

STRIVING FOR ACADEMIC, RESEARCH AND CAREER DEVELOPMENT IN A POSTDOCTORAL PROGRAMME

Orla Power-Grant *	Faculty of Education and Health Sciences, University of Limerick, Limerick, Ireland	orla.power@ul.ie
	 0000-0002-5771-9839	
Ciara Lane	EPISTEM, National Center for STEM Education, School of Education, University of Limerick, Limerick, Ireland	
	 0000-0002-5585-8894	
Ann MacPhail	Department of Physical Education and Sport Sciences, University of Limerick, Ireland	Ann.macphail@ul.ie
	 0000-0003-1875-0582	

* Corresponding author

ABSTRACT

What is new?	This paper explores how universities can design and implement a structured, programmatic approach to postdoctoral researcher development. While postdoctoral researchers are critical to research ecosystems, support is often fragmented and inconsistently delivered. This study presents an original evaluation of a holistic postdoctoral development programme designed to enhance research leadership, research performance, professional visibility, mentorship and career development.
What was the approach?	The initial cohort of programme participants took part in a longitudinal evaluation conducted over 18 months. Data were collected across three phases (beginning, mid-way (9 months) and at the end (18 months)) of the programme using interviews and focus groups involving postdoctoral researchers, research leaders and steering committee members. Analysis focused on three key areas: development of research leadership, enhancement of

	research performance, and growth in personal responsibility for career development.
What is the academic impact?	Findings demonstrate that participants developed greater confidence, leadership capacity, research autonomy, and researcher identity over time. They reported improvements in grant writing, publications, collaborations, conference participation, and career planning, supported by mentoring, structured development activities, and cross-disciplinary engagement. The study also identified challenges related to programme expectations, communication, and flexibility.
What is the wider impact?	Academically, this research contributes new evidence on the value of a structured and holistic approach to postdoctoral development. More broadly, it provides practical guidance for universities, research leaders, researcher developers, and policymakers seeking to strengthen research talent pipelines through sustainable, equitable, and impactful postdoctoral support programmes.
Keywords	Research excellence; Postdoctoral researcher; Career development; Mentoring; Professional development

INTRODUCTION

Developing a coherent and impactful postdoctoral researcher (PDR) programme requires thoughtful design, informed by both institutional priorities and the evolving needs of the research ecosystem. Our faculty level postdoctoral programme was shaped by a combination of national policy frameworks, international best practices, and direct engagement with postdoctoral communities. Drawing on influences, at the time (2018-2023), such as the European Commission's innovation agenda (European Commission & Mazzucato, 2018), HR Excellence in Research Award (European Commission, n.d.) and the growing recognition of PDRs as key contributors to research excellence (Dorenkamp & Weiß, 2018), we designed a programme that aims to standardise and enhance the PDR experience within our Faculty. Our hope is that the programme could become a model for other Faculties within the institution, providing all PDRs with access to the opportunities afforded by such a programme.

This paper is intended for those working with PDRs including university research talent development teams, supervisors/principal investigators/mentors or research leaders, researcher developers, research administrators, and policy makers who are invested in strengthening the research talent pipeline. We present a structured programme that supports PDRs in optimising their experience through effective and holistic support, with a focus on professional development, visibility, and mentorship. Before detailing the programme, we outline the broader context of PDR roles, including their increasing prominence and the institutional responsibilities associated with supporting them. The

lessons learned offer practical insights into programme governance, sustainability, and success metrics, contributing to a more strategic and equitable approach to researcher development.

POSTDOCTORAL RESEARCHER LANDSCAPE

There is no universal definition of a PDR, which may be reflective of the diversity of career structures and academic systems internationally. In the US, a PDR is a recent doctoral graduate engaging in temporary, full-time research under the supervision of a Faculty member in preparation for an academic career (American Association of Universities, 2005). In Europe, the PDR phase is the career stage between being awarded a PhD and entering a permanent position, which acknowledges that PDRs have different levels of recognition and independence (European Commission, 2011). The European Framework for Research Careers (European Commission, 2011) defines four broad classifications of researchers (R1-R4). Postdoctoral research resides within category R2 Recognised Researcher (i.e. PhD holders or equivalent who are not yet fully independent) and R3 Established Researcher (i.e. researchers who have developed a level of independence). This Framework aims to promote mobility, both international and intersectoral, through mutual recognition of the classifications by candidates and employers. Regardless of the definition, the postdoctoral period should be a functional, fluid and formative period in a researcher's career (Hardy et al., 2016).

European initiatives and best practices on research recruitment, employment and development are captured in documents such as the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers (European Commission, 2006). The European Charter addresses the roles, responsibilities and entitlements of researchers and their employers or funding organisations. The Code of Conduct for the Recruitment of Researchers aims to improve recruitment, to make selection procedures fairer and more transparent and proposes different means of judging merit.

In Ireland, the country in which the specific Faculty-level postdoctoral programme that is the focus of this paper resides, the Irish Universities Association (IUA) has developed a Researcher Career Development and Employment Framework that is aligned to the European Framework. This Framework defines the purpose of a PDR role to conduct a specific programme of research under the guidance of a principal investigator (PI) while enhancing skills and competencies aligned to the role and future career (Irish Universities Association, 2020). The Framework develops a coherent national policy on structured career development and progression for researchers (i.e. PDR, Research Fellow and Senior Research Fellow). While the Framework is based on an employee life cycle and covers recruitment, training, mobile career development and employment, it is the professional training aspect that more closely aligns with the specific interest of the postdoctoral programme presented in this paper. The Framework proposes that all PDRs must complete the Vitae® Researcher Development Framework which identifies four key learning domains related to research: knowledge and intellectual abilities; personal effectiveness; research governance and organisation; and engagement,

influence and impact (Careers Research and Advisory Centre, 2010). Under the IUA Framework, researchers are offered a specific purpose contract, aligned to the objectives of the scheme and with a maximum term of up to six years (PD1 + PD2).

