encyclopedia

MDPI

Entry

Supporting Doctoral Students in Crisis

Jennie Golding

UCL Institute of Education, University College London, 20 Bedford Way, London WC1H 0AL, UK; j.golding@ucl.ac.uk

Definition: A ***doctoral student*** is one undertaking the highest level of university study, leading to a doctoral qualification (of which the traditional and most common form is the PhD), that typically requires they demonstrate a significant contribution to knowledge and their own preparedness to undertake independent research. ***Crisis*** in this entry is taken to be a time of great difficulty or a time when a difficult or important decision must be made. In the context of doctoral students, a crisis often brings a threat to the completion of the doctorate.

Keywords: doctoral student wellbeing; doctoral student mental health; supervisory relationship; doctoral completion; supervision boundaries

Citation: Golding, J. Supporting Doctoral Students in Crisis. *Encyclopedia* **2023**, *3*, 1197–1207. https://doi.org/10.3390/encyclopedia3040087

Academic Editors: Elena-Mădălina Vătămănescu and Raffaele Barretta

Received: 25 August 2023
Revised: 17 September 2023
Accepted: 22 September 2023
Published: 28 September 2023

1. Introduction

An academic doctoral journey is a long one, typically lasting a minimum of three years if study is fulltime, and often much longer. The pathway is overseen by one or more academics, known in the UK as '***supervisors***' (and elsewhere as advisors, mentors, directors, promotors. . .). Despite considerable attention in recent years, global completion rates remain stubbornly low; recent evidence showed that in many jurisdictions, approximately 50% of students who begin a doctoral programme do not successfully complete their degree, and a further significant proportion fail to do so in a timely manner [1,2]. Attrition rates for students studying doctoral programmes online are even higher than students who attend on-campus courses [1,3]. This situation is clearly one of considerable concern to the students involved, as well as to institutions and supervisors. For many students, withdrawal from a doctoral programme is preceded by a period of crisis; the objective of this entry is to review what is known about the circumstances in which such crises arise, and how such crises may be either pre-empted or addressed. 'Student in crisis' here is contrasted with ***student wellbeing***, defined as a state of being comfortable, healthy, or happy—a much broader concept than in-the-moment happiness. The method adopted is addressed in the Supplementary Material. While much of the materials is necessarily addressed and interpreted with a UK lens, the literature drawn on is international.

Globally, there has recently been a proliferation of doctoral routes to include more occupation- and professional-focusingdoctorates, an expansion in the modes of study, widening the natures of doctoral cohorts to include more non-traditional doctoral students, widening purposes for doctoral study as many Higher Education doctoral systems move away from traditional preparation for academic careers towards multiple purposes that also meet the demands of new industry/university partnerships and by governments perceiving a need to develop specialist knowledge to build advanced knowledge economies [4]; there is an associated expansion of likely destinations for doctoral graduates, with a small proportion only eventually graduating from doctoral study into tenured academic posts [5]. Each of these changes brings with it an expansion of the range and nature of challenges that students might face in their pursuit of successful doctoral completion—and they also bring a broadening of the responsibilities typically expected of supervision teams [1].

All doctoral students invest considerable time, energy and money in their study, so that non-completion, or even the risk of it, at whatever stage, is likely to be a major outcome

for them—and delayed completion also often brings financial or professional stress. In this entry, authors review the variety of adverse personal, professional or academic circumstances that can develop during doctoral study and eventually threaten the successful and timely completion of a doctorate. Authors analyse the evidence around constructive responses to such challenges, ways in which supervisors and others involved in doctoral student support might respond so as to pre-empt a full-blown crisis, and discuss the literature focused on valid responses to a crisis stage if that does eventually materialise. Authors point to evidence of a critical role for the monitoring of student progress and wellbeing well before crisis is reached. In any such crisis, or even potential crisis situation, and in contrast to much of the influential literature [6], the role of the supervisor typically extends well beyond the academic and into a pastoral responsibility [7,8].

Whatever the source, a crisis often has the potential to impact students' mental, emotional and physical wellbeing, as well as on their academic progress, and vice versa, in a vicious circle [9–11]. Interviews reported by UKCGE [12] suggest that not all supervisors have a natural aptitude for, let alone are equipped for, offering pastoral support. However, their respondents widely supported 'at least some expectation' that supervisors should persistently be aware of, and if necessary, sensitively probe the pastoral needs and the mental health and wellbeing of the doctoral student, with a consensus that supervisors need to supervise 'the person as well as a project'. While this is consistent with earlier findings from Gower and Owen [1,13], one participant in [12] made the helpful distinction between 'pastoral care', which might exceed reasonable expectations of a supervisor, and a 'pastoral approach' to supervision: 'Supervisors are not trained to provide mental health support but being able to deal compassionately with students and being approachable and supportive is often important. Supervisors are a key point of contact often viewed as a mentor. Supervisors should then be able to direct students to appropriate support—so need to be aware of this' (p. 11). That report also cites evidence that mental health training for supervisors was, in 2022 in the UK, widely accepted as an increasingly important aspect of supervisor education: all participants agreed that supervisors have a 'monitoring and signposting' role, and authors show below that those two roles of monitoring and signposting underpin much of the literature around supporting students in or near crisis.

In the UK and elsewhere, a large number of Higher Education staff, in a variety of academic, administrative and support roles, already provide support for psychological distress as part of their role, though most have not been trained to do so [14]. Universities should ensure that all staff have access to appropriate mental health awareness training, and should encourage staff to complete that once it is available [14,15]. Within the literature in recent years and in the above context of expanding the nature, structures, modes and purposes of doctoral study, there has been a range of evidence that the role of the doctoral supervisor in the twenty-first century is multifaceted as supervisors face the imperative to be mentors, trainers, supporters, critics and fellow researchers [8,16] There is also a highlighted need for supervisors to develop capacity to handle students' personal issues and problems that often adversely affect the pursuit of research studies [17].

