Trials and tribulations of an early career academic pathway after returning to Australia: reflections from an early career investigator

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Recent PhD graduates are often faced with the decision of whether to follow an industry, government and/or academic career path. For those who cannot decide, the option to continue onto post-doctoral training is a natural one. Deciding whether to move interstate or abroad for this critical training period often encompasses a multitude of stressors. This includes but is certainly not limited to applying for visas, relocating their lives to another country, establishing themselves within their new laboratories, considering building a family if they have not already and the decision of whether not to return to Australia. A recent comprehensive survey details important factors to consider during post-doctoral training, see (McConnell et al. 2018). In this contribution, I will try to describe some of the decisions, check and balances one encounters along the road to a productive academic career from the perspective of an early medical biophysics researcher.

Academia, partnership and parenthood

Most post-docs, after spending years studying for their bachelors and PhD, inevitably yearn for a stable personal and work environment. In a personal sense, many find their life partners and begin their journey into parenthood.

Academic partnership

Up to half the women in academia partner with other academics (Schiebinger et al. 2008). This is a particularly precarious situation as finding work for one is already akin to

participating in the hunger games, let alone finding academic positions for two at the same or nearby institute. Unsurprisingly, during the early stages of their training, many academics have no choice but to be physically separated by—if not state—country, spending months if not years apart. Despite the advent of technology, the separation brings an added level of strain to the partnership that reflects in one or another way on one or both of their academic output. In these highly competitive times in which publication pressure and grant winning are pivotal, this is a rather unfortunate outcome.

Parenthood

While Australia has parental rights, those who choose to train in the USA are often left with little support without an encouraging mentor. The US Family and Medical Leave Act provides mothers with up to 12 weeks of unpaid leave to care for a newborn (Forsyth 2017). Fathers, on the other hand, will have to take up their sick, vacation, or unpaid leave if they wish to spend time with their child. For those working abroad, this can be a challenging and stressful time that is physically, emotionally and financially draining. From personal experience, some mentors who understand these stressors and want the best outcome for their mentees continue to provide both time and financial support for these new parents—although this seems to be the exception rather than the rule.

In Australia, despite being on short-term contracts, post-docs are somewhat protected by a University's Enterprise Bargaining Agreement (EBA) when it comes to maternity leave. The length of paid leave is contingent on the duration of service. For example, (1) if one has worked less than a year, then they will receive 1 week of paid leave for each month of completed service, (2) if they have served for 2 years or more then they will receive the full leave benefits. This often includes 22 weeks of full salary paid leave or 38 weeks at a reduced salary. In addition, all members of staff may also be entitled to take up to 52 consecutive weeks of unpaid leave.

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Until recently, fathers in academia have not been given much consideration over whether they also require the time to bond with their newborns and support their partners. This still remains the norm in the USA, for example. However, in the last few years, new parental leave entitlements in Australian EBAs now allow fathers to have almost the same leave as mothers which is a most welcome addition that undoubtedly will have a beneficial impact on the careers of mothers. See <https://www.fairwork.gov.au/leave/maternity-and-parental-leave>.

Planning for and returning from parental leave

The US National Postdoctoral Association (NPA) provides a straightforward guideline on parental leave rights regarding how to approach supervisors and developing a back to work plan (see <https://www.nationalpostdoc.org/page/MaternityLeave>). While some aspects are limited to the USA, as a whole, the NPA provides useful advice for post-docs around the world. Taking maternity leave is, in essence, a three-step process:

- (1). Discuss taking leave with your supervisor well before the due date,
- (2). Develop a plan to ensure maximal productivity prior to taking leave (e.g. handing over experiments) and
- (3). Have a plan in place for when and how you will return to work.

The cultural expectation of academia is one that imparts a feeling of stress and guilt if one decides not to work during maternity leave. This is especially true of post-docs whose training period is short to begin with, and whose leave impacts one's CV and lab productivity. However, the importance of the “family first” mantra holds true. Family forms the core around which all else is built. And one must remember that maternity or paternity leave is no vacation. It is full of new experiences, challenges and sleepless months with minimal time to one's self. Exhaustion severely limits one's ability to be scientifically creative.