There is a recognition nationally and internationally that many higher education institute (HEI) researchers will ultimately continue their careers beyond the HEI, and due to a lack of sustainable career options, for example from a US study less than 15% of PDRs will secure tenure-track employment in a HEI (Puljak & Sharif, 2009). The increased demand for PDRs to execute grant projects is not on par with the tenured positions available (Initiative for Science in Europe, 2020). This results in many PDRs being recruited for time-limited and specific purposes, which can result in a focus on short-term objectives with little time or inclination to invest in the PDR's training experience or professional advancement as a researcher. Consequently, the role of PDRs can be constructed less as apprentices in professional development and more as temporary employees for research production (Yang & Webber, 2015). Despite these constraints, there is still a strong desire among PDRs to pursue an academic career path, with one survey reporting that 63% of respondents favoured a career in academia (and interestingly only 28% recorded a positive view of such a prospect) (Woolston, 2020). For many scholars, transitioning from PhD to PDR is an endorsement of their academic credentials and their sense of belonging in academia and brings "the privilege of being able to develop one's own research profile by broadening and deepening one's own academic and professional skills" (Science Europe, 2016, p7). Internationally, there is some evidence that government-funded postdoctoral fellowships increase the likelihood of securing tenure track positions, but these successful academic transitions were discipline specific (Jung et al., 2023). We contend that it is therefore imperative that any postdoctoral programme seriously considers how best to prepare PDRs for a variety of careers in the public and private sectors in research and non-research roles.

NECESSITY OF PROFESSIONAL DEVELOPMENT FOR PDRs

For many individuals, the purpose of the PDR role is to act as a stepping-stone to research career independence. This transition is achieved through the acquisition of professional skills and scientific and technical knowledge that can advance the professional career of the PDR (National Academy of Sciences et al., 2000). While postdoctoral professional development is an integral part of research training, providing the additional skills necessary for career success (Ross et al., 2016), there is no universal agreement as to what constitutes the optimal PDR professional development experience (Nowell et al., 2018). Many institutions focus on providing training biased toward academia (tenure-track faculty positions) rather than identifying and developing transferrable skills. Career planning and awareness have been identified as the least well-developed transferrable skill of PhD graduates (Sinche et al., 2017) despite their benefits to both academic and non-academic career paths. The infrastructure of PDR professional development is poorly regulated (Graham et al., 2018) and can result in highly variable experiences, with PDRs dependent on professional development

opportunities afforded by their PI/mentor. We would therefore contend that formal postdoctoral programmes can address an unmet need facilitating equitable access to relevant courses, opportunity, time and support to engage and integrate experiential learning into the PDR's ongoing research activities.

DEVELOPING A SUPPORTING INFRASTRUCTURE AND ENVIRONMENT FOR PDRs

While many PDRs make an important contribution to the research productivity of HEIs, many face challenges with isolation, lack of peer support (Graham et al., 2018) and a variation in PDR roles and responsibilities (Åkerlind, 2009). Aligned with this, funders and policy makers stipulate that institutions provide more holistic support to PDRs (Åkerlind, 2009; European Commission, 2021). The changing policy landscape (outlined above) is the catalyst for improving experiences with the creation of postdoctoral offices and institutional structures that recognise the important role of PDRs. These approaches advocate for complementary layers of career development, opportunities locally (department/unit) coupled with broader institutional activities (Engels et al., 2024). This can have a positive impact on the PDR experience (Omary et al., 2019), with some institutions leading the way in formalising their commitment and support for their PDR community (Katholieke Universiteit Leuven, 2021). Positive associations with completion of time as a PDR (such as the positive association between increased publications and securing a tenure-track appointment (Yang & Webber, 2015)) were time dependent (<5 years), emphasising the need to ensure institutional resources are targeted to accelerate gains and maximise career success. We contend that developing a research talent pipeline is not just about recruiting the best researchers but equally about developing an infrastructure and environment that supports all early career researchers in realising their potential.

CAREER TRANSITIONS AND CASCADING MENTORSHIP

Making successful career transitions is dependent on many factors, including strong mentorship (Risner et al., 2020). Typically, PDRs work under the supervision/mentorship of a more senior researcher(s). The nature of this relationship means that a PDR's experience is highly dependent on the research mentor and the opportunities afforded by them. An effective PDR-mentor relationship influences PDR productivity and satisfaction (Scaffidi & Berman, 2011) and is characterised as engaged, positive and supportive. The European Commission has acknowledged the importance of effective supervision and sets out a series of best practice guidelines for supervisors, researchers and institutions participating in its flagship programme, The Marie Skłodowska-Curie Actions, which focuses on the training of researchers (European Commission, 2021).

