Embarking on an adventure 1 of early career academic leadership

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Abstract

Leading a research group as an early career researcher (ECR) in academia, presents many challenges. Firstly, it imposes many additional pressures on individuals, causing a fear of missing out on a great opportunity that could advance your career. Together, the unsettling nature of short-term or temporary contracts, lack of guidance and the imposter syndrome can trigger a crisis in future leadership. Most leadership positions at the universities are held by senior colleagues. ECRs have modest input in the decision making, due to a requirement for a specific leadership training and experience with oversight that precedes suitable decision making. The turbulence of the unprecedented world Covid-19 crisis has been felt disproportionally by many researchers, intensely by those with caring responsibilities.

In the current academic climate, navigating either between your postdoctoral or fellowship project, leading others, taking strategic project directions, mentoring, or networking, may feel like too much. This editorial expresses views on the current state of the matter in academia with suggestions for helpful strategies to employ to meet the research endpoints. It also addresses some challenges new PIs and academic leaders may face due to external or institutional change and provides some tangible advice with action points.

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Good scientific leadership early on in academic career requires a significant discipline. Leading a research project in academia requires a strenuous juggling act and both male and female colleagues, could face similar challenges. However, the global pandemic due to COVID-19 has brought significant uncertainties, which exacerbated the gender difference and challenges associated with scientific leadership (Ahern and Loh, 2021). What does a sustainable leadership look like if you are feeling trapped and how can you employ clear strategies to meet research endpoints? This article will address the two main challenges which new PIs and academic leaders are faced with. It would provide some tangible advice to mount an active response early on in your leadership role.

Challenge 1: How to lead as an early career academic?

The academic journey of an early career researcher (ECR) comprises a wide range of research experiences, a solid training, success with publishing and experience in embracing failure. Securing a renowned personal fellowship and becoming a principal investigator (PI), brings a high level of stress and pressure, which strongly depends on the context in which you operate. Although the modern university system recognizes many of these pitfalls and guides academics to pave their career path, not every sector within the university (e.g. HR and promotions, finance, management etc) moves at the same pace forward to offer the support needed by the academic leaders. The pre-pandemic climate had already set certain perceptions of how poorly the neoliberal university system was perceived amongst its academics (Urbina-Garcia, 2020). With the Covid-19 pandemic the gender inequality between male and female colleagues was further exposed (Dang and Viet Nguyen, 2021). The COVID-19 pandemic had disproportionally greater impact on female researchers, who

62 felt unsupported to meet research objectives, doing remote working, whilst shouldering more of the
63 household and/or childcare duties (Jebsen JM, 2019, Malisch et al., 2020).
64
65 Specific transition from a postdoc or ECR stage, onto a tenure track, is a tough crossroad. Here, many
66 ECR academics are seen relentlessly adopting multiple performance hats, ranging from being team
67 managers, project leaders, research support, data analyst, negotiators, interviewers, editors, writers
68 etc (**Figure 1**) thus gaining the experience and soft skills to progress in their role.
69
70 The pressure on individuals to sustain a successful academic career beyond securing tenure does not
71 ease with seniority either. However, low levels of well-being and poor coping strategies have
72 repeatedly been reported amongst the ECR groups (Urbina-Garcia, 2020). Such effects arise from
73 the short-term contracts, parallel clinical engagements, limitations of the length of contract for
74 submitting a project grant to the funder, but also the ongoing impact of the pandemic that could
75 cause a lack of a significant funding award over time or a burnout. All these, combined with managing
76 research at a high pace and a limited lab income, can be very stressful for decision making. Due to
77 apparent lack of business and leadership skills amongst academics, there is even a greater demand
78 for training them to fully realise the potential of this situation (Haage et al., 2021). In response to the
79 pandemic and ongoing challenges with delivering academic research, many resilient leaders have
80 debunked the academic barrier by securing a biotech or industrial post to prosper their careers
81 (Gould, 2022).
82
83 For the ECRs, the job security is a threat and limits motivation, due to lengthy time to transition from
84 fixed to an open-ended contract. Strategic fulfilment of transition time with unique research ideas

and projects that encompass your niche is advised. Equally, having an open mindset to spread far in your topic and leadership endeavours could work against you. Lastly, the lack of readiness to confront challenges of solving increasingly complex issues speaks of a dire need for engaging ECRs in a more collaborative leadership and management tasks.

