ECA/R Identity, Well-being, and Research Engagement Project:

Qualitative Investigation Findings

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Executive Summary

Background and context

Early career academics and researchers (ECA/Rs) are emerging researchers and teachers in their early years of academic employment following postgraduate training; with the present research defining this as the first eight years after training (The University of Queensland, 2022). ECA/Rs play a key role in the production of high-quality research and learning, but they also face significant professional challenges (Holley et al., 2018) — the burden of job insecurity and precarity, and competitive and demanding work environments. Affecting these outcomes are the work groups that many academics engage with in the course of their employment. Though few investigations have interrogated directly their impact on ECA/R career trajectories and outcomes – this is the focus of the Identity, Wellbeing and Research Engagement project, which aims to interrogate the contribution of work group identity, leadership, norms and culture to ECA/R wellbeing and career development. The project addressed this aim using qualitative and quantitative research methodology and this report focuses on describing findings from the former.

Method

In the qualitative phase of this project, 57 ECA/Rs (68.42% women; 29.82% men; 1.76% non-binary) were interviewed from the University of Exeter (UE; United Kingdom, n = 19) and the University of Queensland (UQ; Australia; n = 38). The interviews were semi-structured, conducted over zoom, and covered topics relating to general and work group specific employment experiences.

Results

Thematic analysis yielded three overarching themes, each with several subthemes, that impacted on the well-being and career development experiences of ECA/Rs.

The first theme encompassed *early career inhibitors* characterized primarily by unavoidable job precarity, unclear and demanding work expectations, and by a lack of value and voice. These challenges culminated in pressure and stress that undermined ECA/Rs' well-being and work performance.

The second theme captured *the enabling capacity of groups* as a positive source of influence, with workgroups, supervisors, and mentors all offering protection from the harsh reality of academia. Within these supportive workgroups, fellow academics often shared values, collaborated, and promoted behaviour that supported well-being. On the flip side, those without supportive workgroups struggled with feeling alone and isolated, and those who described their workgroups as toxic suffered.

The final theme spoke to *the integral role of academic supervisors and mentors* in shaping one's experience. Where positive supervisors encouraged work-life balance, professional development, and collaboration; hostile supervisors fostered unhealthy competition and demanded heavy workloads that negated work-life balance. Mentors were also described as instrumental to navigating the early career journey – particularly in the context of role ambiguity and career uncertainty.

Recommendations

There are a number of recommendations we make in response to these findings. These focus on investment in local networks of support to drive short, medium, and long-term changes. Broadly, we advise investment in i) the clarification and standardization of the core requirements of ECA/R roles, ii) structures that empower collaborative formal and informal workgroups, and iii) support, training, and accountability in supervisory and line management relationships.

ECA/R Identity, Well-being, and Research Engagement Project: Qualitative Investigation Findings

Universities rely on early career academics and researchers (ECA/Rs) to help develop and transmit new knowledge for students and other academics. Despite this, ECA/Rs often face significant challenges throughout their academic career (Holley et al., 2018) which can inhibit their professional development and progression, as well as reduce their well-being (Christian et al., 2021).

These challenges are well documented in the literature and are commonly faced across roles, disciplines, and countries (e.g., Christian et al., 2021; Shaw et al., 2015; Signoret, 2019). Many of these challenges are a consequence of the funding structures within academia. For example, ECA/Rs are often employed on time-limited contracts that can lead to a "patchwork career" (Cannizzo, 2017; Locke et al, 2018), and limit their ability to pursue their own research agenda (Capewell et al., 2017). Job precarity also has established detrimental effects on an individual's well-being outcomes. In particular, precarity has been shown to generate dysfunctional levels of competition among those in ECA/R roles. This increases the risk of work-life imbalance and burnout, which undermines health (Arlsen & Barlett, 2020; Bozzon et al., 2017). To date, academic institutions have struggled to provide the support that ECA/Rs need to protect and enhance their well-being and to positively facilitate their career development and progression (Christian et al., 2021; Shaw et al., 2015).

In this project we aim to shed light on the role played by working group memberships (e.g., discipline, laboratory, and wider university groups), and the identities associated with them (as "us" nurses, lab group members, UQ or UE staff) in ECA/R career trajectories and outcomes. These groups, particularly those based locally, have been shown to influence outcomes from mentoring and peer support (Merga & Mason, 2021). The contribution of workgroups to the well-being and professional development of ECA/Rs is not as clear, but a likely factor in the management of academic challenges and competition.

This research builds on previous findings to investigate how groups, and the various forms of support they provide, affect the career development and well-being of ECA/Rs. This report summarises findings from an initial qualitative stage of investigation that was designed to answer the following general research question:

What are the factors that inhibit and enable ECA/R well-being and career development?

Study Method

Sample

Participants were early career academics or researchers (ECA/Rs) from UQ or UE and were recruited through convenience and snowball sampling methods. All responded to an email invitation sent from their respective university's Researcher Development unit between May and July 2022, which included a pre-screening survey measuring (a) the extent to which they considered themselves ECA/Rs, (b) demographic questions (gender, age, department), and (c) their availability to participate in the interviews.

After completion of pre-screening, a member of the team sent each participant an email with (a) information about the time and date of the interview, (b) an individual zoom link to access the interview, and (c) a link to access an online Social Identity Mapping tool for participants to create a map of their work groups to facilitate the discussion of their experiences with work-based groups. The Social Identity Mapping tool was used only to elicit participants' views about their groups at work. Examples of these maps are provided in the Appendix.

The sample comprised 57 participants (68.42% women; 29.82% men; 1.75% non-binary from the University of Exeter (UE; United Kingdom) and University of Queensland (UQ; Australia). Most of the participants held a research focused position (79%, see Table 1) and their mean age was 37.02 years (SD = 7.43). Participants indicated their school or institute, but to protect anonymity, they have been grouped according to Exeter's faculties. These comprised the Faculty of Environment, Science and Economy (e.g., Engineering, Management, and Environmental Science), Faculty of Health and Life Sciences (e.g., Psychology, Public Health, and Medicine), and Faculty of Humanities, Arts and Social Sciences (e.g., Education, Communications, and Social Science). Nineteen unique schools/institutes were represented from UQ, and eighteen from UE. The number of ECA/Rs in each faculty is provided in Table 2.