Previous work has demonstrated that a skill gap exists for many early career PDRs, and many of these skills (e.g. teamwork, people management, career planning) are essential in aiding successful career transitions (Sinche et al., 2017). Research mentors have an important role in promoting awareness and supporting the development of such career skills, particularly when it has been reported that only 56% of surveyed PDRs considered their supervisor to be an effective mentor (Scaffidi & Berman, 2011). Effective

mentorship is increasingly correlated with mentee productivity, self-efficacy, career satisfaction and success (Risner et al., 2020).

The PDR has the opportunity not only to be mentored but also to develop their own leadership skills (McIntosh & Antes, 2025), noting that PDRs engaging with PhD students influenced skill acquisition by those students (Feldon et al., 2019) and can assist in building an institutional model of good practice (Risner et al., 2020). This demonstrates the value of cascading mentorship (PI-PDR-PhD student) within a research group environment and the vital contribution the PDR can make to the research ecosystem.

It is clear from the above sections that professional development opportunities and mentoring that contribute to career possibilities within and beyond academia are critical to improving career outcomes among PDRs (Hayter & Parker, 2019; van der Weijden et al., 2016). There is strong support for the development of tailored career guidance for PDRs incorporating personal and professional development both within and beyond their academic fields (van der Weijden et al., 2016).

The focus of this paper is to explore how universities might design and implement a programmatic approach to PDRs, with particular emphasis on their experiences and development during the programme. Recognising the importance of professional development and mentoring, our initiative aimed to provide more consistent and holistic support for PDRs, enhancing their short-term professional growth and engagement. While such support may contribute to longer-term career transitions, our evaluation concentrated on immediate outcomes—such as participation, satisfaction, and perceived value rather than tracking career trajectories.

We first introduce the reader to a Faculty-level postdoctoral programme (called 'Succeed and Lead') that provides a suite of academic, research and career development supports. We then share an evaluation of the programme that has allowed us to refine clear expectations (for the PDR and the mentor) of the programme, criteria by which success of the programme is measured and examples of success. We suggest that this type of approach to PDR programme design and evaluation is a prerequisite for academic institutes to realise research excellence.

THE RATIONALE AND GOALS OF THE SUCCEED AND LEAD PROGRAMME

The Succeed and Lead Programme (SLP) is a Faculty-level, 18- to 36-month postdoctoral research fellowship that provides a suite of academic, research and career development supports. Each PDR undertakes a personalised training programme while conducting innovative research in the cognate disciplines of the Faculty. The three main elements of the programme are: (i) a personalised training programme that addresses gaps in training to date and supports PDRs in developing the knowledge and skills required to conduct independent research; (ii) a co-designed research project developed by the PDR under the mentorship of PDR research leader (RL; senior academic researchers with relevant expertise and a principal investigator in their own right); and (iii) a professional development and future career planning element that

provides PDRs with structured support within a community of researchers. Interdisciplinary panel-based mentorship supports the development of leadership and personal responsibility for career planning. Under the mentorship of RLs, PDRs strive to produce high-quality research and communicate their work to the academic community and wider public.

The design of our PDR programme was informed by benchmarking (and exploratory visits to highly ranked, European research-intensive institutions) against international good practice. The programme was developed using several guiding principles that are fundamental to the development of research independence, such as those detailed in the Vitae Researcher Development Framework, the European Charter and Code for Researchers and the IUA Researcher Career Development and Employment Framework. These frameworks provided a structured foundation for identifying core competencies, professional development priorities, and institutional responsibilities. Accordingly, the overarching aim of the programme is to attract ambitious and high-performing PDRs by offering coordinated, holistic support that enhances their experience and short-term professional growth. While the programme has the potential to positively influence long-term career transitions, our evaluation focused on engagement, satisfaction, and developmental outcomes during the programme itself. The programme is designed for early career researchers, and participants typically have less than eight years postdoctoral experience. However, eligibility rules based solely on years of postdoctoral experience are not imposed, to allow for variations in career paths across disciplines. Candidates are assessed on their quality, potential, track record and fit with the aims and ethos of the programme relative to their career stage. All candidates were selected through an open, transparent, merit-based recruitment process in line with the HR Excellence in Research award (European Commission, n.d.).

Table 1 outlines the key features of the Succeed and Lead PDR programme.

Table 1: Key features of the Succeed and Lead programme

Feature	Succeed and Lead
Research project	Co-created between Postdoctoral researcher and Research Leader (RL)
Duration	18-36 months
Recruitment	Excellence and talent orientated, evaluated by independent panel
Leadership	Supported and promoted within the programme
Independent research	Development of an independent research portfolio

Feature	Succeed and Lead
Mentorship	Individual and committee-based (RL and Steering committee (SC))
Quality and governance	RL and SC
Community	Peer support from an interdisciplinary community of researchers, Research group, affiliated department, Faculty, Research Institute and University.
Personalised training	Structured 18-month programme
Career development	Guided by individual career development plan reviewed every six months with RL, broader discussion prompted at quarterly meetings

FACILITATION OF THE SUCCEED AND LEAD PROGRAMME

The programme is facilitated and overseen by a steering committee (SC) comprising of representatives from Human Resources (Talent Development), Faculty support staff (Research Funding Officer), senior academic research-active staff and Faculty management (Executive Dean and Assistant Dean Research (ADR)). The ADR chairs the SC. The SC has overseen the design and implementation of the programme, monitors programme outputs and key performance indicators, provides constructive, high-level feedback on the research undertaken, provides mentorship individually and collectively, and assists with evaluations and on-going developments of the programme. The SC meets four times per year and reports to Faculty management via the chair.