Throughout the discussion, it is important to remember that while many doctoral practices are becoming global in nature [1], doctoral experiences are always contextualised and enculturated, reflecting national systems, institutional practices, and students' and supervisors' personal and academic backgrounds [9,18]. Inclusion and equity issues relating to national, cultural and other diversity add further complexity and richness to the picture in any one location, and can themselves be sources of considerable stress [9].

2. Personal Threats to Doctoral Student Thriving

So what are the sources of such stress? Barry et al. [19] report that challenges such as personal, professional and career development during a doctoral journey can lead to psychological distress and poor completion time. Personal challenges might arise from problematic interactions with the academic or home community, with supervisors, financial issues, while issues in developing a researcherly identity can, in turn, undermine

doctoral or professional progression. Threats to the thriving of doctoral students, then, occur from a number of directions—personal, professional and academic. The literature offers several typologies of such challenges [19–21]. In terms of **personal issues,** students might embark on their doctoral studies with an underlying **physical or mental health** condition that develops further—or the nature of doctoral study might exacerbate that condition [2,22]. There is widespread evidence that the doctoral student population is significantly more stressed than the undergraduate study population, and such threats need active management if they not to become overwhelming [19,23,24]. Recent years, including those affected by the COVID-19 global pandemic, have spawned worrying high levels of such stress: for example, Ryan et al. [25] in Australia cite evidence that their higher degree research students experienced relatively high rates of psychological distress, and indeed, Moss et al. [15] in England showed 70% of their postgraduate research student sample were experiencing symptoms of mild to severe psychological distress. They used multiple regression to show that lower levels of wellbeing were associated with higher levels of distress and lower levels of help-seeking behaviours, so that such students often find themselves in downward negative spirals.

Postgraduate research students appear to be even more vulnerable than undergraduates in these areas; such students in [15,26] reported higher levels of psychological distress compared with sample undergraduate students, after adjusting for age, sex, and previous diagnoses of a mental health problem, as well as mental health literacy ($p < 0.05$ for each comparison). No significant differences were observed between the groups for help-seeking characteristics or wellbeing. Postgraduate researchers may not be accessing appropriate help and have been shown to be particularly vulnerable at the start of the academic year [15]. Of course, it is important for universities to develop strategies to ameliorate such issues. In the study analysed in [25], higher degree research students from an Australian research-intensive university suggested four key areas in which their wellbeing might be improved, centred around culture and community, support services, supervisors and supervision practices, and peer engagement and networking; these areas are further explored below. The authors critique and add to typologies of 'doctoral challenges' developed elsewhere [19–21], suggesting that students are likely to benefit from a whole-of-university approach that supports wellbeing [27], and also from a research culture that values wellbeing, whatever the career stage of the researcher [15].

Barry et al. [19] identify external or **personal challenges** as key additions to common typologies of doctoral students' challenges [20,21] These include major life events, such as planning a wedding, a bereavement or a relationship breakdown, employment demands, relocation and dealing with doctorate-independent health-related issues. These are outside of the normal range of academic concerns, immediately raising questions of appropriate boundaries and, indeed, supervisor expertise [7,28]. Parker-Jenkins suggests that all supervisors should aim to develop relationships that support the sharing of major personal issuesinsofar as affecting academic progress; however, in such relationships, it is very often that detailed and prolonged discussion is inappropriate and unhelpful. In cases of severe impact on the ability to study, supervisors might need to suggest or invoke institutional structures, such as an interruption of study, to address the issue [10].

Women doctoral students can often experience particular personal challenges to their doctoral thriving, including those arising from pregnancy, childcare or other care, and home or receiving cultural constraints that marginalise them [2,29,30]. Supervisor sensitivity to, and such possibilities, and institutional support for parental/carer leave or other provision can begin to address such issues, but peer support can also make a big difference [30], including to student confidence and identity, as discussed below.

Other important threats to doctoral thriving are not always obvious. Enabling doctoral students to have a **sense of belonging** [31–33] is important as the doctoral journey can be very lonely; the often individual nature of doctoral study might lead to a sense of **isolation** [34]. For international students in particular, there could be a challenge of **cultural novelty**, and stress arising from cultural and contextual, including social and religious,

diversity, especially over the sustained period of doctoral study [35,36] It is important for those in contact with postgraduate research students to understand what kinds of challenges might be attributable to cultural factors, and what eto academic, sociological or other factors, as well as how to address them [37]. A necessary part of any solution is likely to be the development of a robust researcherly identity [31,38]. Approaches that have been shown to support the addressing of issues around belonging, **identity** or the isolation that can be prevalent among the range of doctoral students, but particularly those new to a culture or context, include the establishment of academic support and collaboration peer groups [39], encouraging students to join appropriate networks [39,40] and finding ways to develop and support doctoral student inclusion in the local research culture [16,32].

The range of such challenges is thought to be often exacerbated in **online doctorates**. Studebaker and Curtis [3] cite evidence that reduced social integration is one of the key factors associated with high student attrition in doctoral study, and that is harder to achieve online, and yet, creating and maintaining positive peer and supervisor relationships are essential aspects of doctoral persistence. The authors cite evidence that as participation in online doctoral programs increases, student retention and completion rates decrease [41]. The literature suggests that the physical distance experienced by students and the corresponding challenges of building relationships with supervisors and other doctoral students serve to undermine persistence and, consequently, retention in online doctoral study [42–44]. However, cohort approaches, consistency across structures of modules, and even comparatively limited in-person interactions, such as a one-week summer school early in the program, can each contribute significantly to building relationship and community, and so support students through challenges of identity and belonging [2,3,31,33,36].