Table 1
Participant Summary Statistics: Gender, Age, and Caregiver Status by Job Type

Job Type	University of Exeter (n = 19)				University of Queensland (n= 38)			
	n	Gender W:M:O	$\bar{x}$Age	Caregiver Status (y)	n	Gender W:M:O	$\bar{x}$Age	Caregiver Status (y)
Research Focused	17	9:7:1	40	9	28	21:7:0	35	17
Teaching Focused/ Teaching & Research focused	2	2:0:0	32	0	10	7:3:0	40	3
University Totals	19	11:7:1	39	9	38	28:10:0	36	20
Sample Totals	57	39:17:1	37	29	-	-	-	-

Note. W:M:O = Women:Men:Other

Table 2
Participant Summary Statistics: Ethnicity and Faculty/Discipline

	University of Exeter (*n*=19)	University of Queensland (*n*= 38)
Ethnicity		
Americas	-	1
Asian	1	4
Asian Indian	1	-
Australian	-	15
White British	8	-
White Irish	2	-
White Other	1	1
Anglo-European	-	8
Other European (not Anglo-European)	-	1
Indigenous Australian or Torres Strait Islander	-	2
New Zealander and Pacific Islander	-	2
South American	1	-
Sri Lankan Tamil	-	1
Undisclosed	5	3
Faculty/Discipline		
Faculty of Environment, Science and Economy	6	10
Faculty of Health and Life Sciences	7	24
Faculty of Humanities, Arts and Social Sciences	6	4

Interviews

Semi-structured interviews were conducted via Zoom. The interview questions focused on participants' (a) general experiences and challenges as an ECA/R; (b) the nature of their work groups (c) their group-based sources of support, both in and outside the workplace (d) perceptions about how they worked (e.g., hybrid, remote working, alone/in groups); and (e) experience of previous staff surveys (in preparation for the survey planned as part of the second phase of this research). At the end of the interview, participants had the opportunity to provide any closing remarks. Interviews generally lasted between 45 and 90 minutes, and were audio and video recorded for later transcription and analysis.

Analysis

The findings were analysed using thematic analysis (Braun & Clarke, 2006). The coding process was conducted collaboratively by the UQ and UE research teams. Interview transcriptions were broken into fragments and coded using an inductive approach. Throughout coding, the research team discussed the codes and their interrelationships before finalising and classifying them into themes which are detailed below.

Findings

Our analysis yielded three overarching themes, each with several subthemes, that impacted on the well-being and career development experiences of ECA/Rs. The first overarching theme encompassed aspects of the ECA/R role that **inhibit** professional and career development and wellbeing. The second theme related to the **enablers** of wellbeing, career goal attainment, and the capacity of people's groups to support these outcomes. The third theme focused on the role **academic supervisors and mentors** played in shaping the overall ECA/R experience. Below we summarise the findings under each theme.

The early career inhibiters: A role that is precarious, unclear, and undervalued

This theme evidenced the defining characteristics of the ECA/R role that undermined professional development and well-being. Below we unpack the core subthemes of *job precarity, demanding and unclear expectations,* and having *an under-valued identity*. As will become evident, experiences of job precarity, demand, and value were felt more deeply by UQ participants and this is reflected in the quotes.

Job precarity

Most participants reported on the accepted yet disheartening nature of fixed-or-short-term contracts. The impact of job precarity on their well-being was a salient point of discussion.

> *I think that my early career academic experience has really been shaped by the fact that so much of it has been on fixed term contracts. It's really horrible, it's really uncertain, I… was incredibly stressed and anxious for most of the time that I was on those contracts. (Woman, teaching focused, UQ).*

> *I've had so many friends that have burnt out or left academia and they're such bright minds, and they're so dedicated, but they cannot stay because there isn't the work for them, so I don't know how you fix that, and you don't know, and no one knows, it's just this terrible thing we're all in. (Woman, research focused, UQ).*

> *There's this rolling concern about…what is the next funding thing? How's that gonna work? It's just an evasive, angst, is my experience. (Man, research focused, UE).*

Participants also noted the detrimental impacts of job precarity on their ability to develop professionally and advance in their careers. Similarly, many reported the challenges that short-term contracts posed for expected output and productivity.

> *I think people want a lot more control and security and I think not feeling like you have control of your path and feeling like it's constantly insecure is the opposite of what you need to actually develop good intellectual ideas and good intellectual relationships with other people. (Man, research focused, UE).*

> *I think the job security for a lot of us is the hardest thing because that's why we're overworked, and it's not like our boss is over-working us, it's that we need to develop our own careers and that's not always considered part of your job. (Man, research focused, UQ).*

> *I've spoken to both [research groups] and they've just said, 'we love you, but once the contract is done, it's done.' And so, it is sometimes hard to stay focused on the job when you're constantly thinking about 'what's my next move?'. (Woman, research focused, UQ).*

Those with caring responsibilities were particularly vulnerable to the challenges of job precarity.

> *I had a baby last year, and that's been a very new experience for me. And I think in an ECR role, the challenge of being a new parent, as well as trying to balance… maybe not the demands of the job, but the uncertainty in the job. (Woman, research focused, UQ).*

> *It's been it's been quite demotivating to feel that. I do love the job, but, however brilliant I am, however amazing, however many publications I get, however much the students love me... there will be no job for me because of family responsibilities and just personal circumstances. (Woman, research focused, UE).*

Unclear and demanding expectations

Most participants discussed not knowing what was expected of them in their ECA/R roles, nor having a clear idea about their long-term career trajectory. This ambiguity around expectations made it challenging for ECA/Rs to prioritise their time and set themselves up for a successful academic career.

> *I didn't get a very clear outline of my new expectations as an ECR…A year in, I realized just how much about the role I wasn't prepared for because it wasn't clearly listed for me, "this is what is expected of you as an ECR". I'm still trying to get my head around it because it is so much self-directed…but I have found it challenging knowing whether I am meeting the expectations or not. (Woman, research focused, UQ).*

> *I find the fact that we're kind of not necessarily seen as academics and we're not seen as students can be a bit frustrating. We're in a bit of a grey area so sometimes it can take quite a length of time for information to filter down through university channels. (Woman, research focused, UE).*

> *Even for promotion and probation confirmation - I had no idea that it was going to be that intense when I first started. It was only mid-way through, and then they give you terrible feedback. That happens to most people, and that was a real stressful time, that whole year and a half, which I was not prepared for at all. (Woman, teaching and research focused, UQ).*

Participants emphasized that the ECA/R role demanded excessive time and effort. Notably, compared to UE participants, UQ participants felt these expectations more deeply and described a more intense workload pressure that damaged their well-being.