Challenge 2: Successful leadership when feeling trapped

At an early stage the ECRs could be expected to propose a solid programme of research with a long-term vision. This could feel unnatural and a tough challenge especially if you have just secured personal research fellowship. Having some clear scientific ideas and a peer support can be the key. Understanding how you lead your projects will bring you a better sense of control over your research scope and empower you to grow your team. For example, gathering further pilot data on top of recently published manuscripts could look like futureproofing, but it could attest to your clear leadership style to secure a grant application next. The grant funding calls are extremely competitive, and many find themselves re-submitting revised proposals and gathering more pilot data. This conundrum could go way beyond completion of fellowship due to improbable funding landscape and a dire urge for publishing (see Table 1).

In the current research landscape, there are grand demands for external funding at any level of seniority, thus creating a mismatch between existing ECRs and new recruits, who often also bring surplus funding (a fellowship or high-IF paper). Moreover, to meet any chance of an individual securing a tenure position, the system relies on a regular and significant cash injection (project grants, high impact paper, equipment or pump priming funds) – a task hard to attest to even many experienced awardees. Skilful turning of research funds into solid publication, is the highest measure

of productivity, and that requires time. Perhaps a sensible way to bridge any transition times is to involve service facilities and collaborators in your project. This can help you to temporarily sustain the pressure and successfully meet some research endpoints.

Establishing and running a research group is a process that often reveals who you are. It exposes your natural strengths and abilities to lead others. Hence, authenticity in being yourself around the people you work with as well as remaining flexible as a leader is the key to successfully navigate research challenges. The current university system may hold ambiguity and conflicting messaging on requirements for a successful PI. Whilst the work of ECRs is valued solely on their performance and academic outputs, genuinely, there is a great demand for ECRs as efficient academic leaders and managers (see Table 2).

Available Research Support for ECRs

It is deemed that only through relatedness and self-determination, many ECRs wriggle their way forward in an academic world. With the tenure entries raising the bar higher every year (Stringer, 2019), the researchers are responding by being overworked, or displaying a desperate leadership style. Over the past 5 years many universities have opened to help early leaders navigate their research by tackling some of the issues that fall under the remit of the Research Excellence Framework (2022). In Scotland, both the University of Edinburgh and Glasgow have built in a responsibility for improving the research culture that started with an action plan to redesign promotion criteria (Casci and Adams, 2020). Many changes were implemented to support researchers in their leadership roles, be it provide soft skills development programme, funding for

teaching qualifications, support for networking or an early care funding when attending training or a conference.

The biggest recognition and support for research leaders and their careers came in late 2019 in a form of a Researcher Development Concordat. The Concordat has set out specific principles on definition of ECRs as both 'researchers" and "managers of research", and drew action plan, including highest standards for rigour and research integrity. Many UK universities followed in these steps as the signatories of Concordat since February 2020. Next, the San Francisco Declaration on Research Assessment (https://sfdora.org/) came in, embracing more fair and reliable approaches for research assessment, although the senior management will still go by the traditional criteria of assessment (Elizabeth, 2020). Favoured practical approaches that help us re-imagine a more positive and healthier research culture include the following schemes:

- Universities mentoring schemes
- EDI (equality, diversity and inclusion) and REC by Wellcome Trust and UKRI
- Vitae research development support, and Inkpath
- Emerging Research Leaders Development Programmes
- Resilient Leaders Development Programme

Role models and active participation

Many ECRs might have been inspired to pursue a career in research upon securing first large travel grant to showcase final PhD work. Whilst working around successful and inspiring mentors, ECRs may look up to them as role models to follow in their footsteps. However, a typical ECR experience confers that success does not come overnight, nothing is promised, nor does it all come at once. A settlement for a remunerative and highly skilled job (i.e. postdoc) breaks with a realisation that it is

only a temporary post. Such is the landscape of an early career in academia. However, an aspiring ECR is given a chance to excel quickly in a temporary post, by grasping what the role requests, already planning their next step, investing additional time/effort to pave the way to a desired research post. The coaches and mentors can help you grow as a leader, get inspired to perform but having a short- and long-term vision for your own career is the key. Academics are naturally cautious and discerning, yet honest conversations with a trustworthy mentor/coach can be very healing (see Table 3).