For those who chose to work abroad, the need to return to work at a much earlier date is usually a balancing act between maintaining academic productivity and catering to the needs of the newborn, family and friends. The challenge of focusing on complex tasks over long hours and balancing such undertakings as breastfeeding often takes up much more time than expected. Therefore, appropriate maternity/paternity leave is needed to provide parents with peace of mind, time to recover and time to bond with their newborn. These are important to ensure physical and emotional stability, ensuring successful and productive outcomes upon returning to work.

Returning to research after maternity (and paternity) leave is always a hurdle, so having a plan is essential (Rimmer 2018). Sometimes this comes in the form of a soft transition;

working part-time for the first weeks or going back full-time but working several days a week from home. Grant writing and paper writing, for example, can be done from home and the direct supervisor can be instrumental in having a back to work plan into place. Some universities provide Career Advancement Funds to support, re-establish and advance research careers for mothers after extended absence as one might miss out on grant cycles. In addition to workplace challenges, it is always important to consider childcare options before taking maternity leave. Childcare is an essential part of a return to work plan and is notoriously challenging to achieve (Rimmer 2018). For the lucky few, some academic institutions have a process in place in which institutional childcare solutions are a part of the back to work plan.

Returning to Australia after post-doctoral training

The decision to return to Australia or remain abroad is one that is not made lightly. In Australia, stable if not tenured (i.e. continuing) academic positions are few and far between. Additionally, stable industry-based research positions are increasingly difficult to find, and industry-academic-linked funding is limited because much of this development is carried out offshore. Opportunities for academic research scientists are very limited due to overwhelming competition. Moving from one post-doc position to another involves successive short-term contracts and lacks the security needed for a developing family and career. Other options include working as a research support person, such as a technical officer, a position with limited time and resources for creative research. Some, eventually, disappear entirely and make a career move into teaching or administration (O'Brien and Hapgood 2012). This is rather unfortunate knowing the loss of tax payer money that is involved in this. It is a hidden form of brain drain that hampers Australia's scientific fabric. Higher education (i.e. research-led education) is one of Australia's biggest exports.

Finding an academic position

Unfortunately, for many university institutions in Australia, entry academic positions have shifted to short-term contracts typically lasting 1–3 years. In science and medicine, this often entails a combination of teaching and research. From the perspective of a junior investigator, 3 years is not a sufficient length of time to establish a laboratory, meet the requirements to supervise research students, assemble complex equipments, develop protocols, collect data, and be productive. One must try to establish sufficient ongoing research projects with external collaborators as a post-doc to maintain productivity while setting up for the next phase of academic development. Many departments use their junior appointment to carry very

large undergraduate teaching loads while attracting and training new students.

Continuing or tenure-track positions that were once available after a PhD and subsequently, post-doctoral training, are hard to come by. It is not uncommon for the same positions, especially continuing ones, to be readvertised multiple times within a 12–18-month period if a suitable candidate has not been found. With increasing numbers of PhD fellows graduating each year, there is—to some extent—inflation present and too many candidates to choose from. An explanation for the high number of ghost advertisements which all have huge demands and unrealistic expectations several years out of a post-doctoral stint.

Shortlist and advanced preparation

For the research academic, returning to Australia in the hope of finding an ongoing combined research-teaching position is a challenge. It is most advantageous to, at the very least, have a mentoring plan in place that increases the chances to become an academic with realistic future work perspectives. Many ongoing positions tend to be teaching heavy with very little support for research despite advertising that both areas in their selection criteria need to be addressed. The typical balance of 30% teaching/50% research/20% community service is often lacking.

Once shortlisted, the candidate is asked to attend an interview and sometimes give a presentation to address the key criteria sought by the selection committee. Candidates must grasp the guiding principles and vision of the university, the school and the department. For example, is your appointment to support a new teaching program? Is the school looking to expand to new location? Do they require someone to enhance their research portfolio?

