

Article

Investigating the Mental Health, Wellbeing, and Resilience of Postgraduate Researchers

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Abstract: Background: This study investigates the factors affecting the mental health and wellbeing of postgraduate researchers (PGRs) at a UK institution, with a focus on resilience as a determinant of wellbeing. PGRs experience unique challenges, including workload pressures, isolation, and imposter syndrome. Methods: This study employs a mixed-methods approach to identifying the most pertinent factors affecting their wellbeing. Quantitative data were collected through an online survey using validated scales such as the Warwick-Edinburgh mental wellbeing scale (WEMWBS), the Connor–Davidson resilience scale (CD-RISC), and the Juniper PhD wellbeing scale (JPWBS). Result: The survey results revealed that PGRs scored significantly lower on wellbeing and resilience compared with the general population. To further explore these findings, qualitative data were obtained through semi-structured interviews with a subset of participants, generating the following key themes: control, balance, and coping. Conclusions: The research highlights the complex interplay between institutional factors, personal expectations, and coping strategies in shaping PGR wellbeing. The findings underscore the need for tailored interventions that address these factors, emphasizing the importance of building resilience, providing adequate support, and fostering a balanced work–life environment for PGRs. This study contributes to the growing body of literature on PGR mental health, offering insights for universities to enhance support services and promote a healthier research environment.

Keywords: higher education; postgraduate research; doctoral; wellbeing; mental health; resilience



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1. Introduction

Mental health issues often begin to emerge during young adulthood [1]. In recent years, there has been a growing concern about the rising rates of poor mental health, increased demand for counselling, and suicide in higher education students [2–4]. Wellbeing has become a priority in higher education (HE) policy in the United Kingdom (UK), leading to the development of the University Mental Health Charter, advocating a whole-university approach to promoting good wellbeing [5,6].

To date, much of the research and policy regarding student mental health has focused on undergraduate students. Yet universities, funders, charities, and the media in the UK have become increasingly aware that these wellbeing concerns also impact postgraduate researchers (PGRs). Therefore, more recently, funding has been directed toward research in this population. In 2018, Vitae published a report that was funded by the Higher Education Funding Council for England: “Exploring Wellbeing and Mental Health and Associated Support Services for Postgraduate Researchers” [7]. The report highlighted key challenges faced by PGRs in the UK, including issues with supervision, financial pressures, and workload. In response, Research England and the Office for Students launched a

Catalyst Fund initiative, offering funding for 17 projects led by UK universities and research teams. These projects aimed to better understand and address the psychological challenges associated with postgraduate research [8].

This rapid increase in research interest in the mental health and wellbeing of PGRs studying in the UK provides clear evidence that this is an issue requiring immediate intervention [7,9–13]. The underpinning is complex and multifaceted. It is understood that factors including a lack of social support [14,15], research challenges [16], workload [17], and psychological factors such as imposter syndrome [10,12,15] and resilience [10,11], appear to be predictors of poor mental health and wellbeing within this population. However, there is limited qualitative data to further explore these factors and how they interplay with mental health and wellbeing.

Resilience is understood to be an important determinant of wellbeing [18]. Wellbeing is defined as a state in which an individual realizes their capabilities to cope with normal life and has a sense of belonging to their community [19]. Resilience refers to one's ability to thrive when facing adversity [20] and reacting adaptively to stressful life events [21]. Resilience is also a psychological resource that can be enhanced through social, emotional, and practical support. A recent literature review highlighted the role resilience can play in good mental health and wellbeing, coping, and success at university [22]. Therefore, interest in resilience in student groups is increasing, with many interventions focusing on promoting resilience [23]. Research has identified low levels of resilience in PGRs in comparison to general population averages [10] and an association between low resilience and adverse psychological outcomes [11].

It is, therefore, imperative that research explores the underpinning of poor mental health within this population. This study represents the first stage in the development of co-produced, tailored interventions to promote the wellbeing and resilience of PGRs studying in the UK [24]. Therefore, the focus of the current study is to define the problem within the target intervention participants and establish the influences that contribute to it [25], in order to consider remedial strategies. The overarching aim of this mixed-methods study was to explore the factors that affect PGR wellbeing and resilience within the chosen UK institution, and seek to answer the following research question: What are the main factors affecting the wellbeing and resilience of PGRs studying at the institution?