Here are some of the actions to consider before embarking on an academic career:

- What drives you to do independent research?
- What empowers your confidence for research?
- What opportunities are there to fill in the learning gap?
- What it feels like presenting your science in front of an audience?

What does a sustainable ECR leadership look like?

Leading a team can feel best when you are in a natural in a position that provides you inspiration. One can lead by curiosity, by principle, creativity, inspiring others to act, or demonstrating the commitment to achieve certain goal. The importance of finding the right environment to thrive in is all, but not even academia will leave you free of management, networking, mentorship, negotiation duties, empowering your team or a need for a vision (Haage et al., 2021). Striving for lab funding may run together with re-submitting the revision of your manuscript and care and recognition of your team members. Not overreacting to the overload with such tasks but growing your mindset and behaviour that helps develop a response to each situation is where the change starts; as well as onboarding somebody who can carry part of managerial burden. The abundance of responsibilities and juggling of multiple leaders hats at pre- or early tenure comes with caveats for wellbeing and

burnout, especially with the extraordinary demands placed by Covid-19 (Gewin, 2021). Some selected values for safeguarding researchers' mindset are given in ***Figure 2*** and ***Table 4***.

Whilst adapting to leading a research lab, academics are faced with more questions than answers on what actions give success or secure some stability. The current university system offers limited solutions to this end too, but rather feels like an adventure to first embark on, then figure out the details later.

Concluding thoughts

Aspiring to an image of research excellence in a PI, that fits the requirements of the current academic system, has already had negative impact on the wellbeing of researchers (Urbina-Garcia, 2020). The motivation for an academic post can be lost over time if individuals are not (yet) tenured, and a wave of big departures from research has already hit academia (Gewin, 2022). Universities need to harness more transparent criteria on who they select to progress to ECRs, to tenure or successive upgrades. Equally, the current rules of engagement of ECRs with their tenure objectives or endpoints for promotion need to be embedded as a standard practice, to verify a credible intention of any tenure scheme that lasts beyond the next REF. Introducing a career pathway for research scientists would be welcomed by many researchers at any university (Casci and Adams, 2020). Colleges and Universities must act fast to salvage the investment made thus far in a solid training of PhDs and postdocs before contributing further to rampant dropout rates from academia. This is further supported by an apparent paucity of qualified researchers for recruitment to academia (Woolston, 2022).

198 It is apparent the research culture within the current universities system is overdue many changes
199 and rethinking (Leyser, 2020). Just improving the soft skills or your leadership style does not
200 guarantee you a success with securing university positions. More, the whole process excludes
201 translational innovators with limited grant or publication records. Hence, retaining more researchers
202 in the academic system, whilst promoting their research efficacy and excellence by allowing time to
203 enhance their outputs is a way forward. The highly innovative leadership concepts seen in industries
204 and start-ups, corporate or customer-lead roles could be adopted and tailored to academia. This
205 could mount a good response for better engagement of academics and researchers in teaching
206 posts, research spin off ventures or tenure tracks. In all, there needs to be a coordinated effort
207 between universities, publishers, the government, and funders to implement changes across the
208 research community.
209
210 Reflecting on high skills of scientists, it is important to keep aware of the opportunities and
211 success stories of individuals who have secured leadership roles elsewhere in society (Bankston et
212 al., 2020). Hence, when the scientific research environment becomes a ground for survival, many
213 other career options remain available. Submitting different applications, going through the
214 interviews with start-ups or research grant submissions hold a huge power. Just going through the
215 process may lead to you feeling empowered or finding a spark, above the disappointment of the
216 outcome or the insecurities of a career transition (away from academia). For those who decide to
217 remain in academia, but require a specific development, tailored leadership, coaching programme,
218 or further enhancement of soft skills, that is ok too! It is important to have the courage to explore
219 your choices and find your own path.

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FIGURE LEGENDS

Figure 1. Early career researchers (ECRs) wear multiple hats as leaders from early on in their careers. To perform well and remain successful as leaders, the ECRs adopt the roles of team managers, project leaders, specialists in the field, negotiators, research support, data analyst, interviewers, presenters, writers, graphical and text editors as well as entertainers and parents. Image created with Biorender.com

Figure 2. Safeguarding a researchers' mindset. To prevent any burnout due to named soft and hard skills that researchers have, a wellbeing is to be adopted and a clear mindset created. Image created with Biorender.com

DECLARATIONS

T. Mitic is a research fellow at the University of Edinburgh, not tenured principal investigator, and a research group leader.

