive, useful, and insightful.

## F. Limitations

One limitation of this report is that although the cohort members reflect the demographic diversity of postdocs across the three universities (University of Liverpool, University of Manchester and Lancaster University), the number of participants with particular intersectional and diverse identities are not large enough to qualify for statistical analysis.

The cohort recruited for Prosper is representative of the gender, ethnic and disciplinary diversity observed within the postdoc community in UK. These identities are recognised as significant factors of inequality in terms to access to education, higher education and career opportunities in UK. Several studies (such as Cardel et al. 2020; Yadav et al. 2020; Cantwell and Lee 2010) illustrate how these factors contribute to unequal educational and work-place experiences, outcomes and promotions. The team felt conflicted about asking leading questions to the cohort members about this sensitive issue and decided to address them if they are raised by the cohort. However, this was not discussed as a challenging factor by any of the participants of the surveys and focus groups. Therefore, this report does not address these concerns.

## G. Conclusion

This report illustrates – via data collected during both pilots – that Prosper has had a significant impact on the lives of the postdocs who were part of the first and second cohorts.

While members of the first Cohort spent nearly a hundred hours engaging with Prosper on average, the second Cohort spent an average of 82 hours. Members of both Cohorts were particularly appreciative of the coaching sessions, the resources provided through the portal and the peer community of postdocs within Prosper.

The overall experience led to significant statistical improvements in relation to participants' confidence in their ability to initiate and pursue career development activities, identify their career goals, discuss their career development with their PIs, communicate with employers and translate their skills for opportunities, and apply for positions both within and beyond academia.

The tangible result of this shift in mindset can be seen in the number of cohort members that used what they had learned to apply for positions, develop longer-term career plans (including several that have been inspired to either now or one day

begin building their own businesses), and in the number that successfully secured roles at a variety of organisations.

This positive impact is further underlined by the general feedback received regarding cohort members' experiences with Prosper and the resources on offer.

The findings from the first cohort were used to refine and evolve our offering for the second. The follow up with the first cohort further explored in greater depth outcomes such as the nature of roles that cohort members are applying for, and future plans. The combination of data from both cohorts, and the findings presented in this report, amount to a substantial evidential basis for the Prosper model and offering, in anticipation of its rollout to institutions across the UK.

## H. References

Anderson, T.W. and Rubin, H., 1956. STATISTICAL INFERENCE IN. In Proceedings of the Third Berkeley Symposium on Mathematical Statistics and Probability: Held at the Statistical Laboratory, University of California, December, 1954, July and August, 1955 (Vol. 1, p. 111). Univ of California Press.

Cantwell, B. and Lee, J., 2010. Unseen workers in the academic factory: Perceptions of neoracism among international postdocs in the United States and the United Kingdom. *Harvard Educational Review*, 80(4), pp.490-517.

Cardel, M.I., Dhurandhar, E., Yarar-Fisher, C., Foster, M., Hidalgo, B., McClure, L.A., Pagoto, S., Brown, N., Pekmezi, D., Sharafeldin, N. and Willig, A.L., 2020. Turning chutes into ladders for women faculty: A review and roadmap for equity in academia. *Journal of Women's Health*, 29(5), pp.721-733.

Chen, S., McAlpine, L. and Amundsen, C., 2015. Postdoctoral positions as preparation for desired careers: a narrative approach to understanding postdoctoral experience. *Higher Education Research & Development*, 34(6), pp.1083-1096.

Hadi, N.U., Abdullah, N. and Sentosa, I., 2016. An easy approach to exploratory factor analysis: Marketing perspective. *Journal of Educational and Social Research*, 6(1), p.215.

McBride, F., and Charlwood, C., 2021, How can you want what you don't know about? The importance of career visibility, <https://prosper.liverpool.ac.uk/blog/how-can-you-want-what-you-dont-know-about-the-importance-of-career-visibility/>

Pallant, Julie. 2003. *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS*, McGraw-Hill Education, ProQuest Ebook Central, <https://ebookcentral-proquest-com.liverpool.idm.oclc.org/lib/liverpool/detail.action?docID=744152>.

Yadav, A., Seals, C.D., Sullivan, C.M.S., Lachney, M., Clark, Q., Dixon, K.G. and Smith, M.J., 2020. The forgotten scholar: underrepresented minority postdoc experiences in STEM fields. *Educational Studies*, 56(2), pp.160-185.

## I. Appendices

### Appendix 1: changes and components of confidence derived through factor analysis

This appendix explains the analysis which contributed to the development of the findings presented in figure 2. As many of the 18 variables regarding confidence are closely linked to each other. We undertook a factor analysis to identify variables which change together and are likely reflect an underlying factor (Hadi, Abdullaah and Sentosa 2016, Pallant 2003). This analysis produced a very clear set of underlying Factors:

Components of Confidence	Standard deviation of change	One-way ANOVA significance	Constituent variables (statements to which participants responded)
Self-reflections and initiate career development	1.29	0.001	Identify my weaknesses
			Identify my motivations and interests
			Identify my strengths
			Identify my professional development needs
			Set career development goals
			Identify the skills I need to develop in order to successfully move to my preferred career path
			Achieve my career aspirations
Identify career development resources and goals	1.32	0.001	Identify where I need to go to find CDO/R relevant to me
			Seek advice from professionals already working in my preferred career sector
			Be aware of what attributes employers beyond academia look from postdocs
			Identify suitable careers for me beyond academia
Discuss career development with my PI	0.97	0.003	Discuss my career development with my PI
			Discuss potential careers beyond academia with my PI
Communicate with employers and apply for jobs beyond academia	1.32	0.001	Prepare a job application for a post beyond academia
			Effectively communicate my skills to employers beyond academia in an interview
			Apply for jobs beyond academia
			Translate my work experience into skills that employers beyond academia value

Each person was scored pre- and post-test on these factors. We used a method that set the average score for the pre-test as zero with scores above being positive and below negative (Anderson-Rubin 1957, Pallant 2003). With this method scores



of +1 of standard deviation or above indicate likely statistically important improvements. We also checked if the improvements were statistically significant. The improvement in confidence across these five components in terms of standard deviations of change (from the entry survey to the exit surveys) is presented in figure 3 in the main report.