In a related area, **affective issues,** such as imposter syndrome, can be a considerable threat to student wellbeing and so to academic effectiveness [45–47]. There is, of course, a proper place for academic humility [48,49], but as Devine and Hunter [37] suggest, "supportive supervision and the ability for doctoral students to be themselves' should reduce doctoral student emotional exhaustion and self-presentation behaviours, thus leading to better student outcomes" (p. 1). Again, peer and supervisor interactions, as well as emerging tangible success, such as positively received writing assignments, seminar or conference presentations, and other symptoms of productive participation in a research community, can be critical to addressing the related issues [16,20,24,32,50]

Work–life balance can be also an issue for candidates, and there is some evidence that it is a factor in both reduced mental wellbeing [14,23,51] and non- or delayed completion [19,23]. The research policy literature evidences concerns about the potential impact of current academic working conditions on doctoral students', as well as academics', mental health [26]. Jacklin et al. [52], in their UK study, evaluated organizational characteristics relating to doctoral students that predict the quality of mental health, suggesting that stressed work–family interface; high employment demands, including limited work autonomy; poor supervisory relationship, limited team decision-making culture; and perceptions of a career likely to be outside academia were significantly linked with mental health problems.

Doctoral studies inevitably bring a significant **financial commitment** since they are likely to represent the equivalent of fulltime participation over a period of at least three years. Studies from a range of jurisdictions testify to the stress that financial concerns can bring [53–56], so it is important that arrangements are in place before the commencement of study. There are often good reasons for doctoral students to seek additional employment during their studies [57,58], including of course financialbut such work needs to be limited if it is not to have significant impact on research progress [59].

Such issues often require a variety of routes totheir addressing; students should be educated to be made aware of routes to locate the support available [25,36,60], but equally, many responses depend on having established a trusting student–supervisor relationship that goes beyond academic [28], the communication of lower-key interventions that can give the student 'breathing space' to resolve issues, or the establishment of coping mechanisms, for example the suspension or interruption of study [61–63]. For their part, it is

important that supervisory teams are able to discern appropriate boundaries to supervisor relationships and limitations to their role and expertise [7,28].

3. Professional/Occupational Threats to Doctoral Thriving

Doctoral students have often brought an aspiration for a new career, or for **career enhancement**, and that awareness, or its frustration, can become an issue in their wellbeing and/or doctoral progression [64]. As above, supervisors might have limited knowledge or capacity to fully support related development, especially as the proliferation in purposes and focus of doctoral studies [65] means many doctoral students no longer aspire to an academic career, and, whether planned or not, most doctoral candidates will end up working outside academia [17,66–68]. This is another area where signposting to wider sources of information and support may well be an appropriate response.

Part-time doctoral students in particular are under significant pressure, because in addition to academic and personal issues they are likely to be juggling parenting or professional responsibilities. It is also the case that increasingly, nominally 'fulltime' doctoral students are undertaking significant paid work, because of funding issues or a perceived need to build a wider portfolio of skills and experiences in order to access valued post-doctoral opportunities [17,65,67]. There might be particular professional-related pressures on women [22,69,70]. Such threats cane be played out somewhat differently in professional doctorates, which from their start aim to make contributions to both the profession and to academic knowledge—though again, the related issues can play out differentially by gender [71,72].

4. Academic Challenges

Doctoral studies are inherently challenging [50,73]. Whatever challenges a doctoral student faces on a personal or professional front, those might initially be discussed with a sympathetic supervisor, but should they reach significant proportions, the student either needs time away from the doctorate or to access expert support—or both. In either case, the supervisor has a limited role to play [7,28]. Benmore [7] argues that the relational aspects of supervision are critical to shaping how supervisors construct and negotiate both time and cognitive development throughout a doctoral journey. The duties of a doctoral supervisor therefore combine academic and intellectual challenge, support and guidance with appropriate pastoral care. Unless skilfully handled, there is the potential for supervisors to become inappropriately emotionally involved with their students. One solution is for preparation and training programs for doctoral supervisors to contain a pastoral skills component [74].

Academic progress is of course a key concern for doctoral students. Nor is academic progress independent of affective or psychological challenges; Barry et al. [19] show that doctoral students who self-reported lagging behind or accelerating beyond their study schedule showed significantly higher incidence of mental and emotional stress than those who reported conforming with the planned indicators of progress. Academic challenges, though are firmly in the realm of the supervisory team, at least initially. One key responsibility of the supervisor is to be aware of the complementary sources of support available to the student [27,75], such as academic writing centres, libraries, research training courses, etc. [47,76–78], and also pathways to accessing greater support—or sometimes challenge—when academic progress is not developing as it should [78]. For many students, cohort group meetings appear to be particularly beneficial [79–81]. These can take a variety of formats and have a variety of compositions, but the benefits appear to stem from both identity work and access to a variety of experiences and information. Of particular note is the 'thesis group meeting' of a range of doctoral students with shared supervisor(s) [82]. Such structures can all serve to diffuse challenges and to pre-empt students reaching crisis point.

Before any challenge-ameliorative action comes into play, there are critical roles for discerning appropriate initial selection or recruitment [83–86], and for the ongoing, and

honest, monitoring of progress [87,88]. While progress is unlikely to be linear, and indeed is often 'bumpy' and opaque [89], monitoring is a critical aspect of doctoral work. Self- and peer-monitoring can both be productive [87,90,91], and the thrust of the responsibility often, de facto, devolves on the supervisor. However, with the best possible care, not all doctoral candidates will thrive on doctoral study or develop intellectually in the ways anticipated; the effective course taker does not necessarily develop into an effective researcher [92]. In many universities, there is a threshold 'upgrade' or similar process, in which the doctoral candidate has to demonstrate to (usually) a panel that their progress at that stage indeed forms a robust basis for doctoral study, and is indicative of the potential to succeed at this level. There are other stages of doctoral progression that are key development points, for example when the student needs to finally master 'threshold concepts' such as the role and purpose of theory, without which the thesis will simply not reach doctoral level [93]; similarly, the student needs to acquire doctoral levels of academic writing, of critique and positionality [42,94,95], and research outcomes which genuinely make a contribution to knowledge. For some students, the process of gaining ethical consent can be a source of considerable stress, especially where the researcher background or cultural expectations diverge from institutional or research ethics panel norms, or where the planned research uses novel or insider approaches [96–98].