After being shortlisted, early-career applicants should try to understand what they are getting into. The first opportunity to do so is at the end of the interview. While this is an opportunity for the selection committee to ask the candidate questions, the candidate will also have chance to ask a few key questions. These often provides the committee with important insights into the candidate's thinking and interests, but also about their research endeavours. Unfortunately, often, research is considered to be a loss in income for a University in which the revenue is largely dictated by teaching income. In essence, there is nothing wrong with that as long as the upcoming junior academic has the opportunity to establish herself as an all-round academic 'researcher'.

In conclusion, never be afraid to ask questions to ensure that you are a good fit into the faculty, department and/or school. It is essential to communicate your thoughts and concerns to the chair of your selection committee, especially if you are offered a position. While we cannot be picky about the position given the current climate, one has to be satisfied that

the position offers development opportunities covering all aspects of academic life. Higher education cannot survive without successful research academics. Teaching-only pathways should be discouraged and the dissemination of research progress towards the community (e.g. politicians, high schools, Australian people) encouraged.

Concluding Remarks and Future Outlooks

The transition from a PhD graduate towards an established research academic is a major hurdle for many. Women especially seem to be more affected than their counterparts—this is an unfortunate observation (McConnell et al. 2018). Despite the recent changes within Australia's tertiary institutions to increase the uptake of young talented (female) researchers into academia, we still have a long way to go. See (Rouse 2017) a perspective article from a young female scientist. After all, one can pose the question whether a PhD graduate has to go overseas for a postdoctoral stint to become successful within the Australian academic landscape? Fine-tuning of existing career pathways may be necessary, or alternatively, PhD programs could be adjusted with a focus on future job perspectives. For those who still are still knee deep in the trenches, an excellent and freely available resource is a book series titled 'Career Advice for Life Scientists' published by The American Society for Cell Biology with numerous contributions from successful researchers and academics, <https://www.ascb.org/career-publications/>. Finally, the issues addressed in this contribution are very timely, coinciding with two communications in the January issues of *Science* and *Nature*, outlining what can go wrong for the enthusiastic postdoc and why a postdoc might not advance one's career (Wong 2019; Woolston 2019).

Compliance with Ethical Standards

Conflict of interest Amy Li declares that she has no conflict of interest.

Ethical approval This article does not contain any studies with human participants or animals performed by the author.

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References

- Forsyth SJQ (2018) Bringing up baby under the FMLA: how the Federal Unpaid Maternity Leave System in the United States will not carry to term notes. *Wm & Mary J Women & L* 24:379–414
- McConnell SC, Westerman EL, Pierre JF, Heckler EJ, Schwartz NB (2018) United States National Postdoc Survey results and the interaction of gender, career choice and mentor impact. *Elife* 7. <https://doi.org/10.7554/eLife.40189>

- O'Brien KR, Hapgood KP (2012) The academic jungle: ecosystem modelling reveals why women are driven out of research. *Oikos* 121:999–1004. <https://doi.org/10.1111/j.1600-0706.2012.20601.x>
- Rimmer A (2018) How can I safely return to work after maternity leave? *BMJ* 360:k1053. <https://doi.org/10.1136/bmj.k1053>
- Rouse CK (2017) A career in biophysical chemistry beckons: thoughts on the beginning of a journey from a young female scientist. *Biophys Rev* 9:5–7. <https://doi.org/10.1007/s12551-016-0245-3>
- Schiebinger L, Henderson AD, Gilmartin SK (2008) *Dual-career academic couples: what universities need to know*, 1st edn. Stanford University, Stanford
- Wong VSC (2019) Lessons from a postdoc gone wrong. *Science* 363:314. <https://doi.org/10.1126/science.363.6424.314>
- Woolston C (2019) Why a postdoc might not advance your career. *Nature* 565:125–126. <https://doi.org/10.1038/d41586-018-07652-y>