## Appendix 2: Change in perceptions

The two graphs in this appendix demonstrate the proportion of postdocs in the entry (in purple) and exit (in pink) survey who agree or disagree with statements exploring their perceptions regarding careers beyond academia. Figures 13 and 14 explore aspirations and expectations of working beyond academia respectively. Both graphs show that there has been a shrinkage of proportion of participants who were ambivalent and that there has been a significant grown in the proportion of participants who are strongly agreeing that they aspire and expect to work beyond academia.

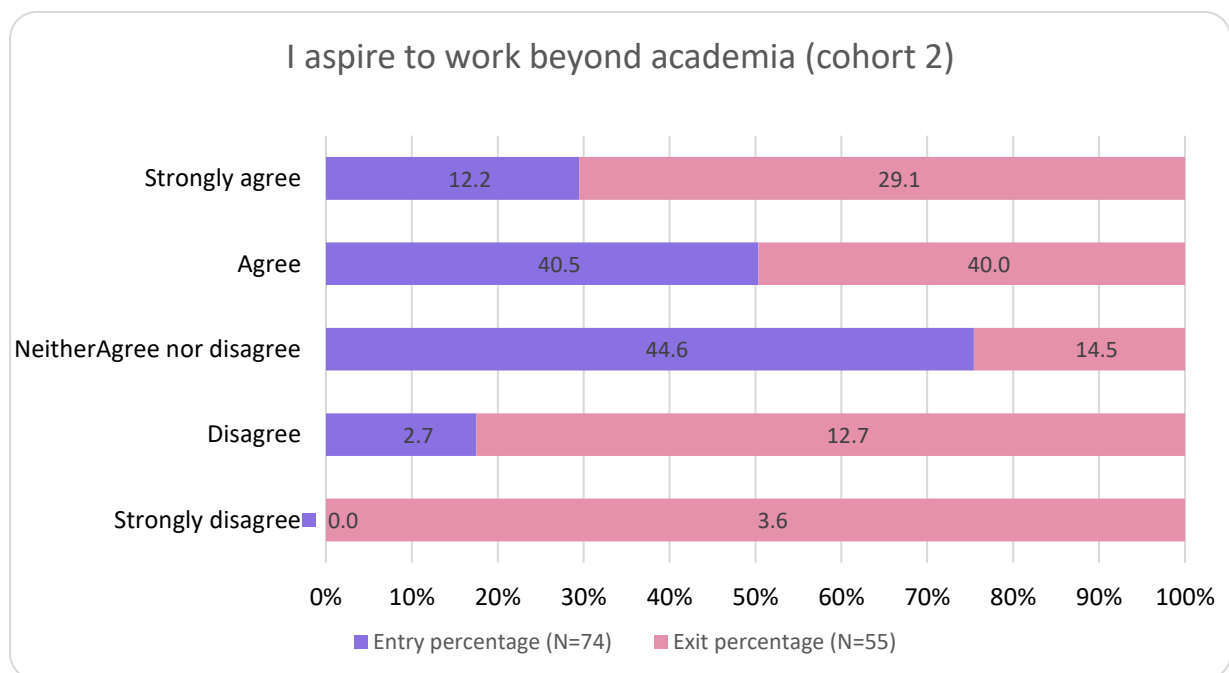


FIGURE 13: ASPIRE TO WORK BEYOND ACADEMIA

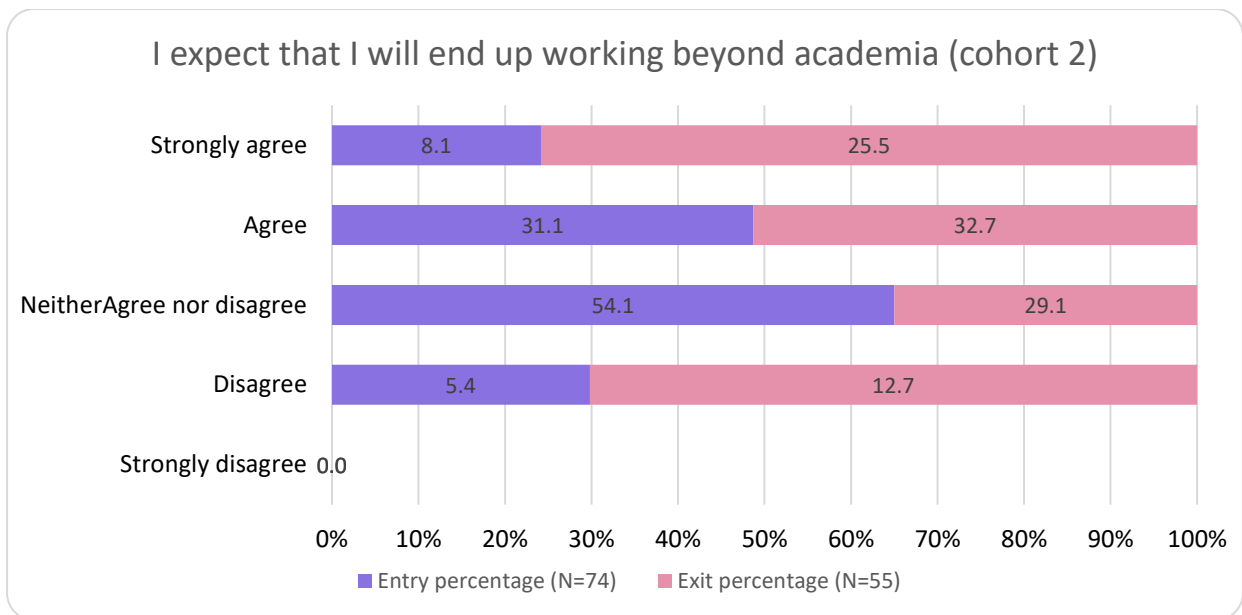


FIGURE 14: EXPECTATION TO WORK BEYOND ACADEMIA

### Appendix 3: feedback on overall experience of Prosper

The following graph (figure 15) in this appendix demonstrate that 80% of the second cohort agree (in blue and pink) that the overall Prosper experience has been good or very good and less than 5% feel that it has been a poor experience (in magenta).

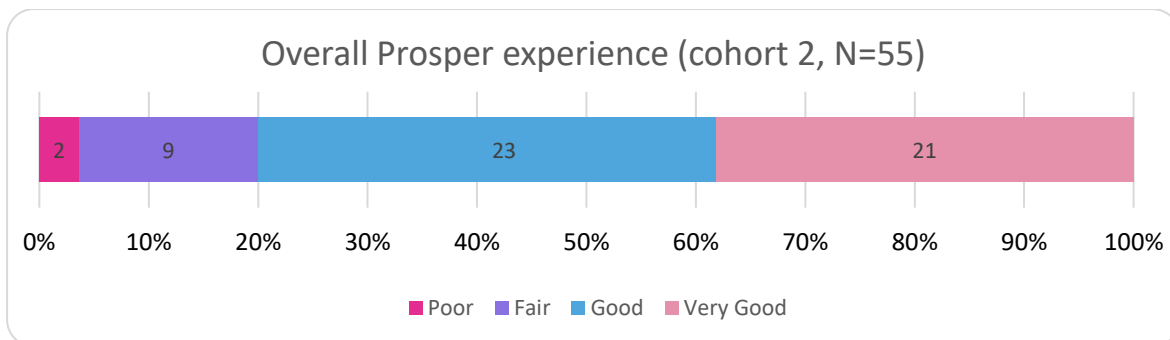


FIGURE 15: OVERALL PROSPER EXPERIENCE

The following three graphs (figures 16, 17 and 18) illustrate the feedback of Cohort members across genders, ethnicities and disciplines regarding their overall Prosper experience. It is evident that the less than 5% of the Cohort population which feels that the experience is poor are white men from the humanities and social sciences. However, the numbers are too low to lead to any kind of generalisation. Nevertheless, this could be further explored and examined in future iterations of Prosper.

