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ORIGINAL ARTICLE

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The well-being and mental health of doctoral candidates

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Abstract

After a long period of relative neglect, the mental well-being and the mental health of researchers and employees in academia are increasingly entering the limelight. The growing body of evidence suggests that a high number of doctoral researchers work under elevated levels of stress and frustration, and that this has a significant impact not only on their personal health and research output, but also on their future career development. In this paper, therefore, we first discuss what a dystopian and a utopian learning journey of early career researchers may look like from a well-being perspective. Subsequently, and based on extensive dialogues with more than 250 researchers and professionals active in the researcher mental health domain, we highlight a number of key focal points that both early career researchers, their supervisors, and institutions alike should consider when it comes to planning and delivering mental health oriented educational activities for doctoral researchers.

1 | INTRODUCTION

Career sustainability has been defined as "the sequence of an individual's different career experiences, reflected through a variety of patterns of continuity over time, crossing several social spaces, and characterised by individual agency, herewith providing meaning to the individual" (van der Heijden & De Vos, 2015, p. 7). If one is willing to entertain the idea that there is a positive relationship between researcher well-being and the sustainability of research careers—so that the better researchers fare in terms of well-being, the more sustainable their research

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careers are—there is something unsettling about the PhD degree as a gateway to academia. Indeed, although a PhD is a necessary and major obstacle to be cleared in accessing the vast majority of careers in academia, it is by no means sufficient nor in any way a guarantee for continuity over time, at least not in the social space of academia. For instance, in the Netherlands in 2018, only one third of employed PhD graduates were working in academia (CBS, 2020). Likewise, Cornell (2020), based on different secondary data sources, reports that although 67% of UK PhD candidates *believe* they are most likely to pursue a career in academia, only 30% of PhDs are still in academia three years after graduating. Given that many current academics are likely to have originally entered academia out of a sense of calling (Antal & Rogge, 2020), the fact that up to two thirds appear to end up elsewhere can be taken as indirect evidence that many dreams are being shattered sometime between PhD enrolment and graduation (or soon thereafter). These figures are compounded by recent data showing that across the board, half of PhD students experience psychological distress; which may be defined in terms of negative mental health states such as anxiety, depression, and loss of behavioural or emotional control (Veit & Ware, 1983). One third are at risk of developing a common psychiatric disorder, and—nontrivially—that organisational policies were significantly associated with the mental health problems that these junior scholars experienced (Levecque et al., 2017).

Combined with exposure to structural overwork (Frei & Grund, 2020), an increasing prevalence of fixed term contracts (Passaretta et al., 2019), supervisory abuse and exploitation (Cohen & Baruch, 2021), and a hyperinflation of performance standards yielding the notion of the perfect academic as the "sheep with five legs" (Bal et al., 2019, p. 291), it appears that pursuing the PhD may not be the best choice when seen from a sustainable mental health perspective. Indeed, in light of the overwhelming evidence of the poor work conditions that many of these young academics face, one can only wonder how many of them might qualify as being subjected to labour exploitation in the legal sense of the word. Whatever the causal factors, there is a clear moral imperative to do better, by our most vulnerable colleagues, on the part of universities, policy makers, and PhD supervisors. Whether young graduates stay in academia or not, there is work to be done in terms of improving working conditions on the one hand; and providing young scholars with a realistic career preview and investing more in the development of their transversal skills (including the management of their mental health) as part of their onboarding process and training, on the other. Indeed, although universities ultimately retain presumably the *crème de la crème* of their early-stage researcher talent pool, that does not absolve them of the responsibility to treat all early-stage researchers benevolently, and with respect and dignity (Bal & De Jong, 2017).