SUCCEED AND LEAD PROGRAMME KEY COMPONENTS

The ethos underpinning the programme places the individual researcher at its core (Figure 1). The programme and supports are designed to wrap around and be tailored to the individual within a unified framework.



Figure 1: Schematic overview of the key components of the Succeed and Lead Programme

The programme commences with an orientation session facilitated by the SC. PDRs are guided by mentorship from their RL, who have expert knowledge in the research field. Each PDR develops a research agenda that is co-created with their RL, leveraging their collective research interests and expertise. The aim is to foster a spirit of community and collegiality among the PDRs, and while their core research is focused in different areas, they are co-located and work together in a shared learning community that aims to foster greater interdisciplinary collaboration.

PDRs also engage through quarterly meetings with a panel of mentors (comprising RLs and SC members) from different disciplines across the Faculty. These quarterly meetings represent a shared learning opportunity. PDRs, both individually and collectively, provide an update on their research and training activities. Recognising that CV advancement is an important component of researcher career development, this is specifically addressed at the quarterly meetings. The SC fulfils the role of critical friend to the PDRs, offering critique and suggestions for future directions and programme-specific enhancements.

PARTICIPATION IN AN 18-MONTH DEVELOPMENT PROGRAMME

All PDRs participate in a bespoke 18-month development programme that provides a range of professional development opportunities. Working in close collaboration with the team in Human Resources Talent Development, the Vitae Framework is operationalised so that PDRs and their mentors can implement this approach easily and in a way that does not detract from their research but complements it and, most

importantly, that suits the career stage of everyone. Each PDR undertakes a skills audit and defines their career development plan in conjunction with their RL. This plan is reviewed every six months.

PDRs can choose from a menu of training courses that include skills for academia and beyond (Sinche et al., 2017). The Vitae® Researcher Development Framework sets out the knowledge, behaviours and attributes of effective and highly skilled researchers (Careers Research and Advisory Centre, 2010). Aligned to the Vitae® domains, all PDRs must undertake the following training courses: (1) Developing your research output strategy; (2) Mentor/mentee training; (3) Research integrity; (4) Grant writing; and (5) Communicating/disseminating your research with impact. These modules underpin the core competences that all PDRs are expected to demonstrate at the end of the 18-month programme. These modules were delivered face to face, in small groups including individuals who were part of the wider university PDR community.

This approach ensured we could deliver higher quality training and facilitate broader networking beyond the programme participants. Completion of the core competency modules requires a commitment of the equivalent of approximately two days. The remaining eight (equivalent) days of training are focused on specialist and core transferable skills, selected by the individual based on their skills audit/needs analysis. In addition, PDRs have provided with access to a range of tools to support their supplementary self-directed learning and compliment face-to-face training, e.g. Epigeum, which provides online research integrity training. PDRs develop an e-portfolio of their training record that is used to track the key performance indicators. Upon successful completion PDRs receive a digital badge that outlines all the training completed. The development of research leadership (Bryson et al., 2024) is a core element of the ethos of the programme. PDRs assume leadership responsibilities in their core research group, are involved in the co-supervision of research students, and organise and chair quarterly meetings. In addition, through engagement with their RL, PDRs have an opportunity to build their network with key external stakeholders and learn how to form effective and sustainable research partnerships.

With this context in mind, the project team explored how universities might design and implement a structured, programmatic approach to PDR development. Attention was given to participants' experiences of the programme and their perceptions of how it supported their development. We propose a framework for success grounded in leadership, performance and personal responsibility. Guided by this framework, we formulate three aligned evaluation questions that explore if participation in the programme: (1) develops research leadership capacities and provides research leadership opportunities; (2) enhances research performance; and (3) develops personal responsibility for one's own career development.

METHODOLOGY

PARTICIPANTS

The SLP programme had two cohorts; cohort 1 (2018-2021) and cohort 2 (2020-2023). The initial cohort of PDRs (n=5), RL (n=5) and SC members (n=11) were invited to participate on three occasions: Phase 1 (near the beginning of the programme), Phase 2 (mid-programme), and Phase 3 (at the end of the 18-month programme). The average participation rate was 63% across the groups and phases. PDR disciplines included Personalised Health and Medicine, Physical Activity and Health, STEM Education, Social Inclusion and Health, and Aging and Health. The evaluation study received ethical approval from the institution in which the programme resides, and all participants provided informed consent prior to participation.

DATA COLLECTION – TIMEPOINTS AND APPROACH

Data were collected across the three phases – at the beginning, midpoint and at the end of the 18-month programme. The tools used included one-to-one interviews (RLs and SC members) and focus groups (PDRs). The alignment of the study design with the three research questions is captured in Table 2.