All these stages are critical to doctoral progression. Some students are not able to develop the productive and persistent working habits needed for doctoral study [42]. The most frequently reported doctoral study challenges are related to the development of generic skills, together with management of self, including motivation [19]. Peer groups can support academically as well as affectively. For example, doctoral 'writing groups' are typically collaborative learning communities that serve also to offer pastoral support [99] in an extended understanding of the wider university's roles in a doctoral learning alliance [27]. Other university structures, such as writing centres, libraries, etc., also have important roles to play [75]. However, there remains a fundamental interaction between isolation, wellbeing, identity and academic development [99].

Spanning all these discussions is the student's relationship with the supervisor(s) [77,93,95]. Dissatisfaction with supervisory practice is often focused on limited face-to-face or otherwise effective supervisory engagement, oppressive or overly didactic approaches, or overt tensions between supervisors [2]. Over time, the commonly practised models of supervision have changed [100–102] alongside conceptualisations of the task [6], but the fundamental health of the relationship remain, with a central role for relational trust [43]

5. Discussion

It is clear, then, that doctoral students are subject to a range of interrelated challenges intertwined with academic progress. Further, and however distributed the 'learning alliance' across the university, the supervisory team is likely to be central to students' thriving. Crane et al. [31] analysed that a high-quality research student experience focuses on student learning, is personalised and respects the students' needs and expectations, provides opportunities for social interaction and academic networking, is supported by appropriately-equipped supervisors and others, and is both efficient and well-organised. Such considerations are complemented by academic and teaching knowledge and skills: importantly, the balance and details change with individual doctoral students and over the course of each doctoral journey [7]. Additionally, above, authors showed the need for pastoral sensitivity and awareness, and knowledge of appropriate support resources available.

Underpinning these processes is the supervisory relationship, but also distributed responsibilities, including that of the student (Doctoral students are usually at least in their early twenties, and often much more mature). Both supervisors and students, as well as others involved in interactions with doctoral students, need to take seriously communications about other sources of support for students—and for supervisors—since close contact with a student in crisis can also be very demanding on supervisors [61,62].

More broadly, supervisors need opportunities to acquaint, and re-acquaint themselves, with structural pathways to support and challenge, including pathways to supporting students away from doctoral pathways in some cases [103]. It is rarely beneficial for a student to be encouraged to persist once it is clear they are unlikely to succeed, especially if the pathway, as in the case of many doctorates, does not have intermediary exit qualifications [61,63,103,104]. However, while this response might be ethical, it might also bring tensions with institutional imperatives for student retention (and fee preservation) [105]. In any case, such actions might well involve the department or faculty graduate tutor or other person with a higher-level overview.

There is, in any case, a range of arguments and evidence promoting wider roles of responsibility, in line with [27]. McAlpine [11], argues that many doctoral students desire agency over their interactions, to draw on a range of relationships that support progress, and to draw on supervisors only for their own chosen reasons; challenges play out differentially by gender and other variables [30]. Doctoral students may, for whatever reason, choose not to divulge issues that are impacting their progress. Supervision should therefore be conceptualized as a collective institutional responsibility, deliberately and intelligently enacted via explicit curricular support for both supervisor and student [6,27,106]. There is also a helpful suggested reconceptualisation of student support away from 'support' as a primarily reactive response to already-identified student problems, to proactive university-wide 'supportive' cultures and structures [52].

6. Conclusions and Prospects

This entry set out to review and synthesise what is known about the causes of doctoral students coming into crisis, ways of supporting them once they are in crisis, and ways of pre-empting that situation. As a short contribution made by one academic functioning in a particular academic context in this wide and ever-changing field, the entry is inevitably limited in scope, currency and range of interpretation.

However, its key findings clearly show that doctoral study progress is non-deterministic, and, especially given its extended nature, might be subject to a range of academic, personal and professional challenges, any one of which might serve to undermine successful doctoral completion. As well as developing a trusting and supportive environment that supports student–supervisor communication as part of a wider supportive network, supervisors have key roles in monitoring student progress developing sensitivity to developing issues, and signposting to other resources when they themselves are not well- or appropriately-equipped to address those issues.

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/encyclopedia3040087/s1.

Funding: This research received no external funding.

Conflicts of Interest: The author declares no conflict of interest.

References

1. Taylor, S.; Kiley, M.; Holley, K.A. *The Making of Doctoral Supervisors: International Case Studies of Practice*; Routledge: London, UK, 2020; ISBN 1000281116.
2. Sverdlik, A.; Hall, N.C.; McAlpine, L.; Hubbard, K. The PhD Experience: A Review of the Factors Influencing Doctoral Students' Completion, Achievement, and Well-Being. *Int. J. Dr. Stud.* **2018**, *13*, 361–388. [CrossRef]
3. Studebaker, B.; Curtis, H. Building Community in an Online Doctoral Program. *Christ. High. Educ.* **2021**, *20*, 15–27. [CrossRef]
4. Halse, C.; Mowbray, S. The Impact of the Doctorate. *Stud. High. Educ.* **2011**, *36*, 513–525. [CrossRef]
5. Loxley, A.; Kearns, M. Finding a Purpose for the Doctorate? A View from the Supervisors. *Stud. High. Educ.* **2018**, *43*, 826–840. [CrossRef]
6. Halse, C.; Malfroy, J. Retheorizing Doctoral Supervision as Professional Work. *Stud. High. Educ.* **2010**, *35*, 79–92. [CrossRef]
7. Benmore, A. Boundary Management in Doctoral Supervision: How Supervisors Negotiate Roles and Role Transitions throughout the Supervisory Journey. *Stud. High. Educ.* **2016**, *41*, 1251–1264. [CrossRef]
8. Manathunga, C.; Goozée, J. Challenging the Dual Assumption of the 'Always/Already'Autonomous Student and Effective Supervisor. *Teach. High. Educ.* **2007**, *12*, 309–322. [CrossRef]