Fortunately, the mental health issues that researchers face, and the mental health of doctoral researchers in particular, have been gaining increased traction in terms of recognition and attention. For instance, in 2019, the Future of Work and Organisational Psychology (FOWOP) movement published its manifesto (Bal et al., 2019). Recommendations in the manifesto included that we have responsibilities (1) to protect our own well-being; (2) to protect junior colleagues often in unstable and precarious positions; (3) to break the silence there where it comes to the culture of alienation that many academics experience in universities and to question current practices and dominant structures at universities, and (4) that supervisors and managers must prioritise the sustainable well-being of individuals in the way they manage and organise work. In a similar vein, the Declaration on Sustainable Research Careers (Kismihók et al., 2019) that was published by the Marie Curie Alumni Association (MCAA) and the European Council of Doctoral Candidates and Junior Researchers (EURODOC), signals the mental issues of early career researchers, and calls for the provision of adequate support and mentoring (see also the ReMO Researcher Mental Health and Well-being Manifesto, Kismihók, Cahill, Gauttier, et al., 2021). The ReMO project—in the framework of so-called *COST Actions* organised by the association for European Cooperation in Science and Technology (the COST Association)—provides a series of recommendations for tackling the high prevalence of mental health issues at the macro-, meso-, and micro-levels (Kismihók, Cahill, Gauttier, et al., 2021).

Although such calls and recommendations are timely, it remains to be seen when, and to what extent, these will be enacted by university management, policy makers, and supervisors. Meanwhile, efforts may also need to be undertaken to prepare and equip junior scholars with the skills that they need to successfully navigate an organisational context that ultimately threatens their well-being and mental health. Although clearly this approach comes at the risk of *blaming the victim*, doing nothing is not an option. It is against this backdrop that the current

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article first presents a dystopian and utopian perspective on the doctoral learning pathway, before analysing the outcomes of a series of workshops in academia focusing on mental health that were carried out in the context of the ReMO project with the specific objective of improving researcher well-being and education.

2 | LEARNING JOURNEY AND MENTAL WELL-BEING—A UTOPIAN AND DYSTOPIAN INTERPRETATION

Emerging from both our literature review and interactions with over 250 researchers (via SWOT analyses and workshops), we present Figure 1 as a visual summary of what we have termed both the utopian and dystopian journey of the PhD lifecycle, which may directly impact doctoral graduates' careers and life. Considering that pathways beyond the PhD are often inconsistently addressed by supervisors and institutions, the question is to what extent stakeholders assess and address the cumulative impact of key PhD lifecycle factors on the overall well-being of the candidate. From the outcomes of our initial literature review and data collection with researchers, we tentatively suggest that there are four key factors within this journey—awareness, work demands, stigmatisation, and resources—whereby a cascade of effects can lead to either a dystopian or utopian experience. To provide an insight into our operationalised definitions of these four factors, the following evidence-based explanations are offered as a rationale for isolating these factors and not others:

2.1.1 | Awareness

Levecque et al. (2017) have observed the prevalence of mental health issues, from which follows a requirement to increase multi-stakeholder awareness of mental health and well-being metrics, and the social, cultural, political, and economic consequences.

2.1.2 | Work demands

Melin et al. (2014) as well as Winefield and Jarrett (2001) have studied the link between problematic work demands and mental health outcomes and the social ecosystem that surrounds the individual in the context of supervision. They note there is often a need to refocus supervision in terms of clarity, load, and appropriateness of assigned tasks.

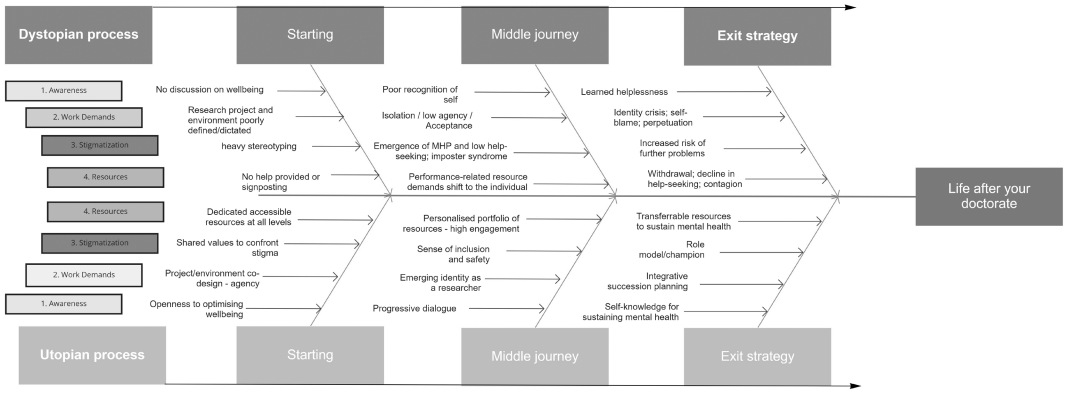

FIGURE 1 The dystopian and utopian doctoral learning journeys through a well-being lens. *Source*: Authors. [Colour figure can be viewed at wileyonlinelibrary.com]