CONFLICT OF INTEREST

Tijana Mitić is a Senior Editor to JME. She is Society for Endocrinology Leadership and Development awardee for 2020 and a Science Committee member.

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Table 1. Actions that could inspire successful publishing:
1. Have clear choice of journal where your work fits best
2. Familiarise with the scope of journals in your area
3. Persist with writing cover letters with a unique selling point (USP)
4. Establish a connection with editors at meetings & conferences
5. Believe in yourself and your research

Table 2. Desired actions and qualities in ECR leaders
1. Express your ambition: Aim for specific Fellowship and progress to it.
2. Familiarise with criteria for university promotions.
3. Speak up of your research and disseminate findings
4. Work on your visibility:
○ Develop team webpage
○ Express clear research vision at relevant meetings
○ Engage with industrial partners
○ Deposit data in relevant open access research repositories (e.g. Dryad, Zenodo)
○ Track/cite outputs using digital object identifiers (DOIs)
○ Regularly update Linkedin profile to reach to other leaders
○ Find your voice (e.g. express it via blog or on Tweeter)

Table 3. Motivational encouragement and actions for ECR leaders
1. Avoid getting side-tracked
2. You got here through your own effort
3. Read people and their poker faces
4. Avoid being put down
5. You could be worth more than what told
6. Consult a *Mentor*/*Coach* as a sounding board

Table 4. Checklist for safeguarding researchers' mind:
√ Surround yourself with like-minded people
√ Seek people who share the same values as you
√ Keep visibility via different media and platforms
√ Share research ideas openly
√ Bring answers about an issue you are passionate about.

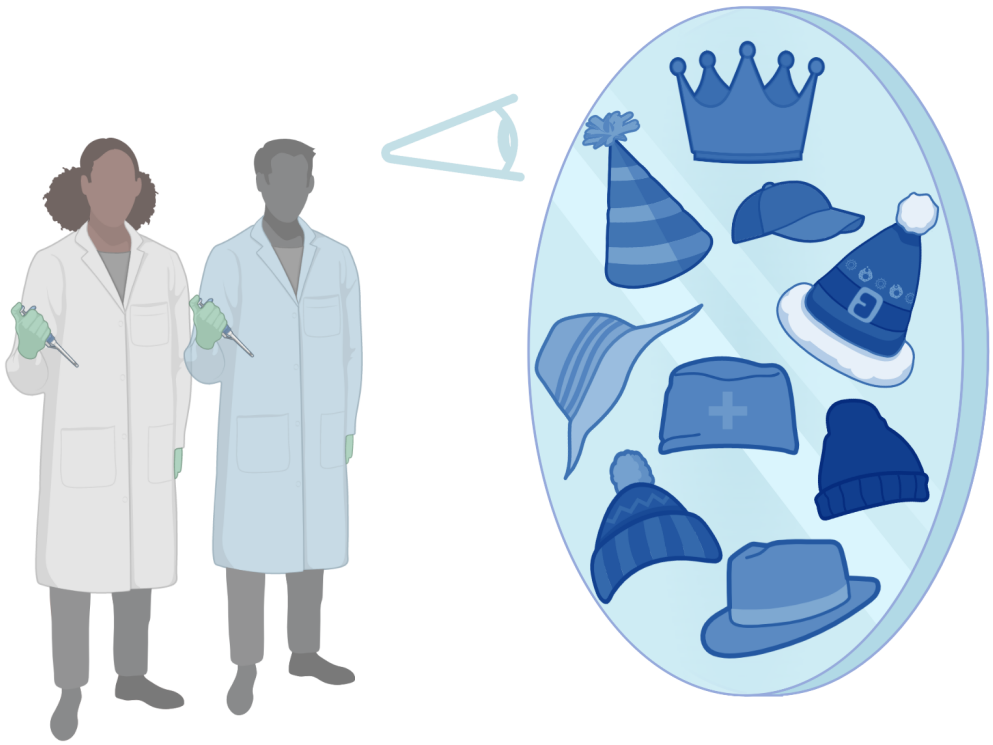

Figure 1.