9. Hopwood, N.; Alexander, P.; Harris-Huemmert, S.; McAlpine, L.; Wagstaff, S. The Hidden Realities of Life as a Doctoral Student. In *Doctoral Education in International Context: Connecting Local, Regional and Global Perspectives*; Kumar, V., Lee, A., Eds.; Universiti Putra Malaysia Press: Serdang, Malaysia, 2011; pp. 212–231.
10. McAlpine, L.; Amundsen, C. Challenging the Taken-for-Granted: How Research Analysis Might Inform Pedagogical Practices and Institutional Policies Related to Doctoral Education. *Stud. High. Educ.* **2012**, *37*, 683–694. [CrossRef]
11. Mcalpine, L. La Supervisión Doctoral: Una Responsabilidad No Individual, Sino Institucional y Colectiva. *Infanc. Aprendiz.* **2013**, *36*, 259–280. [CrossRef]
12. Gower, O. *Supporting Excellent Supervisory Practice across UKRI Doctoral Training Investments*; UKCGE: Lichfield, UK, 2022.
13. Gower, O.; Clegg, K. *UK Research Supervision Survey 2021 Report*; UKCGE: Lichfield, UK, 2021.
14. Margrove, K.L.; Gustowska, M.; Grove, L.S. Provision of Support for Psychological Distress by University Staff, and Receptiveness to Mental Health Training. *J. Furth. High. Educ.* **2014**, *38*, 90–106. [CrossRef]
15. Moss, R.A.; Gorczynski, P.; Sims-Schouten, W.; Heard-Laureote, K.; Creaton, J. Mental Health and Wellbeing of Postgraduate Researchers: Exploring the Relationship between Mental Health Literacy, Help-Seeking Behaviour, Psychological Distress, and Wellbeing. *High. Educ. Res. Dev.* **2022**, *41*, 1168–1183. [CrossRef]
16. Fragouli, E. Postgraduate Supervision: A Practical Reflection on How to Support Students' Engagement. Int. *J. High. Educ. Manag.* **2021**, *7*, 1–11. [CrossRef]
17. McAlpine, L.; Emmioğlu, E. Navigating Careers: Perceptions of Sciences Doctoral Students, Post-PhD Researchers and Pre-Tenure Academics. *Stud. High. Educ.* **2015**, *40*, 1770–1785. [CrossRef]
18. Durette, B.; Fournier, M.; Lafon, M. The Core Competencies of PhDs. *Stud. High. Educ.* **2016**, *41*, 1355–1370. [CrossRef]
19. Barry, K.M.; Woods, M.; Warnecke, E.; Stirling, C.; Martin, A. Psychological Health of Doctoral Candidates, Study-Related Challenges and Perceived Performance. *High. Educ. Res. Dev.* **2018**, *37*, 468–483. [CrossRef]
20. Pyhältö, K.; Toom, A.; Stubb, J.; Lonka, K. Challenges of Becoming a Scholar: A Study of Doctoral Students' Problems and Well-Being. *Int. Sch. Res. Notices* **2012**, *2012*, 934941. [CrossRef]
21. Juniper, B.; Walsh, E.; Richardson, A.; Morley, B. A New Approach to Evaluating the Well-Being of PhD Research Students. *Assess. Eval. High. Educ.* **2012**, *37*, 563–576. [CrossRef]
22. Cahusac de Caux, B. A Short History of Doctoral Studies. In *Wellbeing in Doctoral Education: Insights and Guidance from the Student Experience*; Springer: Singapore, 2019; pp. 9–17.
23. Levecque, K.; Anseel, F.; De Beuckelaer, A.; Van der Heyden, J.; Gisle, L. Work Organization and Mental Health Problems in PhD Students. *Res. Policy* **2017**, *46*, 868–879. [CrossRef]
24. Dodson, M.V.; Fernyhough, M.E.; Holman, B.B. Advising Graduate Students: Mentor or Tormentor? *NACTA J.* **2006**, *50*, 37–41.
25. Ryan, T.; Baik, C.; Larcombe, W. How Can Universities Better Support the Mental Wellbeing of Higher Degree Research Students? A Study of Students' Suggestions. *High. Educ. Res. Dev.* **2022**, *41*, 867–881. [CrossRef]
26. Vinichenko, M.V.; Kirillov, A.V.; Frolova, E.V.; Kaurova, O.V.; Makushkin, S.A. Monitoring of Working Conditions and the Nature of Their Influence on Health of Students and Academic Staff. *Int. J. Environ. Sci. Educ.* **2016**, *11*, 4564–4577.
27. Halse, C.; Bansel, P. The Learning Alliance: Ethics in Doctoral Supervision. *Oxf. Rev. Educ.* **2012**, *38*, 377–392.
28. Parker-Jenkins, M. Mind the Gap: Developing the Roles, Expectations and Boundaries in the Doctoral Supervisor–Supervisee Relationship. *Stud. High. Educ.* **2018**, *43*, 57–71. [CrossRef]
29. Brown, L.; Watson, P. Understanding the Experiences of Female Doctoral Students. *J. Furth. High. Educ.* **2010**, *34*, 385–404.
30. Carter, S.; Blumenstein, M.; Cook, C. Different for Women? The Challenges of Doctoral Studies. *Teach. High. Educ.* **2013**, *18*, 339–351.
31. Crane, L.H.; Kinash, S.; Hamlin, G.; Eckersley, B.; Patridge, H. *Engaging Postgraduate Students and Supporting Higher Education to Enhance the 21st Century Student Experience: Good Practice Guide*; Australian Government Office for Learning and Teaching: Caberra, Australia, 2016; ISBN 1760510246.
32. Heussi, A. Postgraduate Student Perceptions of the Transition into Postgraduate Study. *Stud. Engagem. Exp. J.* **2012**, *1*, 1–13. [CrossRef]
33. Strayhorn, T.L. *College Students' Sense of Belonging: A Key to Educational Success for All Students*; Routledge: London, UK, 2018; ISBN 1315297272.
34. Janta, H.; Lugosi, P.; Brown, L. Coping with Loneliness: A Netnographic Study of Doctoral Students. *J. Furth. High. Educ.* **2014**, *38*, 553–571. [CrossRef]
35. Hechanova-Alampay, R.; Beehr, T.A.; Christiansen, N.D.; Van Horn, R.K. Adjustment and Strain among Domestic and International Student Sojourners: A Longitudinal Study. *Sch. Psychol. Int.* **2002**, *23*, 458–474.
36. Martirosyan, N.M.; Bustamante, R.M.; Saxon, D.P. Academic and Social Support Services for International Students: Current Practices. *J. Int. Stud.* **2019**, *9*, 172–191.
37. Devine, K.; Hunter, K.H. PhD Student Emotional Exhaustion: The Role of Supportive Supervision and Self-Presentation Behaviours. *Innov. Educ. Teach. Int.* **2017**, *54*, 335–344. [CrossRef]
38. Schulze, S. Finding the Academic Self: Identity Development of Academics as Doctoral Students. *Koers Bull. Christ. Scholarsh. Koers Bull. Vir Christelike Wet.* **2014**, *79*, 1–8. [CrossRef]
39. Douglas, A.S. Engaging Doctoral Students in Networking Opportunities: A Relational Approach to Doctoral Study. *Teach. High. Educ.* **2023**, *28*, 322–338. [CrossRef]