Table 2: Alignment of the study design with the three research questions

Desired impact	Processes	Data sources/Methods		
		Postdoctoral researchers	Research Leaders	Steering committee members
Enhanced research leadership skills Main evaluation question: Does participation in the programme develop research leadership capacities and provide research leadership opportunities?	Skills training to develop core competencies in four domains Research leadership development activities Mentorship from Research Leader Cascading mentorship within research group and mentor junior researchers	Focus group e-Portfolio	Interview	Interview

Desired impact	Processes	Data sources/Methods		
		Postdoctoral researchers	Research Leaders	Steering committee members
Enhanced research performance Main evaluation question: Does participation in the programme enhance research performance?	Skills training to develop core competencies in four domains Interdisciplinary research collaboration	Focus group e-Portfolio	Interview	Interview
Accepts responsibility for own career development Main evaluation question: Does participation in the programme develop personal responsibility for one's own career development?	Orientation session Researcher performance and career development plan plus skills audit Additional supports and online development toolkit Quarterly meetings Mentorship E-portfolio	Focus group Skills audit e-Portfolio Quarterly meeting with steering committee	Interview	Interview Quarterly meeting with steering committee

Semi-structured interviews with RLs prompted discussion on: (i) research leadership skills and new skills for enhancing research performance gained by the PDR; (ii) research leadership development activities and the range of interdisciplinary research collaborations the RL (and/or others) had offered the PDR; (iii) feasibility of the programme workload for the RL; and (iv) how best to consider involving more PDRs in the programme. Semi-structured interviews with SC members included members' perspectives on similar questions to those posed with the RLs with an additional focus on the key enablers and barriers to the success of the programme and any unanticipated benefits or disadvantages.

Focus groups with PDRs sought discussion on: (i) how they would describe their experience in the programme; (ii) the most important research leadership skills they had learned; (iii) the courses that had helped the most in enhancing their research performance; (iv) examples of interdisciplinary research collaborations; (v) elements of

the programme that have helped in taking personal responsibility for career development; and (vi) suggestions for programme improvements.

DATA ANALYSIS

The interviews and focus groups were analysed qualitatively using classical content analysis to split data into smaller chunks and were coded (Onwuegbuzie et al., 2009). The key themes derived from the content analysis are presented to reflect their alignment with our three research questions and their recurrence across all three timepoints in the 18-month period.

FINDINGS

DEVELOPING RESEARCH LEADERSHIP CAPACITIES AND RELATED OPPORTUNITIES

Leadership capacity was a central focus of the Succeed and Lead Programme (SLP), with mixed evidence of development in the early phase (first 6 months). Recurrent themes within the data included identification of leadership gaps and efforts to build skills. PDRs reported lacking leadership skills at the start of the programme and described this as their primary developmental need. They sought improvement through targeted training courses (see development programme above), advice from Research Leaders, and feedback from the SC during quarterly meetings.

Positive experiences with RLs were universally noted by PDRs who compared them favourably to previous postdoctoral roles. Quarterly meetings were seen as a valuable opportunity for cross-disciplinary guidance, helping PDRs plan research and stay on track, though some suggested more preparation time for the quarterly meeting status updates would improve engagement.

PDRs struggled to recognise their own leadership activities, often overlooking roles that RLs considered leadership (e.g. ongoing committee memberships carried over from previous roles). This suggests emerging but not fully realised capacities, with limited new opportunities attributed directly to the programme during Phase 1.

Steering Committee members and RLs viewed the programme's structure (e.g. skills audits, ethos) as enabling leadership growth, with potential Faculty-wide impacts like addressing gaps and building reputation. By Phase 2, all participants (SC members, RLs and PDRs) frequently discussed how the programme fostered leadership skills through building confidence and structured activities. Observed behavioural changes included taking on new roles like mentoring, project leadership, and decision-making, with broad agreement across participant groups on positive shifts. There was broad agreement across groups that the programme created leadership pathways by opening doors to new opportunities and laying foundations for future research leadership.

By Phase 3, a shift in mindset was reported, with PDRs viewing themselves as evolved researchers, often crediting RLs for guidance. SC members noted PDRs' improved understanding of academic leadership, addressing earlier gaps where PDRs failed to recognise leadership within their everyday activities. RLs and SC members observed

PDRs' accelerated maturation evidenced by a career-driven mindset. While satisfaction with the quarterly meeting remained high, one PDR highlighted missed opportunities of the quarterly meetings in terms of discussions they would like to occur: *"(...) those meetings [quarterly meetings] could have been a space to talk about other stuff like what does it mean to be a good researcher? What does it mean to do research that matters? What does it mean to do ethical research?"* (PDR3).

Some persistent issues remained including unclear expectations and programme rigidity, which were viewed as potential barriers resulting in a desire from all for clearer role definitions and better communication for future cohorts. In relation to the overall impact of the programme, the majority of data coded as disadvantages, or having a negative impact, related to the expectations of the programme and a lack of consistency or clarity surrounding these: *"It comes down to (...) the vision, that needs to be clarified; the vision for the programme, such as which people you bring, why do you bring them and what do you want them to do. And after, what do you want to do with them after. The other thing about it is clarifying expectations, in terms of people don't feel that -- how the expectations are changing, it's unfair to them."* (PDR4). This lack of coherence was also noted in some of the SC interviews: *"It might be that our expectation of the Succeed and Lead Programme and their [PDRs'] expectation of the Programme are not well aligned, and I think that's important."* (SC3).

ENHANCEMENT IN RESEARCH PERFORMANCE

Findings indicate modest enhancements in research performance during the initial phase, primarily through structured supports. PDRs reported writing grant applications as a direct outcome of participation in the programme, enabled through guidance from their RL and encouragement from SC members. One RL observed better time management and another mentioned progress in writing research papers as improvements in productivity. Incremental gains in practical skills, such as grant writing and time management, were supported by programme components including training courses, which participants viewed positively for their structure and applicability. Participants also expressed optimism regarding the potential for these gains to translate into broader research impacts.