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2.1.3 | Stigmatisation

Byrd and McKinney (2012) as well as Gaddis et al. (2018) have shown the multilevel manifestations of stigma—negatively viewing and/or (in)directly discriminating against those expressing or experiencing psychological difficulties—and the knock-on effects of such stigma across social ecosystems are well recognised across disciplines.

2.1.4 | Resources

Saxena et al. (2007) highlight the role of clearly signposted resources that are specific to the psychological issues of the individual—personalised, specialised and clinical where necessary, available in different formats, and valued within the overall context, for improving outcomes.

Supported by the most recent literature on these factors throughout the starting phase, middle journey, and exit strategy of the PhD lifecycle, we collate the interconnected issues that can, over time, intensify and ultimately shape the direction of an individual's personal and professional life. By taking a future-oriented holistic perspective in knitting together all potential variables of interest, stakeholders can better understand when, and where, to intervene and to adapt policy accordingly.

2.1 | The dystopian reality—What supervisors and institutions do not tell doctoral researchers about

In this first instance, central to many mental health problems and indeed poor working relations is a low level of awareness related to the issue. Across not just regions, but also disciplines, there are highly variable levels of awareness, conceptualisations, and discussions about mental health and well-being (Abdullah & Brown, 2011). Consequently, the absence of dialogue or low levels of awareness promotion can influence both stigmatisation and thus stereotyping—both of which can lead to a poor recognition of oneself and the emergence of mental health problems, the inhibition of help-seeking behaviours, and impostor syndrome (Martin, 2010). By the end of the PhD process, this can leave some individuals in a state of learned helplessness which serves to increase further risks (Lennerlöf, 2020). At times, awareness and stigmatisation are less clear at the day-to-day level, whereas work demands and available resources are sometimes more noticeably present. Where researcher environments are poorly defined wherein poor signposting for supportive resources also exist, the individual may suffer reduced agency, in addition to isolation and acceptance of this norm, or even the perils of self-stigma (raising the question *why try?*, Corrigan et al., 2016). Where such dynamics continue, a culture of withdrawal amidst self-blame and identity crises can arise—often in silence. It is interesting to note that within the emerging disclosure media from current (Ayres, 2022) and ex-doctoral researchers (Harbin, 2022), elements of these dystopian pathways are described as overcome hardships in literature sometimes referred to as *quit-lit* (McKenzie, 2021; Ross, 2020).

2.2 | The utopian reality—What supervisors and institutions should tell doctoral researchers about

In contrast to the dystopian pathway outlined, we equally can identify the important ways in which the same factors can manifest to produce a utopian vision of what the PhD journey could be. Beginning with awareness, there is widespread openness from both researchers and institutions about the role of mental health and well-being such that progressive dialogue can flourish over time, where all stakeholders acquire knowledge, enhance their awareness of fluctuating issues, and tailor their responses accordingly. Turning to work demands, where doctoral researchers are

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provided with clear and fair project demands in an environment where they can thus establish a sense of agency; it is far more likely that they will healthily develop their early career identity. Although the multidisciplinary understanding of stress and work demands is complex (Koutsimani et al., 2019), appreciating the need for transparent work demands for doctoral researchers will be essential as they plan later phases of their development. For stigmatisation, we suggest that where doctoral researchers share value systems with their wider network (peers, supervisors, and institutions), relating to the need to confront and challenge (un)known stigmas, a great sense of inclusion and psychological safety can prosper. Ideally, such bidirectional relationships can produce role models for tackling emerging stigmas across hierarchies both inside and outside academia. Finally, to support the ambitious scenarios outlined above, dedicated resources are required throughout all levels of academia—from supervisory support, to specialised evidence-based interventions. Sophisticated and updated systems to allow a personalised portfolio of resources to prevent, assess, and intervene where required can ensure high engagement. Should this occur, it is likely that doctoral researchers will transfer the benefits of such resources to future-proof their mental health into the future.