2. Materials and Methods

2.1. Method

This study had two distinct phases. First, quantitative data were collected via an online survey. Respondents were given the option of providing their email addresses to arrange a follow-up interview. Qualitative data were collected via a semi-structured interview with a subset of survey respondents. The explanatory sequential [26] mixed-methods research design was chosen to address the research question, leveraging the strengths and offsetting the limitations of each method [27]. Analysis began with the quantitative data, and then, the qualitative results provided further insight and clarification of the initial findings. The quantitative and qualitative results were reported separately and integrated within the discussion.

The survey was built on the Online Surveys platform and was previously used within another study published by this research team [10]. The survey included a range of validated scales measuring wellbeing (The Warwick-Edinburgh mental wellbeing scale [28]), resilience (The Connor–Davidson resilience scale [20]), and PGR-specific wellbeing (Juniper PhD wellbeing scale [29]). The interviews were conducted face-to-face during the summer of 2019. The questions, which were developed based on the research questions and insights from the literature review, were predetermined before the interviews. To ensure clarity and relevance, the questions were piloted with a PGR before conducting the first interview. As the interviews were semi-structured, the interviewer was able to ask follow-up questions to seek clarification or explore an area in more depth.

2.2. Measures

Wellbeing was measured using the Warwick-Edinburgh mental wellbeing scale (WEMWBS). The WEMWBS was developed and validated by Tennant and Hiller [28] and is comprised of positively worded items relating to different aspects of positive mental health [28]. The WEMWBS is recommended for use in student samples [30,31] and has been the universal psychometric scale for measuring wellbeing within PGRs studying in the UK [10,13–15]. The mean value for the UK population was used for comparison to the sample averages within this research. The Juniper PhD wellbeing scale (JPWBS) [29] was used to measure the part of a student's overall wellbeing that is primarily affected by postgraduate research [29]. The scale includes 7 domains: supervision, research, university, social, health and home, facilities and development. Several review papers have advocated the usefulness of the scale [32,33]. The scale was used to pinpoint the domains of the PGR study that most affect wellbeing. The Connor–Davidson resilience scale (CD-RISC) was developed as a self-rated, validated measure to help quantify resilience [20]. In this study, the averages from the general population sample were used in comparison to the sample mean.

2.3. Participants

This research recruited PGRs from one university in South England in 2019. The participants were recruited via convenience sampling through social media, posters around campus, and word of mouth. In total, 54 PGRs participated in the online survey. Of those who participated in the survey, 18 took part in follow-up interviews. The demographic information of the interview participants can be seen in Table 1.

Table 1. Participant demographics.

Demographics	Frequency	Percentage
<i>n</i>	54	
Gender		
Male	15	28%
Female	39	72%
Discipline		
Health or social sciences	19	35%
Business or management	8	15%
Media, law, or communications	7	13%
Science or technology	20	37%
Domicile		
Home	34	63%
International	19	37%
Study mode		
Full-time	40	74%
Part-time	14	26%
Staff member		
Yes	18	33%
No	36	67%
Program		

Table 1. *Cont.*

Demographics	Frequency	Percentage
Doctor of Philosophy (PhD)	47	87%
Masters by Research (MRes)	5	9%
Doctor of Education (EdD)	1	2%
Doctor of Engineering (EngD)	1	2%
Funding		
Studentship	28	52%
Other	26	48%

2.4. Data Analysis

The survey data were analyzed using Statistical Package for the Social Sciences Version 25 (IBM SPSS Statistics, Armonk, NY, USA). Normality testing was conducted to analyze the distribution of the scores for each scale prior to analysis. The internal reliability of each scale used was calculated using Cronbach's alpha. Means were calculated for the scales to determine average scores for the samples. Pearson's correlation was used to assess convergent validity by examining the relationships between the three scales. One-sample *t*-tests were conducted to compare CD-RISC and WEMWBS scores with population means [20,28]. Additionally, means were calculated to identify which JPWBS domains or items were rated as most important, highlighting the items most frequently selected by participants. To gain deeper insights, data from 18 semi-structured interviews were analyzed. The analysis was inductive, with no predetermined themes. Thematic analysis was used to establish themes and patterns in PGR students' interview data. The steps of thematic analysis, as outlined by Braun and Clarke [34], were followed.