> *I just live in a permanent state of burnout. And I recently talked to our [committee X], and I said, 'you talk to the ECRs in this school see the workloads that we are working under. You are either going to have three outcomes. Someone will leave; we've already had people leave. Someone will have a heart attack or commit suicide. Or someone will file a claim of psychological injury. That's how bad things are'. And I don't know if they're going to do anything about it, they keep saying they will… (Woman, teaching focused, UQ).*

> *Workload wise, it is a lot, particularly when [there's multiple] things to be working on. It's been challenging. (Man, research focused, UE).*

> *I feel like there's unrealistic expectations of time that you have, in order to do things, to apply for things, but that is the academic life - I still think it's unrealistic. And it needs to change. And yes, especially for ECA/Rs, because there's a lot of pressure to get your grants and to get to apply for*

everything to do or things to do the service to build up your CV to work with other international partners, all stakeholders, do all the publications do all the presentations. (Woman, research focused, UQ).

The tension between unclear and demanding expectations was uniquely challenging for ECA/Rs with teaching duties as they struggled to balance the competing demands.

Teaching can get really demanding, especially around the end of semesters, where everything just goes crazy. I wind up devoting maybe 80, to even 90% of my time to just answering students emails or preparing teaching materials... It's not ideal to spend too much time on teaching. But there's just no way to really balance these two. Teaching just is very demanding. And the pressure did get to me around the end of the semester. (Man, teaching and research focused, UQ).

Participants also noted that research was implicitly prioritized by those around them. This was particularly challenging for those who held teaching and research roles as they struggled to reconcile their current job description with their need for future employment. It was recognized that teaching could be detrimental for their career by limiting their ability to gain publications and research grants.

There's definitely that divide, which also is terrible, that you know they're treated differently. You can definitely see why T&R academics would be like "I'm giving up the teaching, it's too hard." No one cares about it. It's not valued by anyone - it's not valued by the promotions team...Like it doesn't bring any funding in you know so the university doesn't really care about it, it definitely feels like the teaching side of things is not important to anyone, apart from the fact that it still has to get done. (Woman, teaching and research focused, UQ).

My seniors used to say, 'you spend too much time [on teaching responsibilities]'. Don't reply to students, you know it's not going to make a difference. It's just taking your time; you should be writing your papers instead. (Woman, teaching and research focused, UQ).

An under-valued identity

A number of participant responses emphasised the desire to feel valued. Overwhelmingly participants described experiences of not being heard and seen. For example, responses to questions about staff surveys revealed low levels of engagement and a high degree of cynicism about whether their views would be listened to and translated into meaningful interventions.

I feel like most of these surveys very much view ECR/As as kind of lower end people in the university who aren't going to move up in the university and we'll just [be] working here till the contracts are up. (Man, research focused, UQ).

[There's the] sense of not being seen for the value that you bring as an ECR to universities. I seem to get quite angry about it... I've had to fight so hard to get any workspace, any that is even faintly accessible... And to get anything at all, I've had to make a huge fuss. (Woman, research focused, UE).

You really struggle, a lot, I think, to feel valued when you're a postdoc at the university. You spend a lot of time thinking that universities are really nice places and they really care about you, and I think, at some point there's a realization that actually, when your contract's gone your email gets

taken away within like a week and you don't have access to anything, and you're like 'oh that was it then?' (Man, teaching and research focused, UQ).

Participants also report the struggles of being heard and valued when making formal complaints. Coupled with job precarity, the challenge of feeling under-valued placed ECA/Rs in a vulnerable position.

This is really frustrating - they say 'okay if you are having problems come to us, talk to us, blah blah blah', but in reality, nothing works, so, in the end, the person, who is bringing the money or the funding to the university is the only thing [that] matters'. (Woman, teaching and research, UQ).

I went to my mentor and was complaining to him about the need for an office. I have to have somewhere where I can see students privately. And I said "I'm sorry this won't do" and the message I got from professional services in the department, and from my mentor, was "well you're absolutely bottom of the heap, what do you expect?" (Woman, research focused, UE).

I think they need to get better at actually listening to us when we're in really vulnerable positions - no job security, short term contracts, junior, compared to this person who is somehow a full professor. It's the power imbalances there, they actually have to do a lot better at dealing with these situations. (Woman, research focused, UQ).

Not feeling valued was also related to feelings of 'disconnection' to the ECA/R role, work groups, and the university in general.

I don't know because it's hard. I've made quite a conscious decision - I engage with work a lot less. Because it's just, it's so busy. I need really clear boundaries. I don't actually want much more from any of my groups because, I don't feel that connection with my work group. (Woman, teaching focused, UQ).

I'm a project funded researcher, which means I'm already semi-detached to the university, university speaking to the academics in the departments I work in, they could take it or leave it as far as they're concerned. (Man, research focused, UE).

It's now at a point where I show up, I do my job, and then I leave and I have just no emotional connection to work anymore. (Man, research focused, UQ).

The enabling capacity of groups: An opportunity for protection

The second theme related to enablers in which ECA/R group memberships featured. In this section, we discuss the importance of professional and non-professional groups (e.g., peers and colleagues, friends, family) as they help ECA/Rs to cope with the challenges of academics and navigating the academic landscape. Specifically, we describe ECA/Rs experiences of *'fitting in' with their workgroups, the workgroup cultures that emerge, and the role of groups outside of the workplace.*

Workgroup fit: Belonging, connection, and social identification

The majority of participants identified most strongly with their primary work team or group. Participants described a range of local work-based groups, particularly valuing those teams that were diverse and multi-disciplinary, and where inclusivity was emphasised. For example, participants often recognised their main group (e.g., lab group) as a critical source of support.

We all belong to a team and there is always support for each other, we got ... a group chat on teams so everything is shared, we share work or share ...any problem you got and someone can reply and support you ...you can raise the question, even outside work hours. (Woman, teaching and research focused, UE).

It's really inclusive. And I like that everyone near is there for a shared purpose. I guess that's the beauty of working in a research team, where you have impact because, you know, people, they're there; because they want to be, because they believe in what's being done. (Woman, research focused, UQ).

In general, having shared group values promoted a sense of belonging and increased connectedness with work groups and teams. Indeed, participants also acknowledged the importance of social support from colleagues or peers who were *not* members of their primary team or group. These interactions were described as offering ECA/Rs a safe space to share opportunities and challenges, as well as receive different perspectives from those outside their immediate project team or group.

My previous supervisors and some other academics have been really helpful and any time I've had issues I go to them and, them being much more senior than me, they can advise appropriately. We are also quite close with others. We are fairly like close knit so it's always helpful to vent to them. (Woman, teaching and research focused, UE).