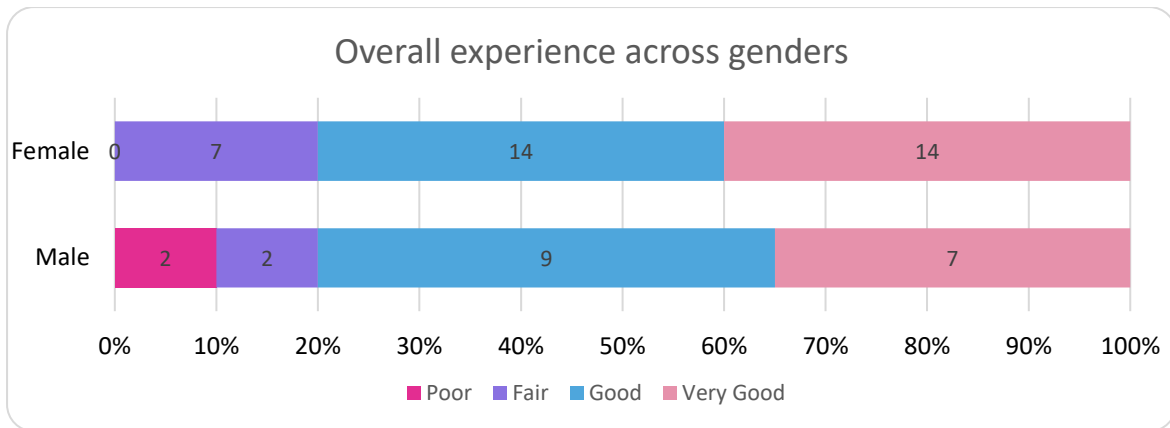


FIGURE 16: OVERALL EXPERIENCE ACROSS GENDERS

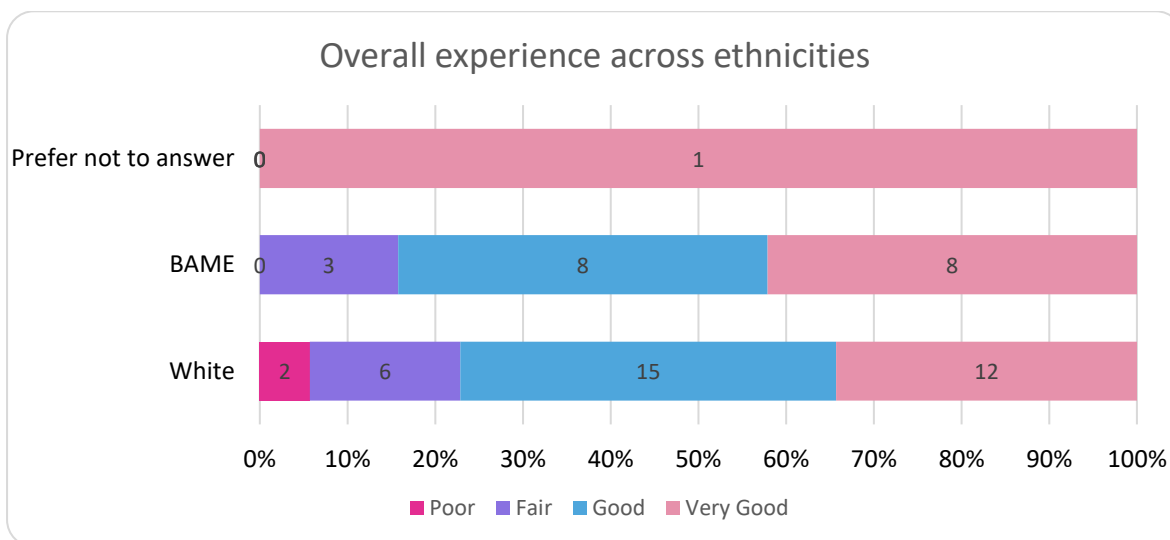


FIGURE 17: OVERALL EXPERIENCE ACROSS ETHNICITIES

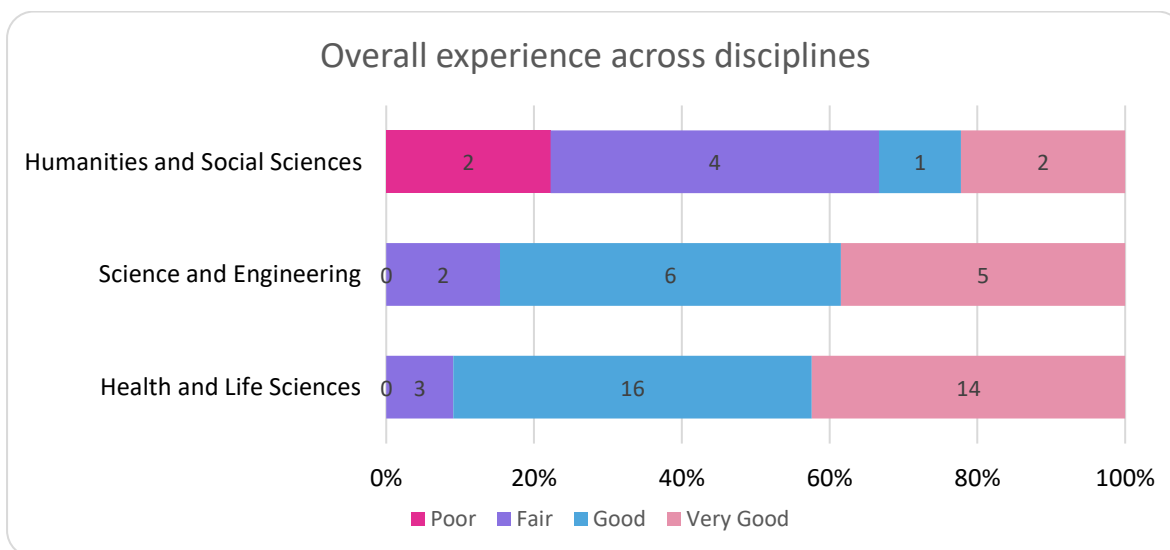


FIGURE 18: OVERALL EXPERIENCE ACROSS DISCIPLINES

## Appendix 4: Prosper meeting expectations

The following graph (figure 19) illustrates how members of the second cohort have felt that their experience has met their expectations. 75% of the cohort members agree (in blue and pink) that their experiences met their expectations and less than 15 % of the cohort members feel that their expectations were not met (in magenta).