2.5. Ethical Considerations

Ethical approval was granted by the Bournemouth University Research Ethics Committee in January 2019 (Ethics ID 24627). A key ethical consideration involved collecting interview participants' email addresses, which was crucial for scheduling the interviews and integral to the mixed-methods design, allowing for the triangulation of survey data with interview responses. This identifiable information was securely stored in line with the university's data handling policies, with access limited to the lead researcher. To support the wellbeing of PGRs, the scales and interview questions were designed to be positively framed and sensitive. Participants were also provided with details of the university's wellbeing services and other support resources if they had any concerns about their wellbeing during or after their participation, both within the survey and during the interviews.

3. Results

3.1. Quantitative Results

All scales demonstrated high internal reliability, with values exceeding the acceptable threshold of 0.70 [35], as shown in Table 2.

Table 2. Internal reliability of measures.

Scale	<i>n</i>	Cronbach's Alpha
JPWBS	54	0.88
CD-RISC	54	0.92
WEMWBS	54	0.95

Note: *n* = number of participants.

The scores for the CD-RISC and WEMWBS scales were normally distributed. The mean WEMWBS score was 45.09 (± 11.93), which was significantly lower than the population mean of 51.61 (± 8.71) reported by the scale authors ($t(53) = -4.02, p < 0.01$) [28]. Similarly, the mean CD-RISC score was 67.60 (± 16.24), significantly below the population mean of 80.40 (± 12.80) [20] ($t(53) = -5.81, p < 0.01$).

The mean scores for each JPWBS domain are presented in Table 3, with the health and home, research, and social domains rated as having the greatest impact on wellbeing. Unexpectedly, the supervisor domain was selected less frequently, suggesting it had lower salience among participants.

Table 3. Mean scores for JPWBS.

JPWBS Domain	<i>n</i>	Mean	SD
Health and home	54	2.62	1.05
Research	54	2.39	1.14
Social	54	2.29	1.22
University	54	2.19	1.11
Development	54	2.16	0.76
Facilities	54	1.84	0.92
Supervisor	54	1.59	0.87

Note: *n* = number of participants; SD = standard deviation; a mean score between 0–5 with a higher value indicating a higher impact on wellbeing.

The top-rated factors from the JPWBS, which highlight the items of greatest concern to the participants, are presented in Table 4.

Table 4. Top-rated JPWBS items.

Domain	Factor	<i>n</i>	Mean	SD
Health and home	Experiencing high levels of stress because of your research	54	3.49	1.57
Research	Feeling frustrated/demotivated by your results and apparent lack of progress	54	3.20	1.50
Health and home	Having a high workload that impacts your private life	54	3.18	1.42
Health and home	Making unreasonably high demands of yourself in the name of research	54	3.10	1.54
Research	Lacking confidence in your ability to conduct research to the necessary standard	54	3.04	1.54

Note: *n* = number of participants; SD = standard deviation; a mean score between 0–5 with a higher value indicating a higher impact on wellbeing.

3.2. Qualitative Results

Three main themes emerged from the thematic analysis: balance, control, and coping. Figure 1 illustrates the equilibrium between stressors and coping mechanisms. One side of the scale represents the pressure points affecting the mental health and wellbeing of PGRs at the institution, while the other side reflects the protective factors that encompass the coping strategies PGRs employed to restore their sense of control and balance.

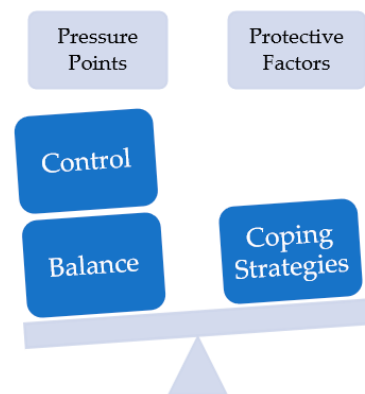


Figure 1. Qualitative themes.