3 | METHODS

3.1 | Participatory design towards a well-being agenda

In order to identify the critical points that stakeholders of researcher mental health and well-being should consider, we analysed the discussion of members in the ReMO network (ReMO, 2022), between November 2020 and September 2021. ReMO stands for Researcher Mental Health Observatory (ReMO, 2022) and is funded by the COST Association with the goal of facilitating an international network focussed on facilitating cooperation in the field of researcher mental health between a growing network of more than 250 researchers, mental-health practitioners, research managers, policy makers, and other researcher mental well-being related stakeholders. ReMO acts to gather evidence of the prevalence of mental health issues among researchers and to assess the effectiveness of mental health interventions in the research workplace. The aim of this work is to affect policy and institutional level interventions that will lead to provision of mental health support within research workplaces, changes in governance within the European Research Area, and the adoption of best practices. In particular, the European Commission has recently recognised (European Commission, 2020) the need for a more comprehensive approach for recognising researchers' skills, enhancing mobility, promoting exchange between academia and industry, and providing targeted training opportunities and support services.

For this paper we analysed the outcomes of a number of discussion workshops and dialogues involving the members of the ReMO community and its three working groups, which represent the following three levels:

- Systemic level discussions (Working Group 1) are focused on the overarching research ecosystem level and include issues such as the policy framework of research, research funding or legal frameworks (national and international) of academic work.
- Institutional level discussions (Working Group 2) are focused on challenges pertaining to organisations and covering topics such as research culture, working conditions, researcher evaluation, and workplace hierarchy.
- Individual level discussions (Working Group 3) are targeted at personal and micro level (e.g., research group) interpersonal issues, such as peer-relationships, supervision, self-care and self-reflection.

Each of these three working groups of the ReMO network completed a three-cycle qualitative data collection process. A total of 68 people took part in this process. First all groups engaged for two-hours in a guided SWOT (Strength, Weaknesses, Opportunities and Threats) Analysis (Leigh, 2009) on their respective levels to identify core themes for their dialogues and future activities (Kismihók et al., 2021a). For this exercise all groups went through the following procedure:

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- Working groups were provided with empty SWOT matrices.
- Participants were randomly assigned to small parallel discussion groups. In four discussion rounds (one for each topic: Strength, Weaknesses, Opportunities and Threats, each lasting fifteen minutes) participants populated their matrix.
- Subsequently, through a plenary discussion the ideas recorded in the matrix were discussed, duplications and similar items were merged.
- As a result, the three SWOT matrices for the three working groups were finalised. These three matrices were subsequently synthesised to a project level SWOT matrix.

As a second step, the three working groups carried out a three-hour impact workshop (Harrison et al., 2021). These three workshops were based on the outcomes of the SWOT analyses and followed the *Impact+ Exercise* (Eramus+ UK, 2018) guidelines and methodology. This method was originally developed and recommended for the European Commission's Erasmus plus projects, but the ReMO community adapted it to its own needs. A total of 60 people took part in this process. In these workshops the following procedure was executed:

- First, participants established their impact targets for the ReMO network: the network (itself), the researcher, stakeholders, and the research system. These targets were derived from the methodological guidelines of the *Impact+ Exercise*, but participants tailored them to the context of ReMO.
- Participants, randomly assigned to small discussion rounds for brainstorming, identified the most important issues and topics for researcher mental health and well-being. They also associated those issues and topics with the impact targets.
- Outcomes were discussed in a plenary session with duplications and similar items (issues and topics) being merged.
- Participants went through a voting procedure. Every participant could distribute three votes across all topics and issues identified by all participants. Votes were counted and topics were ranked based on the number of votes they received.
- Participants discussed the ranking and generated an action plan for the ReMO Action project, which also served as a guide for research and intervention development to improve researcher mental health.

As a final step, the three working groups each carried out a two-hour workshop (Kismihók et al., 2021b) that distilled the results of the previous two steps into a message that could be summarised in the Researcher Mental Health and Wellbeing Manifesto (Kismihók, Cahill, Gauttier, et al., 2021). A total of 54 people took part in this process. In these workshops the following procedure was executed:

- In small discussion rounds, participants identified actions to prioritise within the Manifesto and the agenda of each Working Group over the lifetime of the ReMO COST Action project.
- Participants discussed the ranking of priorities. The results of this discussion formed the basis for writing the Researcher Mental Health and Wellbeing Manifesto (Kismihók, Cahill, Gauttier, et al., 2021).