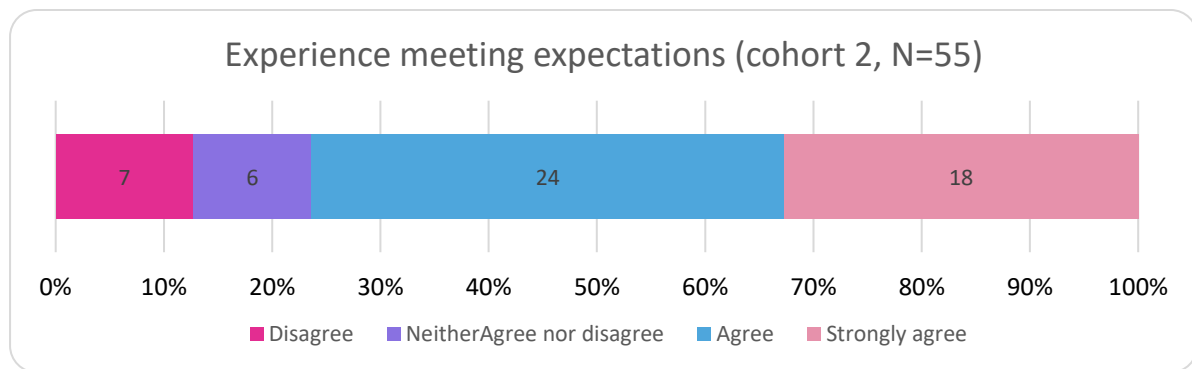


FIGURE 19: PROSPER EXPERIENCE MEETING EXPECTATIONS

The following three graphs (figures 20, 21 and 22) further illustrate how the Prosper experience met the expectation of cohort members across genders, ethnicities and disciplines. It can be observed that a larger proportion of discontent with the experience (similar patterns observed in terms of overall experience in appendix 3) are located within men from the humanities and social sciences. However, the numbers are too low to lead to any kind of generalisation. Nevertheless, this could be further explored and examined in future iterations of Prosper.