Control

First, in the control theme, the disparity between expectations and reality was frequently discussed. Many felt that their expectations of support during the research degree were not met:

“I would expect to kind of grow more and learn more, but I didn’t. . . I expected more collaboration, more feedback, more of your work together.” Interview participant 5

The participants often reported feeling unsure about what was expected of them, leaving them feeling helpless. Two participants used a metaphor of fighting:

“On a daily basis you’re just fighting all the time. . . not just struggling with your research but you’re just struggling with administration and practical stuff.” Interview participant 11

Many of the PGRs positively discussed the freedom and flexibility of managing their own project. However, often when their autonomy was threatened, they felt disempowered. Often, the academic milestones from the institution and feedback from supervisors were perceived as threats, leading them to feel inadequate:

“It takes it away from that really enjoyable, emancipatory journey into something that makes you feel like right, I’ve just got to jump through these hoops.” Interview participant 7

PGRs who also had academic job roles felt they had a hybrid identity between student and staff, confused by their status at the university and unsure how they were viewed by others:

“I am prone to the well-established phenomenon of imposter syndrome. Those of us who come from practice always feel that we’re one step behind those who are real academics.” Interview participant 9

Balance

Many participants felt distant from their peers, with a lack of opportunities to socialize with other PGRs:

“It’s just the loneliness, how lonely the path is. . . that has been the hardest thing about my research degree.” Interview participant 2

Others found it difficult to maintain a balance between their social life and their research during stressful periods in the research degree:

“I kind of lost that connection because I was so much focusing on writing my thesis. So, it’s difficult, it’s challenging, and I think really demands a lot of extra effort to stay in touch with people and get the feeling of that culture.” Interview participant 12

For some participants who were neurodivergent or had a disability, their ability to socialize or connect with others was limited by their condition:

"I'm disabled so some days I can't get into uni. I'll work from my bed if I have to... it's harder to bond with people when you're not seeing them all the time." Interview participant 3

Many discussed mental or physical health conditions that were worsened by the stress of the research and affected their academic performance. However, some participants felt unable to take time off their work to cope with physical or mental illness:

"With some supervisors it's hard to ask for time off if you need it for your mental health. Supervisors should not tell PGRs 'well take the time off if you really think you can afford it time wise.'" Interview participant 6

Others discussed the difficulties of balancing their research with family, caring responsibilities, financial problems, and other professional demands.

Coping Strategies

Self-care, eating well, and physical activity were discussed by participants as ways to manage their stress during postgraduate research. Many PGRs were engaged in hobbies, clubs, societies, sports teams, or religious communities and found this helpful during their research degree studies:

"I never gave up on my hobbies. . . these are important things when you're really in an intense phase of your work or studies." Interview participant 12

PGRs often sought social support to help them cope with the stresses of their research. Supervisors and peers were primary sources of support:

"The support I got from my supervisors at that point was excellent. . . I've had a crisis of confidence, I've had imposter syndrome. . . Every time there has been a supervisor who has listened to me." Interview participant 18

However, some reported confusion about the role of the supervisor and felt that opportunities to build a support network outside of their supervisory team were limited:

"Your supervisors could maybe give you a sense of how they can support you. . . in terms of their own availability and resources and emotional space in their lives and pressures. How much can they actually offer you?" Interview participant 11

Project planning strategies were often discussed as ways of coping with the uncertainty of the research degree. For some, the act of planning their time increased feelings of control and supported work–life balance:

"I think that's one of the biggest learning I've had is that it's not like a nine to five job. . . So, some of what I've had to learn, and to manage my own wellbeing, is to be forgiving of that. I make sure as much as possible that I take my holidays. . . There's no reason why you can't if you can manage it." Interview participant 18

On the other hand, those who struggled with time management reported feeling overwhelmed:

"You walk in, and they go right, '3 years, we'll see you at the end.'" How do you manage that time? How do you plan when everything needs to be done? . . . I just feel everything is slightly out of control." Interview participant 1

4. Discussion

The results of the online survey revealed that wellbeing and resilience scores of PGRs at the institution were significantly lower than the population averages. This finding aligns with existing research, which indicates that wellbeing and resilience among PGRs studying at UK universities are notably low [10–15]. The JPWBS included in the online survey enabled researchers to identify the most salient aspects of the PGR experience, with items related to health and home receiving the highest importance ratings. Contrary to expectations, issues related to supervision were rated the lowest among the JPWBS domains, reflecting similar findings from PGRs at other UK universities [10]. This contrasts

with the consensus in other literature reviews, which identify supervision as the primary factor influencing the wellbeing of PGRs [36,37]. Therefore, supervision remains a central concern. It can be argued that the JPWBS does not adequately address all aspects of the supervisory relationship that impact wellbeing, such as autonomy and control, which warrants further exploration.