[Support comes from] other EMCR's (early to mid-career researchers), I would say. They're the only ones who really get it, or at least remember. So we've got a pretty good group of EMCR's. Not so much in my institute, but in the general field that I do talk to when we do try. (Woman, research focused, UQ)

Not all participants felt supported; largely due to lacking local work groups or connections with ECA/Rs.

I feel like I get met with very unsupportive and loud people who are willing to vocally say that they're unsupportive rather than leave me alone. If anything, you know, I don't know why they feel like they have to put me down. (Woman, research focused, UQ).

I feel fairly isolated in terms of support so I guess I have support for performing the work and like the research aspect of my work. In terms of support more generally, I guess there isn't all that much there. (Man, research focused, UQ).

I'd like more from other ECRs... it's become very disparate within the university and we don't talk to each other, even within the department very much. And there are lots of opportunities to collaborate and talk to each other more, and it's just proving difficult to know how best to do that. I appreciate it's because we've got our own time sensitive things on... Ideally you'd have these organic groups coming up to support each other. But I'm finding it difficult to implement that. (Man, research focused, UE).

Workgroup connection was particularly topical in the context of the pandemic and the shift to hybrid and remote working. To varying degrees, as direct impacts of COVID-19, most participants described a loss of connectedness to their work groups and teams and experiences of isolation or team working challenges.

> *During COVID times, I think, part of the issue is that the group itself, perhaps doesn't have such a super strong culture, because a lot of the interaction has been like zoom based you know and they just getting back into meetings right. (Man, research focused, UQ)*

Those who were new to academia and started their positions during the COVID-19 pandemic described slightly different experiences. For these participants, it was easy to establish a routine around the 'new normal' of remote working, precipitated by lockdown measures.

> *Well, actually, I did my whole PhD remotely so I was enrolled at university of A and I did my PhD remotely because my field work was here in B and my family was here, so it worked out for everyone, so I did have some exposure to that…I'm very used to working wherever my backpack takes me, and just sit down in the library or in an airport or when I do field work in a hospital, to have it in the hospital space where I can sit, so that part was not really that tricky for me because I had that work really quite nicely worked out. (Woman, research focused, UQ).*

For those who had experience working as an ECA/R before COVID-19, the changes to group interactions within their teams and team climate were more salient and impactful.

> *[You used to be able to] just walk down the corridor or you could go into the office and ask "hey I have a quick question for someone, how do I do this?" Instead of you have to write this big long email, and you don't necessarily get your point across as quickly. I think it's made smaller things more tedious. (Woman, research focused, UE).*

> *Well, pre COVID, I loved working from home. During COVID, I began to dislike it because I did miss the interactions. And the social side of being in the office and that sort of stuff. You missed a lot of what was happening in people's lives. But then I got used to it again. And then now coming up the other side and having this expectation of being back in the office. (Woman, research focused, UQ).*

Work group culture

Academic culture was commonly described as one of 'high productivity' and 'high performance'. But this was expressed in different ways. The academic culture provided a basis for collaboration in workgroups who felt a strong sense of shared values. In workgroups with a weak or absent sense of shared values, the academic culture fuelled intergroup competition.

> *I feel I can rely on others… It's a good balance in between ownership, trust and also the pursuit of common goals. So we work across different projects, but we always seek how the work that each of us is doing might inform and be useful for somebody else. If I know my colleague is working on [a certain project topic] and I come across [someone else talking about the same topic], then I would let her know. She's on all my ethics applications, I'm on hers, so we basically enrich each other's empirical work. (Woman, research focused, UQ)*

> *My experience has been very, very pleasant. Having packed up my life and move to a part of the country I've never been to before and start a job with such an important figure in my field, and a group of people I've never met, has actually subverted some of those stresses of academia, because it went really well. I think I had an expectation I was going to be on my own when I got here and that's not been the case at all, it's been very supportive. (Man, research focused, UE).*

There's definitely competition. I think that there is a healthy level of competition that's probably required for this job. But I think if you're competing with the people, you work beside, for the small amount of resources or time, you run into trouble, and we have had cases of sabotage happening. People purposefully lying about results. And that stuff always just brings negativity to the group. (Woman, research focused, UQ).

Because there's a bit of a culture of fear that if you tell somebody else what you're working on, they'll steal it from you. Which is, I've seen that happen. So it's a real fear. (Man, research focused, UQ).

This culture of high performance and productivity was often discussed in the context of managing work-life balance. Work-life balance was described by participants as maintaining boundaries between personal and work life, predominantly in terms of scheduled hours. However, most participants saw work-life balance as a goal, aim, or ideal rather than a reality, especially when they had caregiving responsibilities. Many reported struggling with a "lack of boundaries" between their professional and personal lives and one participant even reported being unable to establish a work-life balance until he had a newborn baby.

The only thing that's sometimes been a problem is if my holiday coincides when somebody wants to have a project meeting. I've sometimes felt like that's not been... there's just been a bit of friction… So, very occasionally, because of people's diaries I will have a meeting you know, on a day that's meant to be a holiday day. Just to make things happen. And then I'll try and take back the time some other time. But I try to do that, I try to take back the time. (Woman, research focused, UE).

I took three months of parental leave last year, and thought I'd still be able to do a little bit like while she's napping, which just never happens because you're so tired... Work went on the back burner for a little while, but I think it's a good balance, because it also gives me opportunities to switch off. So I come home and previously, I would still be thinking about work, maybe doing a little bit of work at night… but now it forces me to switch off and recover, which I think in the long run it becomes restorative because I'm taking breaks, and so I think in that way it actually helps. And it just makes me more satisfied with life in general. (Man, research focused, UQ).

Groups outside of work

Participants recognised the importance of receiving emotional support outside of academia, including from family members and friends.

Having you know friendships and relationships with people who aren't academics and don't exist in the academic world, so they can give me a bit of perspective (laugh) which is vital. (Non-binary, research focused, UE)

And I've got my family, my extended family. I've got my sisters and mum are in Brisbane and they've been... quite a lot of support, especially my sisters, who I'm quite close with. So I've got that family as well. And a lot of friends that are outside work as well that I communicate with on a regular basis, that same thing quite a lot of support there. (Man, research focused, UQ)

International ECA/Rs were disadvantaged in this respect, as they described not having the same access to social networks relative to their 'national' ECA/R counterparts.

Outside the university over here I don't have much of a social circle. I have a housemate, we have a socially friendly relationship there, but most of my outside the university support comes from my family and my partner. So that's the support I get from there, so that support is all this with my partner it's all kind of supports whether being me clarifying my shortcomings or doubts or misgivings or need for affection, or whatever... all of those things. (Man, research focused, UE).