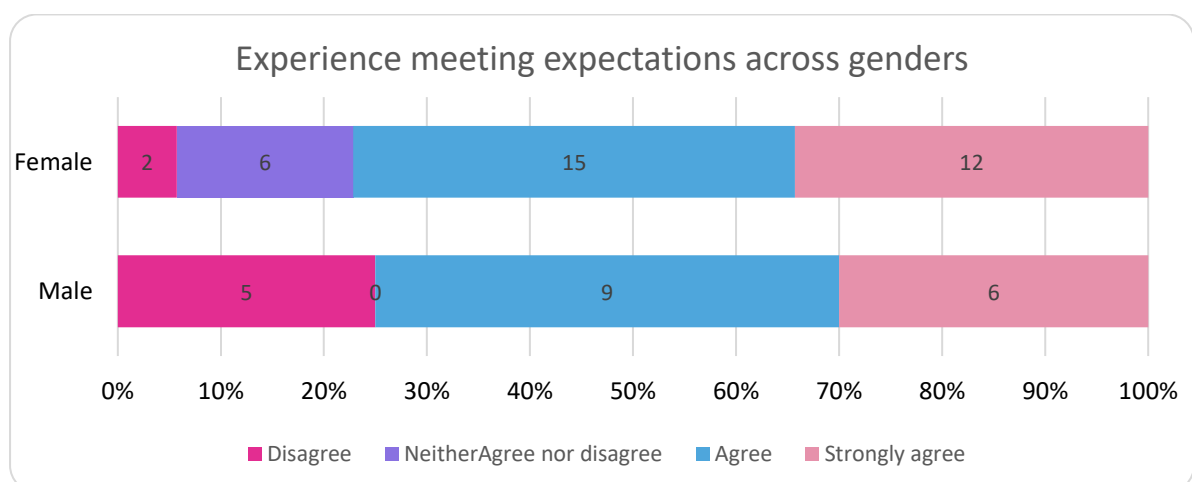


FIGURE 20: EXPERIENCE MEETING EXPECTATIONS ACROSS GENDERS

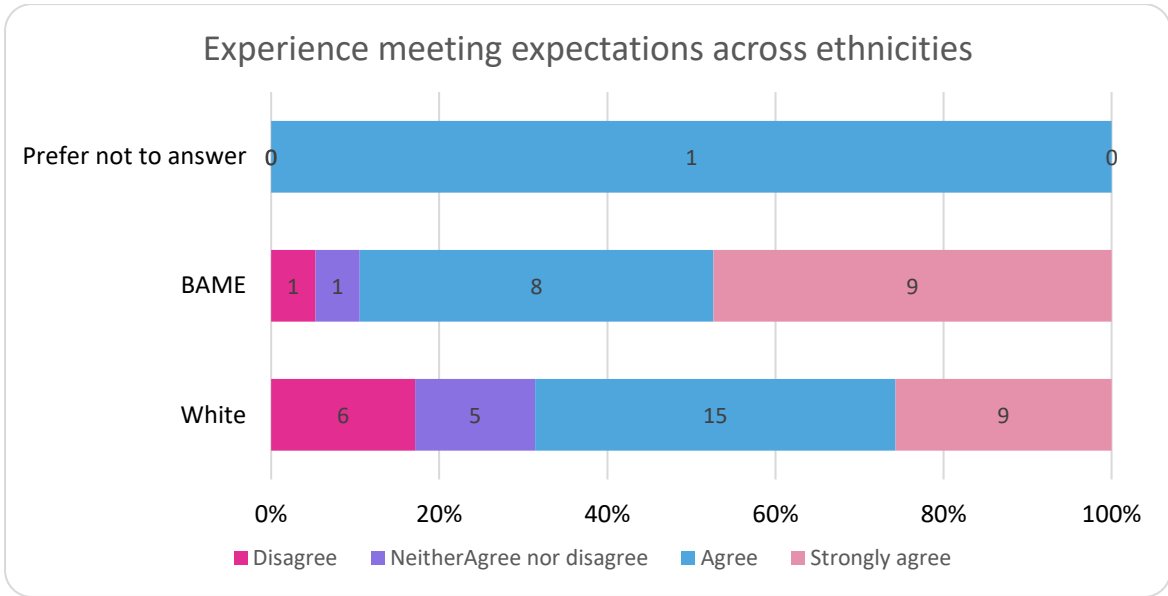


FIGURE 21: EXPERIENCE MEETING EXPECTATIONS ACROSS ETHNICITIES

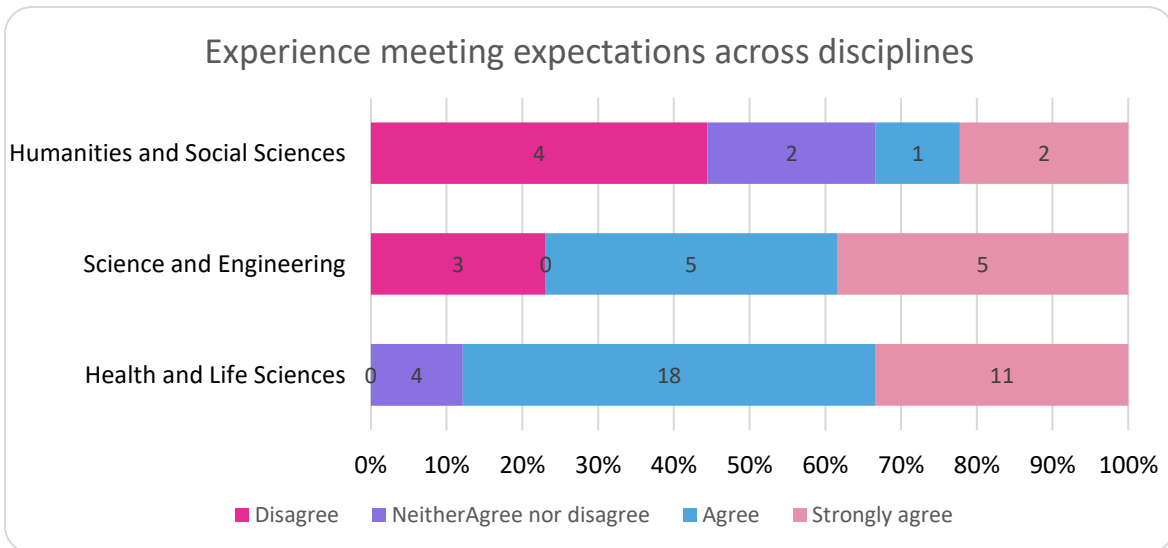


FIGURE 22: EXPERIENCE MEETING EXPECTATIONS ACROSS DISCIPLINES

## Appendix 5: Recommending Prosper

The following graph (figure 23) illustrates how members of the second cohort are recommending Prosper. More than 90% of the cohort are in favour (in blue and pink) of recommending Prosper and less than 5% are against (in magenta) recommending Prosper.