The interviews provided an in-depth, nuanced description of the complex, emotional experience of the postgraduate research journey, explaining the quantitative findings [38]. The interviews revealed discussions around self-efficacy and imposter syndrome. There is strong evidence that self-efficacy is associated with academic achievement [39]. The JPWBS revealed that items relating to confidence and imposter syndrome were highly rated in terms of their negative effects on wellbeing, such as “Lacking confidence in your ability to conduct research to the necessary standard”. Therefore, interventions aimed at increasing psychological resources, such as self-efficacy, could be a mechanism for change. The experience of imposter syndrome in PGRs is highlighted in previous research [10,40]. Gill [41] suggests that normalizing these feelings of fraudulence is the first step in developing stronger self-belief for researchers. Therefore, it is recommended that doctoral colleges and supervisors encourage open dialogue with PGRs about managing failure and imposter thoughts and promote a culture of sharing successes.

In addition, autonomy was discussed. A central challenge for research degree supervisors is striking a balance between providing adequate support and encouraging PGRs to evolve into independent researchers [42]. Some PGRs in the study viewed the influence of supervisors and institutional milestones as a threat, feeling as though they were being compelled to jump through hoops. The literature has indicated that PGRs generally become more autonomous as they advance in their degree [43,44]. PGRs are navigating their developing identities as researchers [45]. Universities and supervisors need to recognize this shift in identity and power dynamic throughout the PGR journey while still maintaining sufficient support [46]. This is imperative as research demonstrates a combination of high levels of autonomy and high levels of academic support create the highest levels of research self-efficacy in PGRs [42]. It is important that this balance is monitored and maintained; further qualitative research is needed to explore and understand this journey.

Within this theme, there were discussions about expectations: the discrepancy between preconceived ideas and the reality of the postgraduate research experience. Previous research has highlighted a disparity between PGRs’ expectations of support and the actual resources available to them [47,48]. It is understandably challenging for universities to accurately represent the realities of the PGR experience while also striving to promote a positive postgraduate research culture. This tension is particularly pronounced as students are increasingly viewed as consumers [49], which increases the potential for student dissatisfaction. Most importantly, universities and doctoral colleges should carefully consider how they are marketing the PGR experience to prospective students. This may be especially pertinent in fee-paying PGRs as the “value for money” discourse is rife [50]. This rhetoric is an inevitable consequence of the framing of students as customers.

Establishing clear and balanced expectations is essential for mitigating unrealistic perceptions and reducing uncertainty. It is important to recognize that uncertainty is an inherent aspect of postgraduate research [51,52]. However, this lack of certainty contributes to poor mental health [53]. Traditionally, academia has suppressed the expression of emotions related to uncertainty in research [52]. It is recommended that this emotional aspect of uncertainty be normalized and reframed [51], thereby creating a safer space for discussing its emotional consequences [52]. In light of this, it is crucial to emphasize positive experiences, which challenges the prevailing narrative that pursuing a PGR is synonymous with poor mental health [54]. It is essential that PGRs differentiate between “normal” academic stress and the symptoms of mental health issues [7]. Consequently, a diverse range of mental health support should be made available, encompassing preventative stress reduction activities, such as mindfulness, along with adequate resources for crisis

intervention. This should also be integrated into PGR inductions and into training for PGR supervisors to ensure all staff and students are aware of the available support provisions.

Balance was another central theme in the qualitative findings, highlighting the various demands and challenges that hindered PGRs' ability to maintain a healthy work–life balance. The significant workload and extended working hours associated with postgraduate research often made it challenging to engage in social activities or pursue enjoyable hobbies outside of research. This observation aligns with some of the top-rated items on the JPWBS scale, such as: “Experiencing high levels of stress because of your research”, “Having a high workload that impacts your private life”, and “Making unreasonably high demands of yourself in the name of research”. Previous literature highlights the issue of work–life balance for PGRs [55], including those studying in the UK [10]. This was exacerbated by supervisory practices in some cases. Several interview participants voiced feeling pressured to overwork by their supervisors. For instance, in asking to take time off work, one supervisor reportedly put the onus on the PGR with the potentially guilt-laden statement: “if you think you can afford it”. Such examples show how the choice of language can impact student wellbeing. The Good Supervisory Practice Framework, introduced by the UK Council of Graduate Education [56] argues that supervisors have a responsibility to model a healthy work–life balance. However, this is an institution- and sector-wide issue, with overwork being perceived as the norm in academia [57]. In acknowledging this pertinent systemic issue, it may be recommended in the short term that individual-level training relating to time management, project planning, goal setting, and boundary setting would likely support PGRs in managing their work–life balance.