From management to mentorship: The role of academic supervisors and mentors

The third theme spoke to the integral role that academic supervisors played in shaping the ECA/R experience. This extended to informal supervision and mentorship from previous or external supervisors, and colleagues with more experience. These individuals were critical to ECA/R professional development and wellbeing. Where this input was positive and helpful, it enhanced outcomes. But there were also reports of unhelpful input, which undermined performance and well-being. Below we unpack the core subthemes including *management, leadership, and mentorship.*

Management: Effectively managing ECA/Rs towards objectives

Participants frequently noted the ways in which their supervisors managed to help them achieve both their short- and longer-term objectives. In general, participants were able to identify the characteristics that made for both effective and ineffective people management. How supervisors managed their staff had an enormous impact on the ECA/R experience; poor management encumbered ECA/R's, whereas high-quality management empowered ECA/R's.

I know that bosses don't get very much actual leadership and management training. Which means that there's no like baseline expertise within a principle investigator. I'm very lucky, two of my PIs have been really good... But there's no there's no safety net baseline knowledge and they don't have to do a leadership course to get it... you get managed as an ECR by someone who's just really good at science like you, really, and I think that creates a really wide variation in kind of experiences as postdocs. (Man, research focused, UE)

Supervisors were described as effective managers when they made themselves available to help ECA/Rs with work tasks by providing technical support and advice for how to manage academic stressors more successfully.

A line manager [is] always checking and supervising your work and checking and providing help to teach you a skill. (Woman, teaching and research focused, UE).

I have a weekly meeting with my supervisor, which I find really helps because if I find I'm at a roadblock or something that's the time that I can talk to her and she'll help me move to the next step, so I find that really helps me. (Man, research focused, UQ)

You know, it's so easy when you can just turn around and talk to your grant investigator or whoever it might be, or your senior supervisor about an issue you're facing or an idea you have. That helps accelerate progress. And helps to build that team environment too. (Man, research focused, UQ).

Aside from technical support, supervisors who offered personal and emotional support were also described as effective managers.

I got two meetings with my supervisor per month and again he did ask me a lot of questions about my mental health or any problem with the do you face with stress when you have to stay at home all days… My supervisor cares about a lot of things around my life (Woman, teaching and research focused, UE).

A lack of support also extended to how supervisors failed to establish, communicate, and model work-life balance expectations.

This is a frustration… That guy, he doesn't bother for anything but work and he tries to push everyone to work after hours, so it doesn't matter if you're having a balance in your life, it doesn't matter if you're having a bad mood or that mentally if you're feeling ill or anything, it really doesn't matter to him, to him, the only thing matters is work. It's like a Chinese sweatshop. (Woman, research focused, UQ).

Many ECA/Rs described an incongruence in supervisors' words and their actions, which made for ineffective modelling and was disconcerting for ECA/Rs to determine what was expected of them.

The PI is an incredibly busy and important professor. But I clearly remember once there was a deadline and she said, "Look, I'm going to be working over the weekend on this. If any of you want to have input on it that's great, but I do not expect any of you to work over the weekend" So, she was really clearly setting boundaries for us but that wasn't expected. But on the other hand, she was sort of modeling that behavior. So, It's tricky (Woman, research focused, UE).

It's when your expectations of timelines do not add up with what's happening in real life. So many of the times it's an internal pressure, but often it's when you have a discussion with your guide and you've set up a timeline and you feel that immediately it's not going to be met (Man, research focused, UE).

Supervisor work-life balance management was commonly discussed within the context of flexible working arrangements. Broadly, supervisors that accommodated flexible and remote working were seen as good managers as it conveyed trust and allowed ECA/Rs to balance their personal (e.g., health or parenting) and professional lives.

I have three kids and I am the only carer for them… I don't want to cry, but it's, it's hard. But I've been provided a lot of support from my first line manager so she offered me a hybrid working [arrangement] so I can work two days from home and two days from the office and it's not like consistent, so if something had been done, they want to stay in the house, I can just tell her and she would be fine with it, as long as I'm doing my work (Woman, research focused, UE).

In contrast, those who were described as rigid and controlling in their expectations of work arrangements were seen as ineffective managers.

In that group, the stress was coming from the boss. That was really bad, and it was like he's chasing everyone; I feel like I'm being chased. Someone is looking over my shoulder for anything and everything… I never liked that so that's the feeling I couldn't bear with that role, so I just switched to a group, moved to a new group, and I think in this group, though I'm having multiple directional stresses, but [I'm] much more relaxed because I know that someone is not looking over my shoulder. (Man, research focused, UQ).

Leadership: Creating supportive groups

ECA/R's recognized supervisors as being vital agents in creating positive, thriving, and meaningful groups.

> *The [group] has consistent debriefs… a Christmas party and these other moments of celebration, where they bring people together to talk about what they're currently doing, and those are really great actually. They're not like networking events because I know everyone there but it's a chance to also chat with everyone and see what they're up to and those are great, and those are all driven by my immediate supervisors there again. (Man, teaching and research, UQ).*

> *[My supervisor has] really fostered that, you know, the gathering of lots of different disciplines to listen to each other and talk with each other. And that's even though he's not running it there anymore. They've managed to maintain that really positive inclusive atmosphere. Yeah, so they're a really fascinating group in lots of ways. (Woman, research focused, UQ).*

Furthermore, where supervisors helped shape the culture of these groups, by promoting positive norms and values, they were more readily adopted and shared by their group.

> *They are some of the most talented, intelligent people I've ever worked with. And just lovely. It's such a high functioning machine that our supervisor has built. And I guess it's built on speed and efficiency, but it's also built on empathy, and understanding and I think that's been just as important. (Man, research focused, UQ).*

Mentorship: From career to personal development

ECA/Rs identified both supervisors and other academic staff as formal or informal mentors. Mentors shared insights and opportunities which were instrumental to participants' career development and helped them to manage the challenges of their work and academic job precarity. Mentor guidance was seen as beneficial for navigating unclear university policies and job ambiguity.