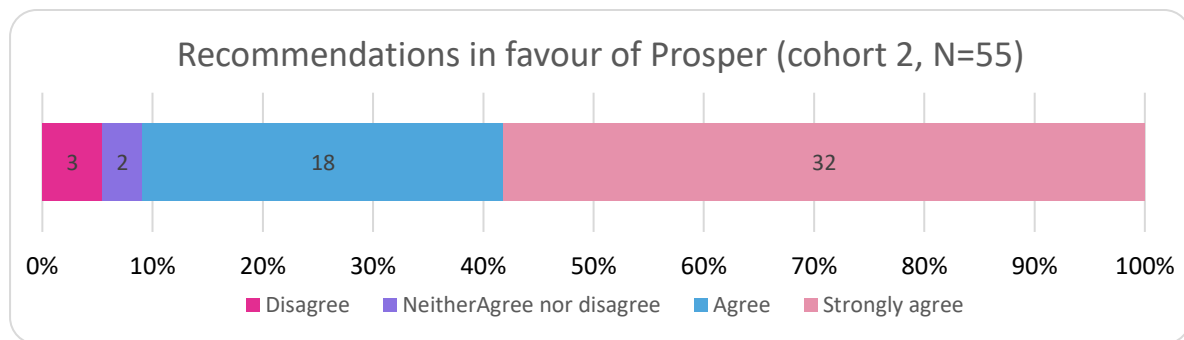


FIGURE 23: RECOMMENDATIONS IN FAVOUR OF PROSPER

The following graphs (figures 24, 25 and 26) illustrate recommendations from cohort members across genders, ethnicities and disciplines. Similar to the pattern observed in experiences and meeting expectations (appendix 3 and 4), these graphs demonstrate that most of the discontent is located among white men from the humanities and social sciences. However, the numbers are too low to lead to any kind of generalisation. Nevertheless, this could be further explored and examined in future iterations of Prosper.