40. Thein, A.H.; Beach, R. Mentoring Doctoral Students towards Publication within Scholarly Communities of Practice. In *Publishing Pedagogies for the Doctorate and Beyond*; Aitchison, C., Camler, B., Leigh, A., Eds.; Routledge: London, UK, 2010; pp. 117–136. [CrossRef]
41. Graham, C.D.; Massyn, L. Interaction Equivalency Theorem: Towards Interaction Support of Non-Traditional Doctoral Students. *Int. J. Dr. Stud.* **2019**, *14*, 187. [CrossRef] [PubMed]
42. Rigler, K.L.; Bowlin, L.K.; Sweat, K.; Watts, S.; Throne, R. *Agency, Socialization, and Support: A Critical Review of Doctoral Student Attrition*; Paper Presented at the 3rd International Conference on Doctoral Education; University of Central Florida: Orlando, FL, USA, 2017.
43. Jacobsen, M., Jr.; Friesen, S.; Becker, S. Online Supervision in a Professional Doctorate in Education: Cultivating Relational Trust within Learning Alliances. *Innov. Educ. Teach. Int.* **2021**, *58*, 635–646. [CrossRef]
44. Ferreira-Meyers, K. The Need for Revision of Selected Aspects of Online Master's and Doctoral Student Supervision. *Perspect. Educ.* **2022**, *40*, 288–305. [CrossRef]
45. Sverdlik, A.; Hall, N.C.; McAlpine, L. PhD Imposter Syndrome: Exploring Antecedents, Consequences, and Implications for Doctoral Well-Being. *Int. J. Dr. Stud.* **2020**, *15*, 737–758. [CrossRef]
46. Nori, H.; Peura, M.H.; Jauhiainen, A. From Imposter Syndrome to Heroic Tales: Doctoral Students' Backgrounds, Study Aims, and Experiences. *Int. J. Dr. Stud.* **2020**, *15*, 517. [CrossRef]
47. Wilson, S.; Cutri, J. Negating Isolation and Imposter Syndrome through Writing as Product and as Process: The Impact of Collegiate Writing Networks during a Doctoral Programme. In *Wellbeing in Doctoral Education: Insights and Guidance from the Student Experience*; Springer: Singapore, 2019; pp. 59–76.
48. Manix, K.G. Educating Future Researchers with an Eye toward Intellectual Humility. *Ind. Organ. Psychol.* **2022**, *15*, 135–136. [CrossRef]
49. Duntley-Matos, R. Transformative Complicity and Cultural Humility: De-and Re-Constructing Higher Education Mentorship for under-Represented Groups. *Qual. Sociol.* **2014**, *37*, 443–466. [CrossRef]
50. Grant, B.; Mitchell, C.; Okai, E.; Burford, J.; Xu, L.; Ingram, T.; Cameron-Lewis, V. Doctoral Supervisor and Student Identities: Fugitive Moments from the Field. In *Identity Work in the Contemporary University*; Brill: Leiden, The Netherlands, 2016; pp. 129–142, ISBN 946300310X.
51. Cohen, S.M. Doctoral Persistence and Doctoral Program Completion among Nurses. In *Nursing Forum*; Blackwell Publishing Inc.: Malden, MD, USA, 2011; Volume 46, pp. 64–70.
52. Jacklin, A.; Le Riche, P. Reconceptualising Student Support: From 'Support'to 'Supportive'. *Stud. High. Educ.* **2009**, *34*, 735–749. [CrossRef]
53. Terentev, E.; Bekova, S.; Maloshonok, N. Three Challenges to Russian System of Doctoral Education: Why Only One out of Ten Doctoral Students Defends Thesis? *Int. J. Chin. Educ.* **2021**, *10*, 22125868211007016. [CrossRef]
54. Laufer, M.; Gorup, M. The Invisible Others: Stories of International Doctoral Student Dropout. *High. Educ.* **2019**, *78*, 165–181. [CrossRef]
55. Li, F.; Wang, C.; Yue, X. Impact of Doctoral Student Training Process Fit on Doctoral Students' Mental Health. *Int. J. Ment. Health Promot.* **2022**, *24*, 169–187. [CrossRef]
56. Igumbor, J.O.; Bosire, E.N.; Karimi, F.; Katahoire, A.; Allison, J.; Muula, A.S.; Peixoto, A.; Otwombe, K.; Gitau, E.; Bondjers, G. Effective Supervision of Doctoral Students in Public and Population Health in Africa: CARTA Supervisors' Experiences, Challenges and Perceived Opportunities. *Glob. Public Health* **2022**, *17*, 496–511. [CrossRef] [PubMed]
57. Hancock, S.; Walsh, E. Beyond Knowledge and Skills: Rethinking the Development of Professional Identity during the STEM Doctorate. *Stud. High. Educ.* **2016**, *41*, 37–50. [CrossRef]
58. Duke, D.C.; Denicolo, P.M. What Supervisors and Universities Can Do to Enhance Doctoral Student Experience (and How They Can Help Themselves). *FEMS Microbiol. Lett.* **2017**, *364*, fnx090. [CrossRef]
59. Bekova, S. Does Employment during Doctoral Training Reduce the PhD Completion Rate? *Stud. High. Educ.* **2021**, *46*, 1068–1080. [CrossRef]
60. Asamoah, M.K. Learner Support Services for Postgraduate Students: A Qualitative Approach. *E-Learn. Digit. Media* **2019**, *16*, 367–392. [CrossRef]
61. Golde, C.M. The Role of the Department and Discipline in Doctoral Student Attrition: Lessons from Four Departments. *J. High. Educ.* **2005**, *76*, 669–700. [CrossRef]
62. Brown, C.G. The Persistence and Attrition of Online Learners. *Sch. Leadersh. Rev.* **2017**, *12*, 47–58.
63. Wollast, R.; Boudrenghien, G.; Van der Linden, N.; Galand, B.; Roland, N.; Devos, C.; De Clercq, M.; Klein, O.; Azzi, A.; Frenay, M. Who Are the Doctoral Students Who Drop out? Factors Associated with the Rate of Doctoral Degree Completion in Universities. *Int. J. High. Educ.* **2018**, *7*, 143–156. [CrossRef]
64. Rao, N.; Hosein, A.; Raaper, R. Doctoral Students Navigating the Borderlands of Academic Teaching in an Era of Precarity. *Teach. High. Educ.* **2021**, *26*, 454–470. [CrossRef]
65. Guccione, K.; Bryan, B. Worth Doing but Not Worth Having? The Influence of Personal Aspirations and Career Expectations on the Value of a Doctorate. *Stud. Grad. Postdr. Educ.* **2023**, *14*, 83–98. [CrossRef]
66. Hancock, S.; Hughes, G.; Walsh, E. Purist or Pragmatist? UK Doctoral Scientists' Moral Positions on the Knowledge Economy. *Stud. High. Educ.* **2017**, *42*, 1244–1258. [CrossRef]