For this article we thoroughly reviewed the outputs of these nine expert workshops (three SWOT, three Impact and three Manifesto Development workshops). We analysed the minutes of these workshops together with important outputs, such as, the SWOT matrices, identification, classification and participant ratings on topics, issues, and actions with promising impact. As a result, we distilled a number of key themes and actions, which are critical for developing a model of doctoral education that embraces researcher mental health as a key priority.

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4 | RESULTS

4.1 | Researcher training towards well-being

According to our analysis, the following points received a high level of attention when it comes to researcher well-being and doctoral education. Next, we illustrate these points with additional, related evidence from both academic and professional literature.

4.1.1 | Multilevel agenda to improve doctoral training

Raising awareness of well-being (Harrison et al., 2021) was raised as one of the key factors across all four levels of the Impact+ Exercise and by all three Working Groups. This was suggested as a way to address the stigma surrounding mental health at the individual and peer level as well as a way to place the issue on the agenda of stakeholders and policy makers.

From the data it becomes also clear that when it comes to mental health and well-being, a significant information asymmetry exists among different levels of the academic hierarchy. It is very difficult to accumulate and transmit signals of individual hardships of early career researchers to higher levels of the academic hierarchy (supervisor and manager levels). Furthermore, different levels focus on very different issues. For instance, discussions on the research policy level (beyond institutions) are mostly financial. On the institutional policy level, issues are usually research output oriented, which are hard to reconcile with the nature of the actual work performed at the individual level. In order to make a systematic change, a multilevel discourse is necessary to align agendas, jargons and viewpoints, as the available (financial) resources often do not match the expected outputs and the real requirements of particular research projects.

Even though at policy and institutional levels it is quite clear that available resources for research are not sufficient for the sustainable employment of early career research within academic environments (Kismihók et al., 2019), this is not obvious for researchers. There is a lack of clarity about possible employment trajectories, contractual boundaries, skill requirements, all contributing to the precarious environment of academics (Herschberg et al., 2018; Mortier et al., 2020; OECD, 2021). Furthermore, there is little multilevel discussion done on topics such as limited opportunities to climb the academic hierarchy, or the crisis of postdocs (Grinstein & Treister, 2018)—a position often seen as a dead-end career opportunity. This is problematic since the nature of research work is hardly ever short cycle (high quality research work can be seen rather as a marathon than a sprint), as opposed to current resource allocation practices (Initiative for Science in Europe, 2020).

Therefore it is strongly suggested to stakeholders of doctoral education to set-up and maintain channels of dialogue, in which they regularly exchange information on topics pertaining to resources allocated to research, career progression in academia and career opportunities of researchers outside of academia.

4.1.2 | Managing expectations about academic work

Another critical element that needs attention is the lack of awareness of researchers' working conditions, which has been also shown by a number of surveys (Beadle et al., 2020; Guthrie et al., 2017; Olsthoorn et al., 2020; Peukert et al., 2020; Van der Weijden et al., 2017). Researcher working condition issues range from short funding periods, temporary employment contracts, through services and the working environment provided by the hosting institutions for the idiosyncratic and very personal nature of the work that researchers actually do.

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The most critical aspect is to understand that research work is a very personal, intrinsically motivated, creative activity, where success is ill-defined. It is therefore critical to create those working conditions that support this type of work activity. A critical element of such working conditions is that decision makers and superiors of researchers are aware and understand how research is actually done.

We need to clarify on a personal level what are the actual tasks and responsibilities of researchers, with the involvement of colleagues and supervisors, who are associated with a particular research project. This clarification is important as tasks that can be considered as critical activities of researchers are quite wide-ranging. Besides doing the actual research it may also entail tasks such as teaching, organisation of events and conferences, administrative work, representation, networking, mentoring, and technical work on lab equipment. Managing a healthy balance of tasks that also serve the benefit of the early career researcher, the supervisor and the institution is critical. For this reason training efforts should not only focus on early career researchers and their employment and work aspects, but also on supervisors and research managers.