> *In terms of advice and mentoring, [Colleague] has been again really influential in that… he employed me as a postdoc that really helped me - navigating the fellowship, and has continued to help me, as I said, move into the teaching and research role, so I can email him or knock on his door and ask for advice about how to handle a particular situation, or how to negotiate with the school or whatever, so yeah just learned a lot, and felt really supported in that (Man, research focused, UQ).*

> *My internal and my external mentors have the most influence of my work. So, my external mentors are just people I've met through conferences we've gelled over the years. When I had kind of like no direct mentoring, here they were great, so they're from kind of labs all around the world, we talked about different aspects of work (Woman, research focused, UE).*

> *I've asked for two meetings with her in the last year to actually talk about career development. I kind of said 'these are the gaps in my CV, this is where I want to go.' And she's been fantastic and just saying well, you need to get this, or do this, and she can't offer me those opportunities because we're not even at the same university and she's got her own postdocs to look out for. But I have been to her for career advice, so I feel that the support is there if I need it. And, I guess if I asked for something. Like, if I said, 'do you know, anyone who could give me this?' I feel like she'd be proactive in doing it. (Woman, research focused, UQ).*

Many ECA/Rs mentioned that mentors had been essential in helping them to thrive. Despite this, some ECA/Rs struggled to find a mentor and felt deprived of mentorship.

> *I think that they're tired of us the students and I don't blame them because there's more requirements that they do more and more of themselves but at the same time it makes it challenging for people like me. (Man, teaching and research, UQ).*

Notably, university led mentorship programs were seen as a beneficial resource to support ECA/Rs in locating mentors and building strong connections.

> *During my PhD I was having a mental health mentor, and I think having some sort of mentor in my ECR life would be really amazing but I'm not under the schemes internally in the university, not [that] I've really looked but I haven't found these schemes that offer that and that would be something that would be really amazing. (Non-binary, research focused, UE)*

Some ECA/Rs benefitted from career development opportunities initiated by their university.

> *One thing I found extremely helpful… was some kind of ECR development course, and it was at the university level… The Vice-Chancellor came to talk to us, and it gave me that sense of 'I can do this', I feel supported, people are recognizing ECR issues at this university and they're trying to equip us with the tools. And that actually helped me connect with someone… who she was like my peer mentor that they put us with, and we still talk and she supports me immensely. So, having that was fantastic. (Woman, research focused, UQ).*

However, for these to be effective, these opportunities need to be integrated into already busy workloads in feasible ways and supported by supervisors.

> *My supervisor was very encouraging of that particular course. But I know I spoke to other people, and said my supervisor wouldn't let me do that, like it just would take up time or they'd just have to do it in their own time. So, the reason I was so engaged in it was because my supervisor made space for it. (Woman, research focused, UQ).*

Summary of Findings

Core themes: Summary statements

Theme 1: The early career inhibiters: A role that is precarious, unclear, and undervalued

- *Job precarity:* repeated fixed-term contracts obstruct productivity and reduce wellbeing.
- *Unclear and demanding expectations:* high workloads coupled with ambiguous role requirements and career trajectories hinder progression and well-being.
- *An under-valued identity:* ECA/Rs struggle to be heard and seen, rendering it difficult to access support.

Theme 2: The enabling capacity of groups: An opportunity for protection

- *Workgroup fit: belonging, connection, and social identification:* belonging to diverse and multiple workgroups help ECA/Rs cope with the harsh academic environment.
- *Work group culture:* the demanding culture of academia creates workgroups that are either collaborative, or competitive. The latter undermines well-being and work-life balance.
- *Groups outside of work:* family members and friends provide important emotional support.

Themes 3: From management to mentorship: The role of academic supervisors and mentors

- *Management: effectively managing ECA/Rs towards objectives:* supervisors are critical in heightening +ve and buffering -ve experiences, particularly in managing work-life balance.
- *Leadership: creating supportive groups:* supervisors shape the norms and values of workgroups and determine if the culture is one of collaboration or competition.
- *Mentorship: from career to personal development:* mentors (not only supervisors) are instrumental to navigating the early career journey – particularly in the context of role ambiguity and career uncertainty.

Core themes: Visual Summary

Early Career Staff Experience

QUALITATIVE DATA BLITZ

WHO WE TALKED TO...
LOCATION_____67% University of Queensland, 33% University of Exeter
GENDER_____2% non-binary, 68% women, 30% men
AGE_____Mean age 37, age range 26 – 60
JOB FOCUS_____76% research focused, 24% Teaching/Research
DEPENDANTS ___51% caregivers

STEM
Health
Business
Humanities
Social Science

THE EARLY CAREER ROLE	>>>>>	THE WORK CULTURE	>>>>>	PSYCHOLOGICAL OUTCOMES

THE EARLY CAREER ROLE

"PRECARIOUS...

DEMANDING...

UNCLEAR...

UNDERVALUED..."

- Short-term contracts
- Unclear expectations
- Demanding workloads
- Competing demands
- Lack of voice
- Opaque career paths

THE WORK CULTURE

NUTURING
Career development
Mentorship
Support
Connection
Validation

UNSUPPORTIVE
Absent leadership
Unclear direction
Minimal support
Disconnection

UNDERMINING
Controlling
Unsupportive
Isolating
Competitive
Frightening

PSYCHOLOGICAL OUTCOMES

"We support each other, we peer review each other's work... it's genuine... we're friends... we can understand each other's experiences".

"I feel fairly isolated in terms of support so I guess I have support for performing the work and like the research aspect of my work. In terms of support more generally, I guess there isn't all that much there".

"As a postdoc you are completely controlled by your supervisor. I was micro-managed and mismanaged. There's this culture of fear that if you tell somebody else what you're working on, they'll steal it from you".

CONNECTION IS KEY TO RETENTION

This includes **meaningful** and **multiple** connections to groups both **inside** and **outside** the workplace. Work groups **enable** staff to **make sense of** the unclear, uncertain, and demanding nature of academia.

KEY LEARNINGS

Staff are enriched by the **informal and formal work groups they belong to**. Especially groups that embody a culture of professional and personal support, collaboration, and friendship.

Job precarity, unclear and demanding expectations, and an **undervalued identity all inhibit staff wellbeing**, and their capacity to advance in their careers.

Supervisors are integral in shaping the experience of early career staff. Their formal guidance and informal mentorship support staff in navigating the academic landscape.

Conclusion

Early career academics and researchers are skilled and ambitious members of the academic community (Christian et al., 2021). However, without adequate support, the academic environment can undermine the well-being and careers of ECA/R's. Our findings highlighted key factors that contributed in positive, but also negative ways in ECA/R well-being and career development.

ECA/Rs described an expectation and need to work long hours to remain in the sector, even in the face of the career development and well-being struggles described above. Key challenges include: (i) the ECA/R role, which many reported to be unclear, (ii) the impacts of job precarity, affecting financial security and living situations that impacted interpersonal relationships and psychological health (iii) the sense of not being valued by the institution or having a voice, and (iv) the high workload and multiple demands. These factors all detract from ECA/R's establishing an elusive work-life balance. Nevertheless, and despite the challenges faced by ECA/Rs, many continue to pursue an academic career.