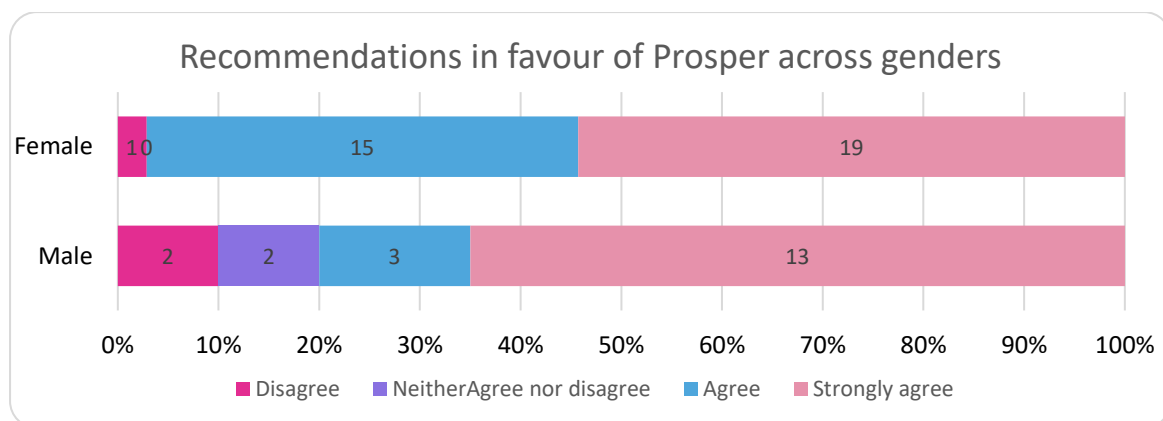


FIGURE 24: RECOMMENDATIONS IN FAVOUR OF PROSPER ACROSS GENDERS

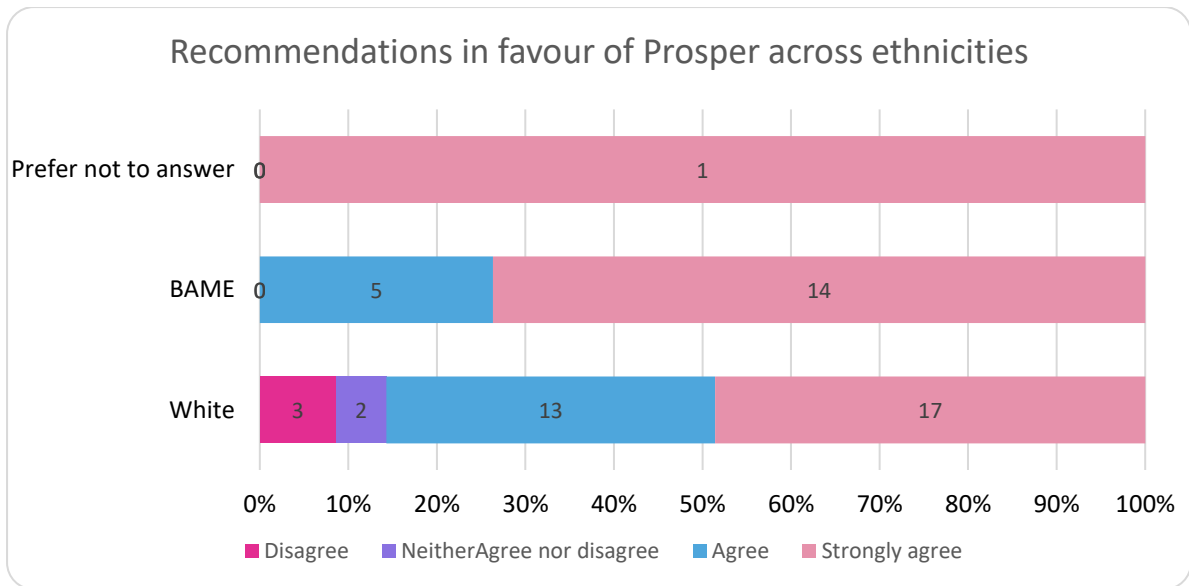


FIGURE 25: RECOMMENDATIONS IN FAVOUR OF PROSPER ACROSS ETHNICITIES

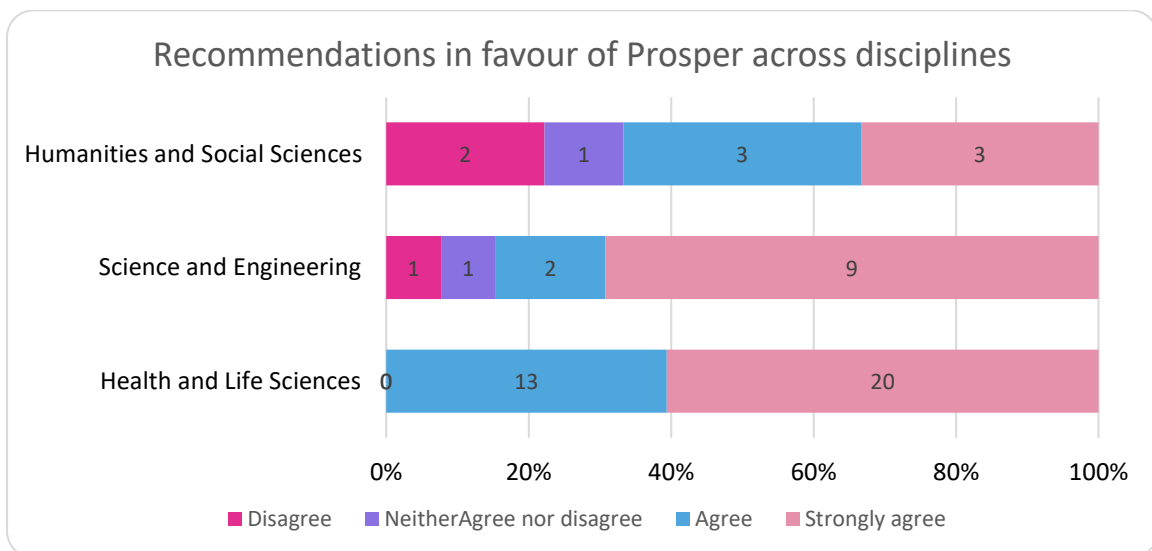


FIGURE 26: RECOMMENDATIONS IN FAVOUR OF PROSPER ACROSS DISCIPLINES

## Appendix 6: Feedback across universities

The three graphs in this appendix demonstrate that small negative (in magenta) and almost universal positive (in blue and pink) feedbacks are equally spread across the three universities. Although it is hard to generalise due to total negative feedback are low (in single digits), it is evident that Prosper is as positive experience which is largely appreciated across universities.