4.1.3 | Quality of supervision

One of the outcomes of the consultation process was that supervisors should be empowered to develop better communication and people management skills (Kismihók et al., 2021b). One of the major predictors of outcomes in terms of well-being, research output and sustainable career prospects is the quality of supervision (Cornér et al., 2017). There are a number of issues reported that are influencing the quality of supervision both from supervisors' and early career researchers' points of views (Devine & Hunter, 2017; Wisker & Robinson, 2016). Power imbalance between supervisors and doctoral researchers for instance is often observable, and influences how problems and challenges of early career researchers can be discussed. The lack of clarity on how supervisors should be approached, what is their precise role and how supervisors contribute (e.g., expertise, resources, network) to the aims and objectives of the research project are key (often unclear) challenges for doctoral candidates.

One of the key roles of supervisors is the active engagement in creating space (resources, funding, administrative procedures) for doctoral research. Therefore, on the one hand, it is obvious supervisors have tighter control over the resources of research projects but, on the other hand, they know less about the details of specific research projects. This information asymmetry is often hidden from early career researchers. Furthermore, the more research projects a supervisor manages, the less time that person can focus on the individual needs and problems of doctoral researchers. Regular meetings between supervisors and doctoral candidates have been shown to result in higher satisfaction, deeper cooperation and higher research productivity (Heath, 2002). Doctoral programmes can play a role in defining a framework for doctoral supervision and research group leadership that supersedes the relationship between any individual supervisor and doctoral candidate.

In the light of the above, in doctoral training, more emphasis should be given to explaining how local research teams actually work. This includes information on the clarity of functions (who will do what), responsibilities, means of communication, general principles for supervision, including giving and receiving feedback (a set of recommendations for establishing a good departmental leadership practice is in Davis et al., 2020 and in Reithmeier & Williams, 2020). It is important that all stakeholders of a research project are involved in this process (supervisors, doctoral candidates, and postdocs alike). It is also recommended that supervisors receive training and regular feedback on their supervision skills (McCulloch & Loeser, 2016), as the recently published Marie Skłodowska-Curie actions guidelines on supervision (Directorate-General for Education and Youth, 2021) also explicitly mentioned.

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4.1.4 | Training for jobs outside of academia

Transversal skills

One workshop participant suggested that developing the psychological capital of researchers would benefit from universities organising participation at job fairs for researchers. Also, that participating in job trainings organised by the institution, would contribute to this end. This could be further supported by investment in literature on job preparedness, and an exploration of perspectives on industry collaboration and other non-academic careers (Kismihók et al., 2021b). As recent evidence suggests, there is still very little effort focussed on transversal skills training of early career researchers (Kismihók et al., 2019; Weber et al., 2018), despite the fact that these skills are deemed to be critical for the successful completion of a research project or for career planning outside of the academic environment (Heuritsch et al., 2020). Issues such as time management, project management, networking, ethics and privacy management, data management, open science, communication skills (written and verbal), intercultural awareness and mental well-being related skills are important in all aspects of professional life.

Learning transversal skills mostly requires a career management angle, since—depending on a number of factors such as discipline or geographical location—around 70% of early career researchers, postdocs and tenure track researchers will need to leave the academic environment (Woolston, 2018). It is critical therefore to be aware of the individual career expectations and potential job opportunities beyond the contractual period of the research project (as also shown in the case of Schillebeeckx et al., 2013).

Again, supporting transversal skills development calls for an effort from all stakeholders of a research project. Supervisors, institutions and early career researchers all have their shared responsibility for this process, which requires continuous attention and strategic planning. Good practices (e.g., Gould, 2017) show that creating and maintaining a career development plan (and adding the topic of career management into the agendas of annual talks) through a doctoral (and postdoc) research project is an effective tool to plan and manage career expectations and associated self-development.

4.1.5 | Educational journey and researcher agency

As may be seen from the sections above, the educational journey of doctoral candidates in most of the disciplines and research environments in Europe and beyond is quite different from previous levels of public and higher education. Self-awareness, self-reflection, goal orientation, problem solving, active participation in designing individual and personal educational pathways are critical ingredients of an educational journey in doctoral education.