Supervisors and mentors are key figures. Overall, supervisors were the main source of career and personal support. ECA/Rs valued supervisors that provided this support as well as the autonomy and flexibility to conduct their work (e.g., working from home). Mentors also shared wisdom with ECA/Rs that helped them navigate the challenges of academia. Supervisors that excelled in people management, leadership, and mentorship fostered academic growth; where these capabilities were lacking, early career staff struggled.

Connection was key to surviving the academic environment. This included meaningful and multiple connections to groups both inside and outside the workplace. These groups enabled ECA/Rs to make sense of the unclear, uncertain, and demanding nature of academia. Group-based social support offered protection from job pressures and toxic work cultures, and at the very least, they allowed for developing a shared understanding of a challenging environment. There was also recognition of the importance of support outside of work, from family, partners, and friends, in searching for perspective. Shared values, work group support, collaboration, mentorship, and training and development opportunities all enabled a sense of belonging at work. In their absence, ECA/Rs felt the burden of loneliness and isolation. Importantly, the data show that ECA/Rs experiences are not homogenous. Some work to secure funding collaboratively, while others are driven to compete with their peers. Some experience meaningful leadership and mentoring and others feel neglected. Some felt they belonged to their workgroups and others felt alone.

In response to these findings, we recommend that investment is needed in local networks of support to drive short, medium, and long-term changes. We identify a need to enable and empower supervisors to adequately support ECA/Rs in navigating the academic environment. Further, we advise formal avenues of connection to allow for professional and personal connections for ECA/Rs across campus. Finally, we suggest consideration of structural and policy change aimed at addressing challenges faced not only by early career staff, but also academics at all levels. These recommendations are provided in the table below.

These data have informed a second quantitative phase of investigation, that is currently underway. This seeks to understand the generalizability of experiences described in the qualitative study and clarify the contribution of work group identity processes to ECA/R outcomes. These investigations together contribute to a broader study which aims to develop recommendations for interventions and strategies that can effectively leverage the talent and skill of ECA/Rs whilst providing them with the best support to thrive in their roles.

Recommendations

Themes	Recommendations			
	General Conclusions	Short-Term	Mid-Term	Long-Term
The early career inhibiters: A role that is precarious, unclear, and undervalued	Invest in efforts to i) increase opportunities for career advance in research focused roles, ii) clarify and standardise ECA/R role requirements, and iii) empower voice.	Support supervisors to outline expectations, responsibilities, and opportunities available for ECA/Rs. Facilitate initial contracting and review conversations that cover i) role expectations and deliverables, ii) career pathway options, and iii) actions required to address professional development concerns.	Reward researcher contribution to teaching/supervision (e.g., university funded contract extensions in recognition of work undertaken outside of the funded researcher role). Work on contract structures to support appointments for the full duration of funding, rather than year-to-year contract renewals.	Address the inefficiencies caused by funding structures within academia. Develop more clearly defined academic pathways that disentangle teaching and research roles and expectations. This would help to both balance the value of these roles and reduce role ambiguity.
The enabling capacity of groups: An opportunity for protection	Invest in people and structures that build/strengthen local work groups, and their leaders, to adequately support ECA/Rs.	Enable opportunities for connection. Implement regular ECA/R social and professional events to encourage ECA/Rs to connect and share their successes and struggles. This would also promote the cross-discipline collaboration that many participants felt was lacking.	Enable structures that facilitate collaborative workgroup environments. Review the operation of these structures and the extent to which they support early career staff development.	Structure and fund larger research groups. Within these funded research groups, roles could be allocated to specific responsibilities (e.g., teaching, research, grant writing, people management). These roles could reduce job ambiguity, allow staff to focus on their duties, and create efficiency by reducing the amount of context switching.
From management to mentorship: The role of academic supervisors and mentors	Address the lack of support, training and development, and accountability for those responsible for ECA/Rs.	Support the development of effective supervisor-supervisee relationships. Develop resources that outline standards of practice, as well as frameworks to guide two-way conversations regarding relationship expectations, reflections, and actions.	Invest in training and development opportunities that address people management, leadership, and mentorship. Incorporate training programs into workload expectations otherwise, as expressed by interview participants, these opportunities can be seen as a burden.	Implement key performance indicators corresponding to supervision. These key performance indicators could include their engagement with supervision development, and leadership review.

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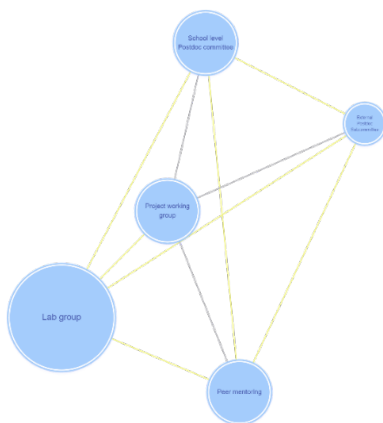
Appendix

Online Social Identity Maps

Below are examples of participants social identity maps which were developed prior to conducting their interview. The core elements of these maps include:
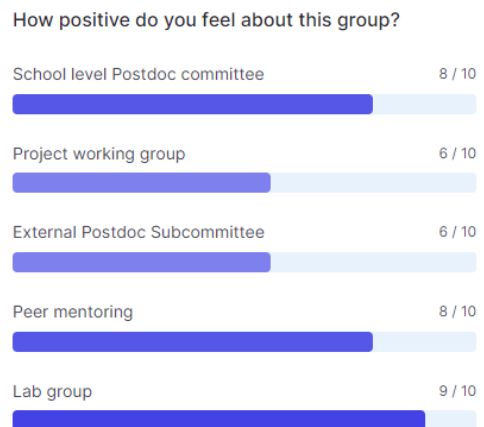
- Size:
    - Small = less important
    - Medium = somewhat important
    - Large = very important.
- Classification:
    - Blue = this group is made up of work colleagues
    - Purple = this group is made up of a mix of personal connections (e.g., friends) and work colleagues
- Compatibility:
    - Green = very compatible
    - Yellow = compatible
    - Orange = incompatible
    - Red = very incompatible
    - Black = no connection
- Groups were also rated on:
    - Positivity: How positive do you feel about this group from 1(not at all) to 10(very positive)
    - Support: How much support do you receive from this group from 1(none) to 10(a lot of support)
    - Representativeness: How typical or representative are you of this group from 1(not at all) to 10(very typical)
    - Time: In an average month, what percentage of time do you spend interacting with this group from 0% to 100%

Example 1 (man, research focused, UQ)
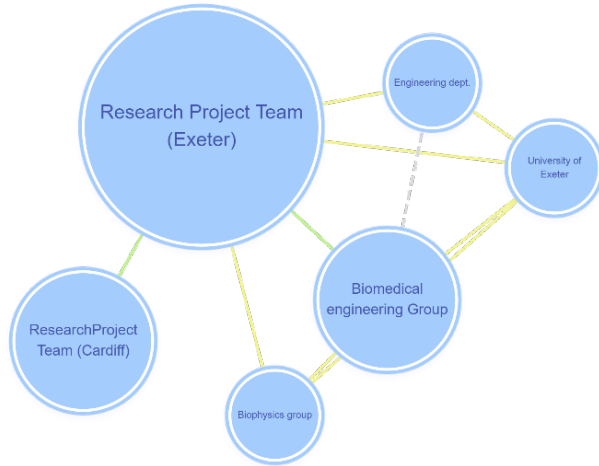
Online Social Identity Map

Example Rating of Groups: Positivity

How positive do you feel about this group?