Project planning was a form of proactive coping mentioned by the PGRs in the sample, with participants reporting its effectiveness in enhancing productivity and maintaining a healthy work–life balance. These ways of coping were also identified by Kearns and Gardiner [58] as central techniques within their cognitive behavioral coaching intervention. Some level of stress is unavoidable while completing a PGR degree; however, if PGRs receive training on effective project management and planning, they may be better equipped to handle this stress. This represents a promising avenue for preventative intervention.

Isolation was also discussed by PGRs within this institution. Experiencing isolation during postgraduate research is related to increased exhaustion and anxiety [47,59]. Research has found that PGRs who feel part of their academic community report more positive experiences [47] and lower levels of stress, exhaustion, and anxiety [59]. However, participants in this study reported finding it hard to make time to integrate into their PGR community due to their high workload. There is also the consideration of the financial and practical benefits of working from home rather than traveling into campuses, especially with the increasing cost of living crisis in the UK. Therefore, this identifies the need to bolster the accessibility of peer support for PGRs through online and face-to-face methods and to provide further opportunities to socialize.

Further, those living with disabilities, chronic illnesses, or mental health problems reported that this limited their ability to engage in the academic community, as well as affected their research work. This was also highlighted in recent qualitative research [46]. Likewise, the participants with familial and caring responsibilities experienced further difficulties in maintaining their work–life balance. This is outlined in research focusing on undergraduate students [60,61] and has been described in previous literature as a balancing act [62], finding that PGRs tend to make personal sacrifices in the name of research [63]. Engaging in extracurricular and social activities enriches students' learning experiences, contributing to a greater sense of belonging and wellbeing [61]. Therefore, it is crucial to further explore intersectionality within the postgraduate research student body to understand the specific needs of minoritized students and develop strategies to reduce barriers to social activities. Researchers and universities should draw upon the lived experiences of students with intersectional identities to gain insights into the accommodations or modifications necessary to make social support accessible and inclusive for all [64].

This study has several limitations. First, this study was based on a small sample of students from one UK university, and it is acknowledged that students' experience varies and there are differences in institutional support nationally and internationally. In addition, although there are many similarities in the postgraduate research experience, these results are not applicable outside of the UK higher education context due to differences in fees, funding, training, and course duration [55]. Most importantly, it is imperative to highlight that these data were collected before the COVID-19 pandemic, during which the mental health and wellbeing of PGRs were negatively impacted [40,65,66]. Although it is likely that many challenges highlighted in this study persist as HE institutions recover from the pandemic, due to the cross-sectional nature of this study, the results must be considered with caution and within the context and time that the data were collected.

In terms of methodological limitations, self-selection bias is a common challenge in mental health and wellbeing research and has likely influenced the results of this study. In the recruitment advertisements, terminology with mental health connotations, such as "wellbeing", was used. Research has shown that when mental health-related terminology is employed in recruitment materials, respondents tend to report higher scores on clinical measures of wellbeing, stress, and psychological distress [67], inflating results due to a priming effect [68].

This may also be related to the gender bias within the study sample. While there is an even distribution of male and female PGRs in the UK, 72% of the 54 survey respondents identified as female. This overrepresentation may have skewed the results as research indicates that female students often experience poorer mental health while at university [69] and are more likely to have caring and childcare responsibilities than male students. Research indicates that males are less likely to participate in studies related to mental health and wellbeing [70]. They are more inclined to respond to surveys on this topic when terms such as "strength" and "happiness" are used instead of clinical language [67]. This consideration is crucial for future research as efforts should be made to achieve a more balanced representation of all genders in student mental health studies.