In Phase 2, key themes focused on PDRs gaining or refining research competencies, such as methodological expertise, data analysis, or grant writing. Behavioural changes associated with improvements in research productivity included increased publications, collaborations, and more efficient project execution. All groups (SC members, RLs, and PDRs) endorsed the programme's role including access to advice from academics from a variety of disciplines. Overall, such performance gains boosted research quality and visibility, with participants noting the programme's contribution to performance enhancements.

By the later stages of the evaluation, PDRs had developed a strong sense of community and support among themselves. However, some perceived that the personalised nature of the programme had diminished over time, with one PDR stating, *"When we first*

started there was a lot more conversations about (...) everybody and (...) each of our visions and what we want to be doing and what the kind of research is that we are interested in, and it has become a lot more narrow (...)." (PDR1).

Behavioural changes continued within Phase 3, reinforcing strong research performance but with greater autonomy and outputs for the PDRs such as more publications, submissions to prestigious journals, international conference presentations, and grant successes (e.g. co-applicant roles). The PDRs viewed the research element (Figure 1) as the primary focus, with the training aspect as secondary, which is somewhat at odds with the holistic development goal of the programme. The PDRs noted (with agreement from SC members) that most of the training courses they had completed were more suitable for earlier career PDRs. PDRs would have liked to have been able to substitute some of the core training modules with alternative courses (discipline- / methodology-specific) they had attended. The point was made by an SC member that it is not attendance at the training courses that is key but rather, *"the real question is what you do with it"* (SC2). The SC had mixed feelings about substituting the programme training courses with alternative opportunities, with one SC member noting that, *"if you have something that's so personalised that my version is completely different to your version, it's not actually a programme"* (SC3). Future considerations emphasised balancing research with other skills for holistic progress.

DEVELOPING PERSONAL RESPONSIBILITY FOR ONE'S OWN CAREER DEVELOPMENT

The SLP strongly fostering personal responsibility emerged as a core ethos across all participant groups. PDRs reported the programme encouraging self-responsibility (initial skills audit), observed in seeking advice from experienced peers, chairing quarterly meetings, and defining personal success metrics for reports. SC members noted a developing culture of accountability enhancing engagement. Working collaboratively as PDRs enrolled in a recognisable programme heightened the level of peer support, specifically when working to produce a shared quarterly meeting report. SC members saw this responsibility contributing to Faculty benefits like idea generation and addressing research gaps. However, identity concerns (e.g. not feeling affiliated with specific departments or schools) and desires for more school-level involvement (e.g. committees, workshops) could affect sustained ownership. Long-term challenges include upscaling while maintaining the PDR centred ethos.

Phase 2 saw a continuation of emerging personal responsibility enabled by autonomy, peer support and mentor guidance. PDR learning focused on ownership through goal setting, networking, and proactive planning. RLs and SC members observed the development of a career-driven mindset. Phase 3 reflected a maturing programme indicated by a refined focus and the emergence of new tensions. PDRs reported stronger clarity in research interests, researcher identity and long-term planning with tangible outcomes including academic positions. A new category relating to research autonomy arose in Phase 3 of the evaluation. This category reflected satisfaction with the high levels of autonomy afforded to PDRs as part of the programme in terms of

managing their time and research interests. Positive references to this category came from PDRs, RLs and SC members with one PDR stating: *"I think the best feature of [the programme] is the amount of autonomy you have in terms of managing your own time"* (RF2). Referring to the PDRs' development, one SC member highlighted that the collective updates provided at the quarterly meetings showed *"It was a real evolution of the maturity that they [PDRs] developed over time"* (SG1). One of the RLs suggested that by participating in the programme *"it feels like this maturation process has kind of been sped up"* (RL2) in referring to their PDR's identification of research interests and in representing who they are as a researcher.

Dissatisfaction emerged with changing expectations leading to tensions, and issues like programme rigidity versus individual needs. One cautionary note mentioned by a member of the SC was that there may be an imbalance in the PDR's career development if only research skills/performance are developed because other skills such as leadership are needed for well-rounded progress: *"You could be developing your skills but, you know, are you building your CV in terms of outputs that really helps you to bounce to the next level at some stage?"* (SG2). Future recommendations stressed clearer expectations, tailored elements for early-stage PDRs, and measuring success via individual progress (e.g. alumni networks) to sustain development.

DISCUSSION

Having reviewed the key findings of the programme evaluation, we build on these insights and propose explicit expectations, flexible indicators of success alongside streamlined governance and sustainability measures to enhance effective implementation of this approach in future cohorts.

CLARITY AND CONSISTENCY OF THE PROGRAMME EXPECTATIONS

A key finding from the evaluation related to clarity and consistency of expectations of the programme. This finding emerged regarding PDRs' satisfaction with the overall results and impact of the programme. The findings indicated that satisfaction was lowest regarding the clarity of expectations and perceived change in expectations of the programme over time. Regarding future impact, the question of how to measure success, both for the PDRs and for the Faculty, was raised throughout the evaluation. The need to balance success at an individual and Faculty level remained an ongoing issue, possibly linked to the need for greater clarity around the programme's expectations. Points mentioned by all programme stakeholders in relation to measuring success for the PDR and the programme included research outputs, increased collaborations and establishing a network of alumni/ae. Clear expectations of the programme, criteria by which success of the programme is measured, and examples of success are noted in Table 3. Table 3 captures the key outputs of the evaluation and our work within the programme, with the intention that these recommendations should ensure effective implementation of this approach in future cohorts and are key lessons from this work. Challenges arose as we attempted to accurately capture key outputs of the evaluation. Such challenges included: (1) the ongoing struggle faced by many PDRs

to make the transition to an established independent researcher due to the precarious environment in which PDRs are employed; (2) ensuring that all RLs understood and enacted the leadership, research performance and PDR responsibility elements of the programme; and (3) determining what constitutes the success of the programme for PDRs, RLs and the Faculty. While the first challenge remains outside of our control, the other two challenges identified can be addressed by open and effective communication and guided by the parameters outlined in Table 3.