67. Hancock, S. What Is Known about Doctoral Employment? Reflections from a UK Study and Directions for Future Research. *J. High. Educ. Policy Manag.* **2021**, *43*, 520–536. [CrossRef]
68. Kweik, M. *Changing European Academics*; Routledge and Society for Research into Higher Education: London, UK, 2019.
69. Rogers-Shaw, C.; Carr-Chellman, D. Resisting the Pressures of Academia: The Importance of Including Care in Doctoral Study. In Proceedings of the Adult Education Research Conference, Victoria, BC, Canada, 7–10 June 2018.
70. Idahosa, G.E.; Mkhize, Z. Intersectional Experiences of Black South African Female Doctoral Students in STEM: Participation, Success and Retention. *Agenda* **2021**, *35*, 110–122. [CrossRef]
71. Webber, L. Supporting Professional Doctorate Women Students through Identity Change and Turbulent Times: Who Cares? *Pastor. Care Educ.* **2017**, *35*, 152–165. [CrossRef]
72. Rockinson-Szapkiw, A.; Spaulding, L.S.; Lunde, R. Women in Distance Doctoral Programs: How They Negotiate Their Identities as Mothers, Professionals, and Academics in Order to Persist. *Int. J. Dr. Stud.* **2017**, *12*, 49. [CrossRef]
73. Manathunga, C. Early Warning Signs in Postgraduate Research Education: A Different Approach to Ensuring Timely Completions. *Teach. High. Educ.* **2005**, *10*, 219–233. [CrossRef]
74. Hockey, J. Getting Too Close: A Problem and Possible Solution in Social Science PhD Supervision. *Br. J. Guid. Couns.* **1995**, *23*, 199–210. [CrossRef]
75. Johnson, E.M. Towards an Enhanced View of Doctoral Writing Environments: Learning Alliances to Reconceptualise Practice. *Policy Futures Educ.* **2019**, *17*, 140–152. [CrossRef]
76. Woodward-Kron, R. Negotiating Meanings and Scaffolding Learning: Writing Support for Non-English Speaking Background Postgraduate Students. *High. Educ. Res. Dev.* **2007**, *26*, 253–268. [CrossRef]
77. McAlpine, L.; Amundsen, C. To Be or Not to Be? The Challenges of Learning Academic Work. In *Doctoral Education: Research-Based Strategies for Doctoral Students, Supervisors and Administrators*; Springer: Dordrecht, The Netherlands, 2011; pp. 1–13.
78. Wellington, J. More than a Matter of Cognition: An Exploration of Affective Writing Problems of Post-Graduate Students and Their Possible Solutions. *Teach. High. Educ.* **2010**, *15*, 135–150. [CrossRef]
79. Webber, J.; Hatch, S.; Petrin, J.; Anderson, R.; Nega, A.; Raudebaugh, C.; Shannon, K.; Finlayson, M. The Impact of a Virtual Doctoral Student Networking Group during COVID-19. *J. Furth. High. Educ.* **2022**, *46*, 667–679. [CrossRef]
80. Lake, E.D.; Koper, J.; Balayan, A.; Lynch, L. Cohorts and Connections: Doctoral Retention at a Mid-Atlantic Comprehensive Institution. *J. Coll. Stud. Retent.* **2018**, *20*, 197–214. [CrossRef]
81. Mantai, L. 'A Source of Sanity': The Role of Social Support for Doctoral Candidates' Belonging and Becoming. *Int. J. Dr. Stud.* **2019**, *14*, 367. [CrossRef]
82. Hutchings, M. Improving Doctoral Support through Group Supervision: Analysing Face-to-Face and Technology-Mediated Strategies for Nurturing and Sustaining Scholarship. *Stud. High. Educ.* **2017**, *42*, 533–550. [CrossRef]
83. Mellors-Bourne, R.; Metcalfe, J.; Pearce, E.; Hooley, T. *Understanding the Recruitment and Selection of Postgraduate Researchers by English Higher Education Institutions*; Careers Research & Advisory Centre (CRAC) Ltd.: Cambridge, UK, 2014.
84. Kim, K.H.; Spencer-Oatey, H. Enhancing the Recruitment of Postgraduate Researchers from Diverse Countries: Managing the Application Process. *High. Educ.* **2021**, *82*, 917–935. [CrossRef]
85. Liu, S.; Chen, Y.; Li, S.; Xu, N.; Tang, C.; Wei, Y. What Are the Important Factors Influencing the Recruitment and Retention of Doctoral Students in a Public Health Setting? A Discrete Choice Experiment Survey in China. *Int. J. Environ. Res. Public Health* **2021**, *18*, 9474. [CrossRef]
86. Maringe, F.; Gibbs, P. *Marketing Higher Education: Theory and Practice*; McGraw-Hill Education: London, UK, 2008; ISBN 0335220320.
87. Mewburn, I.; Tokareva, E.; Cuthbert, D.; Sinclair, J.; Barnacle, R. 'These Are Issues That Should Not Be Raised in Black and White': The Culture of Progress Reporting and the Doctorate. *High. Educ. Res. Dev.* **2014**, *33*, 510–522. [CrossRef]
88. Townsend, K.; Saunders, M.N.K.; Loudoun, R.; Morrison, E.A. *How to Keep Your Doctorate on Track: Insights from Students' and Supervisors' Experiences*; Edward Elgar Publishing: Kent, UK, 2020; ISBN 1788975634.
89. Dowle, S. Are Doctoral Progress Reviews Just a Bureaucratic Process? The Influence of UK Universities' Progress Review Procedures on Doctoral Completions. *Perspect. Policy Pract. High. Educ.* **2023**, *27*, 79–86. [CrossRef]
90. Barnacle, R.; Mewburn, I. Learning Networks and the Journey of 'Becoming Doctor'. *Stud. High. Educ.* **2010**, *35*, 433–444. [CrossRef]
91. Ahern, K.; Manathunga, C. Clutch-Starting Stalled Research Students. *Innov. High. Educ.* **2004**, *28*, 237–254. [CrossRef]
92. Lovitts, B.E. The Transition to Independent Research: Who Makes It, Who Doesn't, and Why. *J. High. Educ.* **2008**, *79*, 296–325. [CrossRef]
93. Kiley, M. Identifying Threshold Concepts and Proposing Strategies to Support Doctoral Candidates. *Innov. Educ. Teach. Int.* **2009**, *46*, 293–304. [CrossRef]
94. Aitchison, C.; Lee, A. Research Writing: Problems and Pedagogies. *Teach. High. Educ.* **2006**, *11*, 265–278. [CrossRef]
95. Lindsay, S. What Works for Doctoral Students in Completing Their Thesis? *Teach. High. Educ.* **2015**, *20*, 183–196. [CrossRef]
96. Greene, M.J. On the inside Looking in: Methodological Insights and Challenges in Conducting Qualitative Insider Research. *Qual. Rep.* **2014**, *19*, 1–13. [CrossRef]
97. Singh, M.; Manathunga, C.; Bunda, T.; Jing, Q. Mobilising indigenous and non-western theoretic-linguistic knowledge in doctoral education. *Knowl. Cult.* **2016**, *4*, 56–70.