Early career researchers (ECRs) wear multiple hats as leaders from early on in their careers. To perform well and remain successful as leaders, the ECRs adopt the roles of team managers, project leaders, specialists in the field, negotiators, research support, data analyst, interviewers, presenters, writers, graphical and text editors as well as entertainers and parents. Image created with Biorender.com

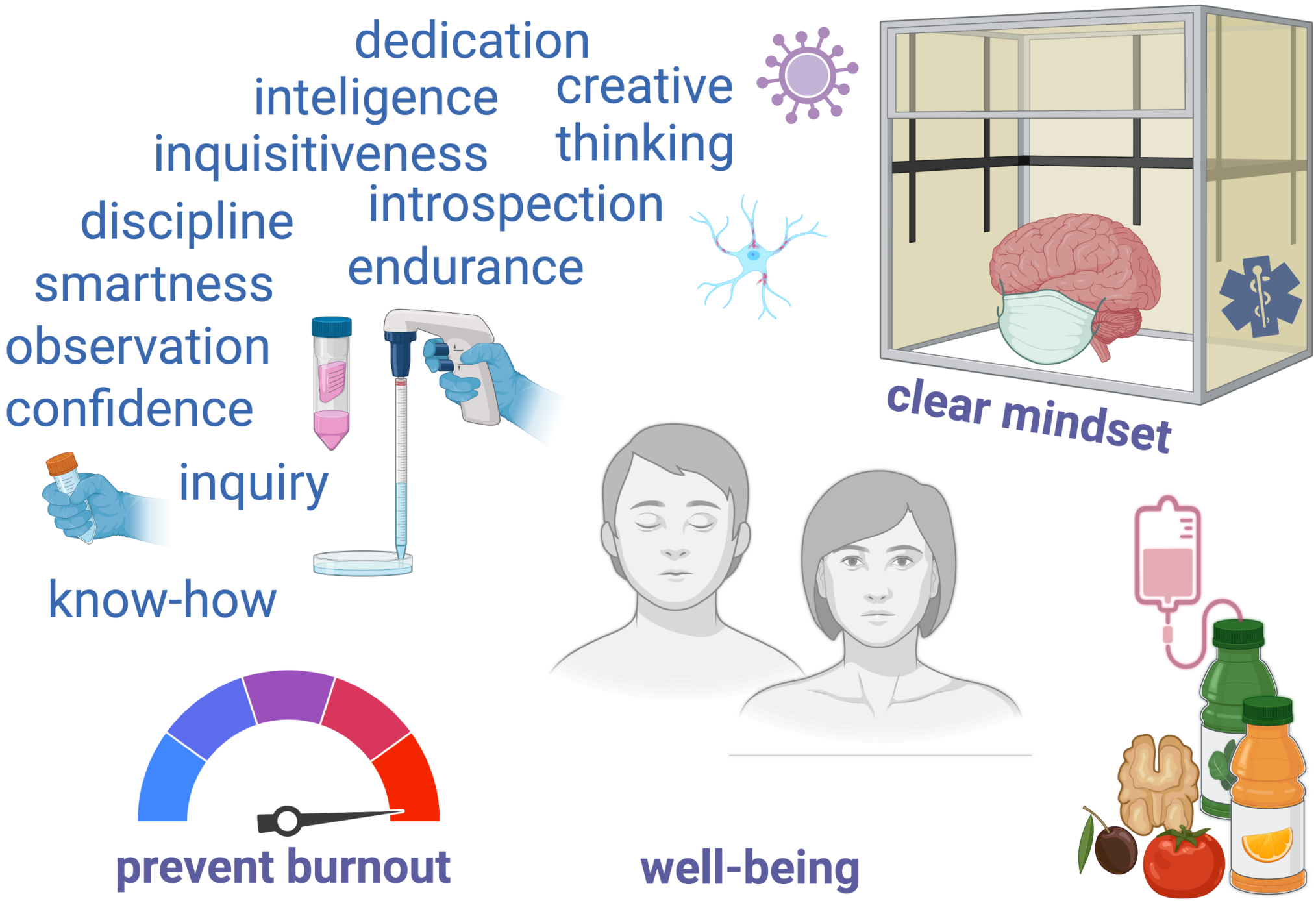

Figure 2. Safeguarding a researchers' mindset. To prevent any burnout due to named soft and hard skills that researchers have, a wellbeing is to be adopted and a clear mindset created. Image created with Biorender.com