Table 3: Expectations, criteria of success and examples of success for the Succeed and Lead programme

Desired impact 1: Enhanced research leadership skills		
Clear expectations of the programme	Criteria by which success of the programme is measured	Examples of success
To provide opportunities to experience research leadership	Postdoctoral researchers (PDRs) have: • experienced effective mentorship from their appointed research leader • experience of research leadership	• Engagement in professional community of which research leader is a member; opportunity to observe and enact effective practice and discursive techniques modelled by the research leader • Assuming leadership responsibilities in core research group; supervising research students; organising Succeed and Lead (SLP) quarterly meetings
Expectations of PDRs: Be pro-active in seeking out opportunities to undertake research leadership; Gain experience across a variety of research leadership opportunities; Assume leadership in organising SLP quarterly meetings that enhances proactive and interactive contribution to PDRs as members of an SLP community Expectations of Research Leaders (RL): Encourage PDRs to become involved in one of your research communities; Afford PDRs opportunities to be involved in a range of research-related tasks; Enforce the importance of PDRs and RL participating and contributing to the SLP community		

Table 3 (cont.)

Desired impact 2: Enhanced research performance		
Clear expectations of the programme	Criteria by which success of the programme is measured	Examples of success
To support innovative research in education and health sciences	PDRs have: produced high-quality and impactful research in education and/or health sciences	Manuscripts accepted in peer-review journals; peer-review book chapters accepted; writing contribution to technical reports
To share and support research grant submissions	submitted to at least one research grant call	Grant submission as PI, co-PI, co-applicant or collaborator; funding submission to internal research centres; Marie Skłodowska-Curie Fellowship application
To support interdisciplinary research where appropriate	undertaken interdisciplinary research and/or training	Sought opportunities to engage with colleagues in other disciplines; met with key stakeholders/gatekeepers to specific discipline areas; responded to calls encouraging interdisciplinarity
To enhance communication and exposure of research	evidenced clear communication and exposure of research to the academic and wider community	Presentations at national and/or international conferences; contributing to research workshops and public engagement activities
Expectations of PDRs: An ability to work and communicate across interdisciplinary spaces; Gain experience across a variety of research leadership opportunities. Expectations of RL: Introduce PDRs to interdisciplinary research spaces; Oversee multiple opportunities for PDRs to experience and achieve research-related activities that contribute to a rich CV.		

Table 3 (cont.)

Desired impact 3: Acceptance of responsibility for one's own career development		
Clear expectations of the programme	Criteria by which success of the programme is measured	Examples of success
To provide a personalised professional development training programme	PDRs have: experienced a personalised professional development training programme tailored to suit their specific needs in consultation with the RL and programme Chair	Align training programme with researcher performance and with career development plan and skills audit
To provide a supportive environment for a community of PDRs	- had the opportunity to experience a spirit of collegiality - facilitated and led discussion at quarterly meetings on topics that encourage debate and consideration from the research community	Work with other PDRs on specific tasks and/or projects that support or enhance health and education research at the University Facilitate discussion on online publication; authorship; use of social media
The RL and PDR will meet twice annually to review in detail the career development plan	had an opportunity to revisit their career development plan to inform any changes/additions to their personalised professional development training programme	Consider balance of research-related activity, i.e. identify opportunities yet to be experienced and those opportunities in which sufficient experience has been gained
To encourage and provide support for continual consideration of career enhancement and success	formally revisited every six-months their e-Portfolio to monitor and capture related progress and experiences	Consider the alignment between progress and experiences with career development plan
Expectations of PDRs: To monitor and seek additional opportunities likely to enhance their career development plan. Expectations of RL: To advise and support the PDR's career development plan.		

In considering the measures of success noted in Table 3, a level of flexibility should be afforded to the PDRs in selecting a specific focus in the aligned examples of success. That is, not all PDRs would be expected to achieve all examples.

GOVERNANCE OF THE PROGRAMME

Findings that emerged from the programme evaluation (specifically in terms of satisfaction and overall impact) have significance when considering the governance of the programme. These findings can be grouped as relating to the PDRs' 'sense of belonging', the role of quarterly meetings and the role of the RLs and SC members. There was evidence from the programme evaluation that the PDRs would appreciate more of a collective culture between themselves and the programme SC members. Their vision is for a meeting of staff, as scholars, to debate and enhance the research culture for health and education in the University. This suggests that creating separate SCs for separate cohorts could undermine that vision and experience of a collective.

The six-month overlap between cohorts one and two was shorter than originally anticipated, and the cohorts are smaller than expected. There is an opportunity to bring all PDRs and SC members together to start to build the collective and to enhance learning from Cohort One to Two. This would eliminate the need for a separate programme SC for each cohort and the need for an additional SC to prepare combined feedback for the PDRs.