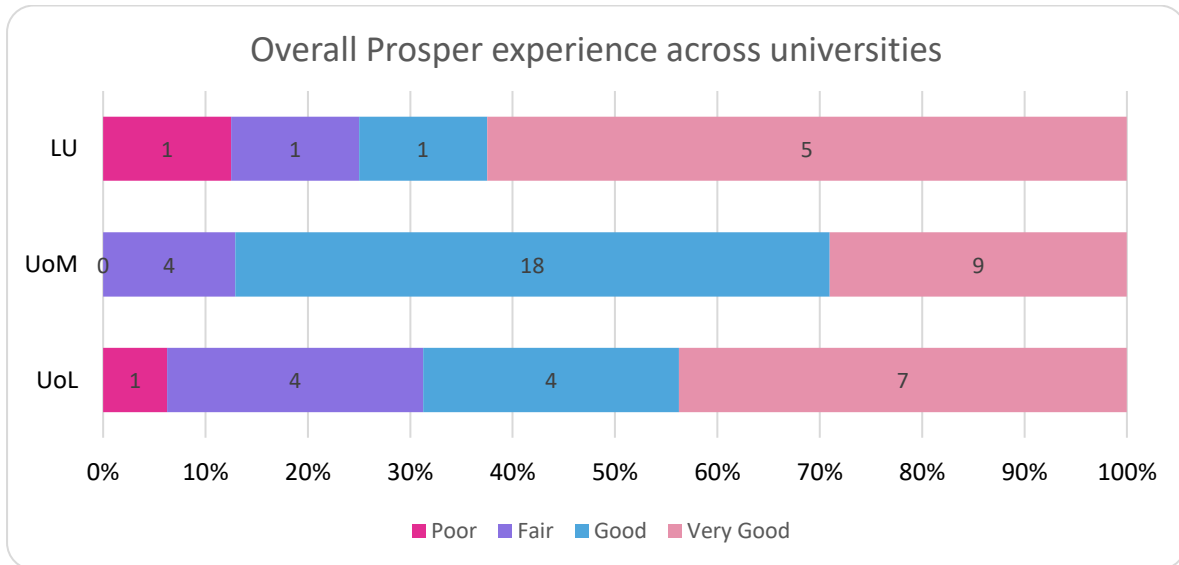


FIGURE 27: OVERALL PROSPER EXPERIENCE ACROSS UNIVERSITIES

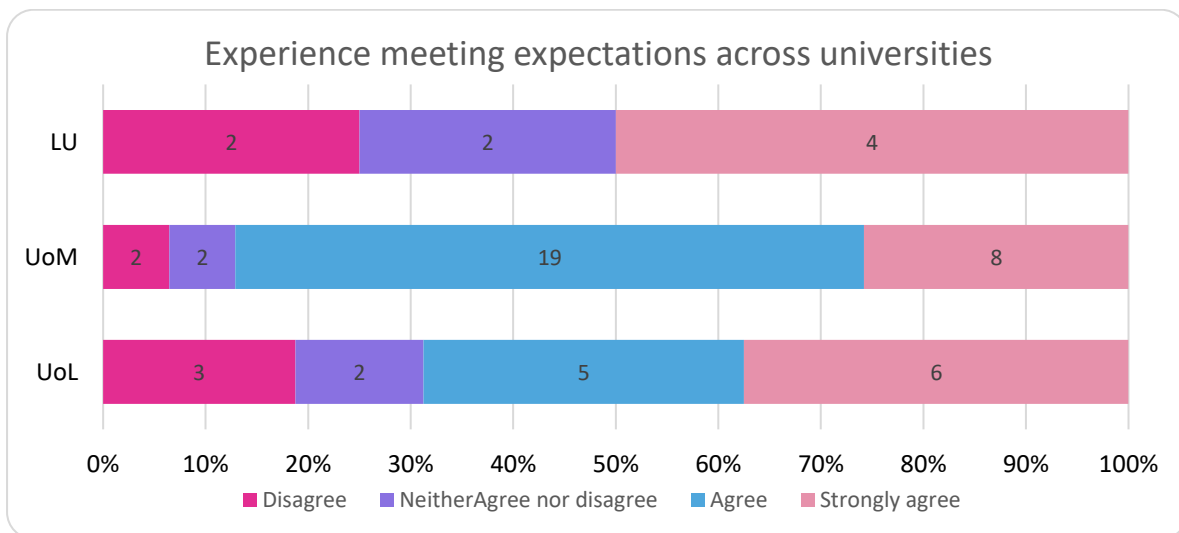


FIGURE 28: EXPERIENCE MEETING EXPECTATIONS ACROSS UNIVERSITIES



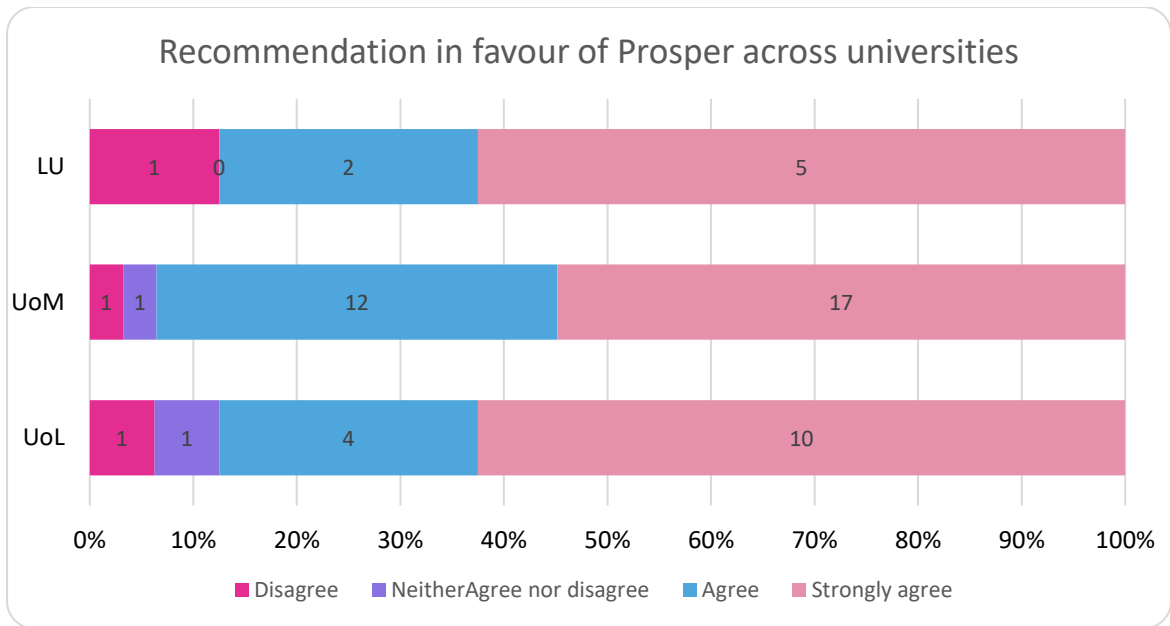




FIGURE 29: RECOMMENDATIONS IN FAVOUR OF PROSPER ACROSS UNIVERSITIES

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