Personalisation of the learning journey requires therefore an increased ownership from the learner side (Kismihók et al., 2020). Doctoral researchers need to be aware that they are on an autonomous learning track, where they need to express their wishes, needs and expectations towards their learning (career) goals, as also reflected in the mental well-being lens of the Vitae Researcher Development Framework (Vitae, 2020). Exercising higher levels of learner agency is not that easy though, as this is not how (most) public and higher education works. Instruction in public and higher education is oftentimes driven by traditional frontal teaching methods and set, inflexible standard curricula. As a result, in general, student agency remains low at these levels of education (on student agency see Klemenčič, 2015).

To circumvent this problem, peer to peer and professional mentoring and coaching is an effective way to develop skills necessary to exercise ownership over personal educational pathways. The Referent project (Marie Curie Alumni Association, 2022) of the Marie Curie Alumni Association (MCAA) for instance is a good practice when it comes to bottom-up, researcher community driven peer mentoring.

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Digitalisation is also expected to play a significant role in the personalisation of doctoral education. When doctoral researchers are aware of their own needs and learning objectives they can turn towards intelligent, personalised learning environments for aid. For instance the OEduverse (Advancing sustainable research careers for graduate students through training in mental well-being, open science, and communication skills) project (OEduverse, 2022) is delivering online hackathons for researchers to craft their own research and working environment. Another good example is the OSCAR (online, open learning recommendations and mentoring towards sustainable research careers) project (OSCAR, 2022), which aims to develop personalised mental health and career management support for researchers (Kismihók et al., 2022). This is done by the combination of artificial intelligence based and personalised open learning content recommendations (Tavakoli, Faraji, et al., 2020, Tavakoli, Mol, et al., 2020) and peer mentoring (Tavakoli et al., 2022).

5 | CONCLUSIONS

In this article we discussed focal points that need to be considered in doctoral education and beyond to secure a healthier academic environment. The most important outcomes of structured and systematic dialogues in the ReMO project were presented and are also summarised for the greater public in the recently published Researcher Mental Health and Well-being Manifesto (Kismihók, Cahill, Gauttier, et al., 2021).

From our results we can conclude that there is a need to provide a positive approach that emphasises mental well-being and health, and not predominantly psychiatric issues. Researchers should be provided with localised resource hubs that host information and guidance on researcher well-being and include advice from their institutions (by for instance health professionals, psychologists and local health authorities). Institutions have a responsibility when it comes to supporting all stakeholders to have means to speak up and discuss their mental health. Researchers and academic staff members should be encouraged to report problems locally (e.g., to a mental health ombudsman, who should be appointed with clear guidelines for intervention) in order to create an open and personal environment where problems and hardships can be discussed.

Subsequently, new models for doctoral training programmes can include training in supervision skills for all supervisors. Tools should be provided to understand and effectively organise everyday work, and practice research team management. Furthermore, peer-to-peer mentoring was suggested as a scalable tool to build networks that support the mental health of researchers.

There is a clear need for policy initiatives that enhance the attractiveness of non-academic careers for PhD graduates and provide them with more relevant training and experience for pursuing employment outside of academic environments (e.g., in industry or government). For those who remain in academia after PhD graduation, there should be a clearer track to more sustainable and family-friendly career options. Our results also indicated that there is a need to assess how the priorities of research funders and policy makers define a research ecosystem within which institutions pursue policies that may damage the mental health of individual researchers. There is a need to revise the academic reward system, particularly with regard to rewarding academic service, mentoring and good supervision as part of individual performance reviews. Institutions could be assessed and accredited using criteria, such as, the time required to graduate and the drop-out rates of doctoral researchers.

One major limitation of this study is that the field still lacks reliable and systematically collected data on researcher mental health and well-being in Europe. As participants in the ReMO Community also pointed out, there is a clear need to establish clear evidence and understanding of mental health issues by assessing national situations with regard to specific challenges and priorities. Research is required to assess which mental health interventions lead to better results, in order to construct a comprehensive evidence-based policy guide for sharing best practices widely among all stakeholders in research environments.

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DATA AVAILABILITY STATEMENT

The data is publicly available online at Kismihók et al. (2021a, 2021b) and Harrison et al. (2021).

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