There was some evidence from the programme evaluation that RLs were not fully familiar with all aspects of the programme. There were, for example, some 'gaps' in understanding and action in relation to skills assessment and mandatory training requirements. This could be due to excessive work demands on the RLs in general and/or in relation to the programme specifically. It would be valuable to 'think through' the demands of the programme on RLs and to identify opportunities to reduce them. The appointment of a programme Chair, who would also act as Chair for the SC, would encourage a level of consistency in the governance structure of the programme. This recommendation is based less on formal authority and more on continuity of leadership. The Programme Chair is closely involved in the programme's operational and academic decision-making and would therefore provide greater consistency between programme-level discussions and Steering Committee deliberations. In our example the ADR undertook this role. For future cohorts if an ADR has capacity and willingness to take this on then the need for a Programme Chair may be less, but our experience was the commitment involved may not be sustainable for someone in such a leadership role. Therefore, a rotating chair may balance continuity and sustainability.

SUSTAINABILITY OF THE PROGRAMME

The sustainability of the programme has remained a concern throughout the evaluation in terms of impact, including funding, engagement and the ethos of the programme.

The main issue in terms of long-term impact and continuation of the programme is funding. The PDRs in Cohort One were funded by the Faculty, which was highlighted

during the evaluation as not being sustainable. One solution lies in opening the programme to PDRs who are externally funded. However, it was cautioned by some SC members that there would need to be buy-in from their RLs to adhere to the ethos of the programme and to ensure the PDRs are allowed time to attend the training. Another enhancement could involve opening the programme to an international/inter-sectoral co-mentor thereby encouraging broader networks and wider career pathways for PDRs.

A recurring emphasis during the evaluation was placed on the importance of continuing engagement and 'buy-in' from the RLs, SC members and the PDRs. The RLs played a significant role in creating a positive experience for the PDRs. Sustaining the programme depends on balancing RLs' time commitments with the need for a consistent PDR experience, underpinned by governance structures that are efficient, workable, and sustainable.

CONCLUSIONS

In drawing our conclusions, it is important to acknowledge some limitations of this study. The small scale and time-bound nature of the project (18 months) restrict our ability to evaluate the long-term impact on participants' career trajectories. Additionally, PDRs who participated in this study work within the fields of education and health sciences. Consequently, the findings may not be fully transferable to other contexts where contract conditions, funding structures and work environments differ. Support and development opportunities vary substantially across institutions. Within this context, our intention is to contribute to ongoing professional dialogue by offering a model of good practice and providing practice-focused insights that may guide others seeking to adopt a similar approach.

The evidence presented suggests that effective PDR development is underpinned by several key elements: co-creation of research agendas; focus on research leadership; a community of supportive peers; individualised professional development opportunities; and access to a panel of experienced mentors. The SLP programme integrated these components within a coherent model of good practice that yielded benefits for PDRs and the Faculty. These benefits emerged not only from the expertise and commitment of the RLs and SC members but also from the research autonomy afforded to PDRs. While the programme may be particularly well suited to early-stage PDRs, it demonstrated potential to accelerate research maturity among participants. Moreover, the initiative strengthened collaboration and networking across all stakeholder groups (PDRs, RLs and SC members).

Participants consistently identified research as the primary focus of the programme, with training viewed as secondary. Strengthening the integration of these two components is therefore necessary to ensure the achievement of our holistic developmental aims. Tensions regarding the clarity and consistency of expectations and success criteria indicate a need for enhanced communication and more explicit guidance from the outset. Overall, this work proposes a framework to support

implementation in future cohorts and to inform broader institutional practice. We believe, given the opportunity and support, that this approach can be embedded in institutions to support and enhance the PDR experience.

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BIOGRAPHIES

Dr Orla Power-Grant is a Research Support Officer (Funding Specialist) in the Faculty of Education and Health Sciences at the University of Limerick. Orla's role involves advising on the Faculty's research funding strategy and providing tailored support for researchers seeking external funding. Her research interests span research management, early career researchers and institutional research funding strategy.

Professor Ann MacPhail is Professor in Physical Education and Sport Pedagogy at the University of Limerick and Associate Vice President Doctoral College. She is Co-Director of the Physical Education, Physical Activity and Youth Sport (PEPAYS) Ireland Research

Centre and is the UNESCO Chair in Physical Education and Sports Pedagogy for Sustainable Development.

Dr Ciara Lane was a Postdoctoral Researcher at University of Limerick, Ireland and was Teaching Coordinator for the Professional Diploma in Mathematics for Teaching (PDMT) at EPI*STEM from 2015 to 2021. Her postdoctoral research involved adapting existing PDMT materials to produce high quality online CPD resources focusing on mathematical knowledge for teaching. Ciara's research interests are in mathematics-related affect (both students and teachers), pre-service mathematics teacher education, and professional development related to out-of-field and in-service teachers of mathematics.

AUTHORS' CONTRIBUTION STATEMENT

Orla Power-Grant  0000-0002-5771-9839:  Conceptualization, Methodology, Project administration, Resources, Supervision, Validation, Visualisation, Writing – original draft, Writing – review & editing

Ciara Lane  0000-0002-5585-8894:  Conceptualization, Investigation, Data curation, Formal analysis, Writing – original draft

Ann MacPhail  0000-0003-1875-0582:  Conceptualization, Methodology, Project administration, Resources, Supervision, Validation, Visualisation, Writing – original draft, Writing – review & editing

All authors read and approved the submitted manuscript.

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