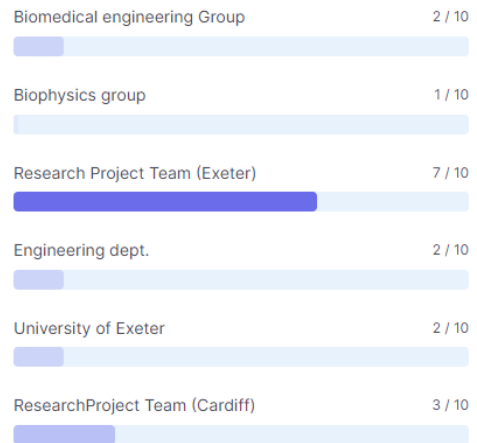| School level Postdoc committee | 8 / 10 |
Project working group	6 / 10
External Postdoc Subcommittee	6 / 10
Peer mentoring	8 / 10
Lab group	9 / 10

Example 2 (woman, teaching and research, UE)

Online Social Identity Map

Example Rating of Groups: Support

How much support of you receive from this group?

|	
Biomedical engineering Group	2 / 10
Biophysics group	1 / 10
Research Project Team (Exeter)	7 / 10
Engineering dept.	2 / 10
University of Exeter	2 / 10
ResearchProject Team (Cardiff)	3 / 10

Example 3 (man, research focused, UE)

Online Social Identity Map
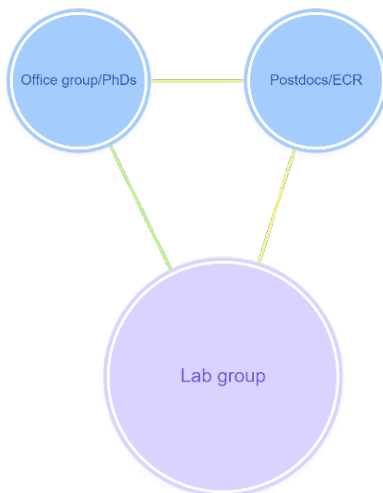
Example Rating of Groups: Representativeness
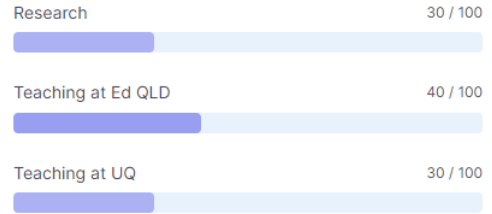
How typical or representative are you of this group?

Postdocs/ECR	6 / 10
Lab group	4 / 10
Office group/PhDs	4 / 10
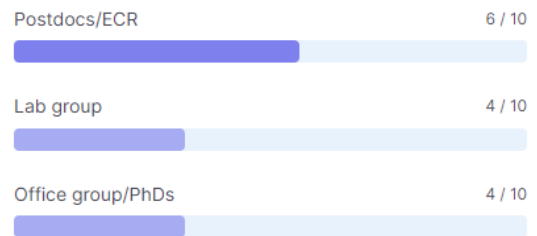
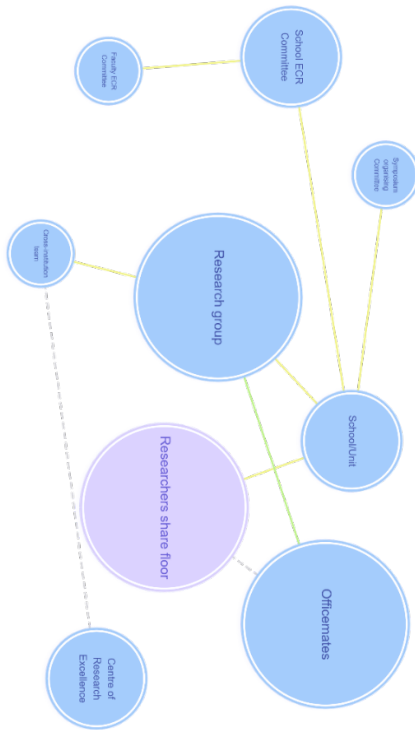## Example 4 (man, teaching and research, UQ)
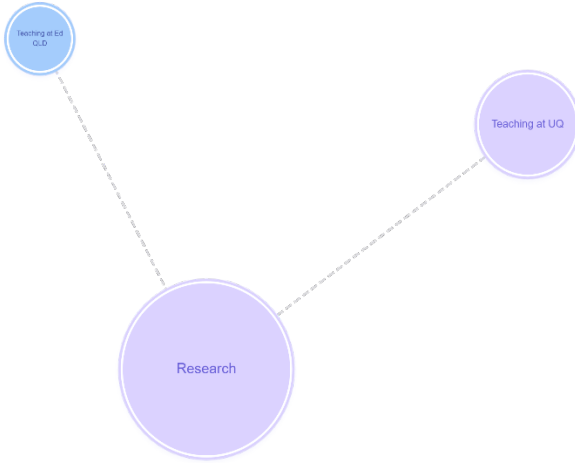
Online Social Identity Map	Example Rating of Groups: Time

In an average month, what percentage of your time do you spend interacting with this group?

Research	30 / 100
Teaching at Ed QLD	40 / 100
Teaching at UQ	30 / 100

Example 5 (woman, research focused, UQ):

Online Social Identity Map	Example Rating of Groups: Positivity

How positive do you feel about this group?

Research group	9 / 10
Faculty ECR Committee	6 / 10
Officemates	9 / 10
Symposium organising Committee	7 / 10
Centre of Research Excellence	7 / 10
Cross-institution team	7 / 10
Researchers share floor	10 / 10
School ECR Committee	7 / 10
School/Unit	7 / 10