98. Nerad, M. Governmental Innovation Policies, Globalisation, and Change in Doctoral Education Worldwide: Are Doctoral Programmes Converging? Trends and Tensions. In *Structural and Institutional Transformations in Doctoral Education: Social, Political and Student Expectations*; Palgrave Macmillan: Cham, Switzerland, 2020; pp. 43–84.
99. Hradsky, D.; Soyoof, A.; Zeng, S.; Foomani, E.M.; Cong-Lem, N.; Maestre, J.-L.; Pretorius, L. Pastoral Care in Doctoral Education: A Collaborative Autoethnography of Belonging and Academic Identity. *Int. J. Dr. Stud.* **2022**, *17*, 1. [CrossRef]
100. McCulloch, A. Excellence in Doctoral Supervision: Competing Models of What Constitutes Good Supervision. In Proceedings of the 9th Quality in Postgraduate Research Conference, Adelaide, Australia, 13–15 April 2010; p. 175.
101. Murphy, N.; Bain, J.D.; Conrad, L. Orientations to Research Higher Degree Supervision. *High. Educ.* **2007**, *53*, 209–234. [CrossRef]
102. McCallin, A.; Nayar, S. Postgraduate Research Supervision: A Critical Review of Current Practice. *Teach. High. Educ.* **2012**, *17*, 63–74. [CrossRef]
103. Golde, C.M. Should I Stay or Should I Go? Student Descriptions of the Doctoral Attrition Process. *Rev. High. Ed.* **2000**, *23*, 199–227. [CrossRef]
104. Burford, J. Not Writing, and Giving 'Zero-F** Ks' about It: Queer (y) Ing Doctoral 'Failure'. *Discourse Stud. Cult. Politics Educ.* **2017**, *38*, 473–484. [CrossRef]
105. Watermeyer, R.; Crick, T.; Knight, C.; Goodall, J. COVID-19 and Digital Disruption in UK Universities: Afflictions and Affordances of Emergency Online Migration. *High. Educ.* **2021**, *81*, 623–641. [CrossRef]
106. Cherrington, S.; Macaskill, A.; Salmon, R.; Boniface, S.; Shep, S.; Flutey, J. Developing a Pan-University Professional Learning Community. *Int. J. Acad. Dev.* **2018**, *23*, 298–311. [CrossRef]