5. Conclusions

The factors that underpin the wellbeing and resilience of PGRs are diverse and multifaceted, and this study identified both pressure points and protective factors. The research highlights a need for a range of interventions to be developed to support PGRs to address both personal challenges and community factors. PGRs longed for more social interaction with peers, and those who experienced more social support appeared to cope better with the stresses of postgraduate research. Therefore, increasing social support from academics and peers and encouraging PGRs to seek this social support were another focus of the recommendations. This could be the first step toward improving the research culture of the PGR community, creating a more mentally healthy and socially cohesive environment. More qualitative research is needed to explore the fundamental, systemic issues PGRs face, such as a culture of overwork, and to develop supportive, targeted interventions. Finally, further representation and co-production within research, across a broad range of demographics, including those with disabilities, those with caring responsibilities, and LGBTQ+ or neurodiverse PGRs, will help design wellbeing interventions that are inclusive for all.

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References

- Kessler, R.C.; Chiu, W.T.; Demler, O.; Walters, E.E. Prevalence, Severity, and Comorbidity of 12-Month DSM-IV Disorders in the National Comorbidity Survey Replication. *Arch. Gen. Psychiatry* **2005**, *62*, 617–627. [\[CrossRef\]](#)
- Eisenberg, D.; Gollust, S.E.; Golberstein, E.; Hefner, J.L. Prevalence and correlates of depression, anxiety, and suicidality among university students. *Am. J. Orthopsychiatry* **2007**, *77*, 534–542. [\[CrossRef\]](#)
- Macaskill, A. The mental health of university students in the United Kingdom. *Br. J. Guid. Couns.* **2013**, *41*, 426–441. [\[CrossRef\]](#)
- Williams, M.; Coare, P.; Marvell, R.; Pollard, E.; Houghton, A.-M.; Anderson, J. Understanding provision for students with mental health problems and intensive support needs. In *Report to HEFCE by the Institute for Employment Studies and Researching Equity, Access and Partnership*; Institute for Employment Studies: London, UK, 2015.
- Hughes, G.; Spanner, L. *The University Mental Health Charter*; Student Minds: Leeds, UK, 2019.
- Hughes, G.; Spanner, L. *Planning for a Sustainable Future: The Importance of University Mental Health in Uncertain Times*; Student Minds: Leeds, UK, 2020.
- Metcalf, J.; Wilson, S.; Levecque, K. *Exploring Wellbeing and Mental Health and Associated Support Services for Postgraduate Researchers*; Vitae: London, UK, 2018.
- Metcalf, J.; Day, E.; de Pury, J.; Dicks, A. Catalyst Fund. Supporting mental health and wellbeing for postgraduate research students. In *Programme Evaluation*; Vitae and Universities: London, UK, 2020.
- Jackman, P.C.; Sanderson, R.; Allen-Collinson, J.; Jacobs, L. ‘There’s only so much an individual can do’: An ecological systems perspective on mental health and wellbeing in the early stages of doctoral research. *J. Furth. High. Educ.* **2022**, *46*, 931–946. [\[CrossRef\]](#)
- Casey, C.; Harvey, O.; Taylor, J.; Knight, F.; Trenoweth, S. Exploring the wellbeing and resilience of postgraduate researchers. *J. Furth. High. Educ.* **2022**, *46*, 850–867. [\[CrossRef\]](#)
- Milicev, J.; McCann, M.; Simpson, S.A.; Biello, S.M.; Gardani, M. Evaluating Mental Health and Wellbeing of Postgraduate Researchers: Prevalence and Contributing Factors. *Curr. Psychol.* **2021**, *42*, 12267–12280. [\[CrossRef\]](#)
- Berry, C.; Niven, J.E.; Hazell, C.M. Personal, social and relational predictors of UK postgraduate researcher mental health problems. *BJPsych Open* **2021**, *7*, e205. [\[CrossRef\]](#)
- Moss, R.A.; Gorczyński, 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. [\[CrossRef\]](#)
- Jackman, P.C.; Slater, M.J.; Carter, E.E.; Sisson, K.; Bird, M.D. Social support, social identification, mental wellbeing, and psychological distress in doctoral students: A person-centred analysis. *J. Furth. High. Educ.* **2022**, *47*, 45–58. [\[CrossRef\]](#)
- Byrom, N.C.; Dinu, L.; Kirkman, A.; Hughes, G. Predicting stress and mental wellbeing among doctoral researchers. *J. Ment. Health* **2020**, *31*, 783–791. [\[CrossRef\]](#) [\[PubMed\]](#)
- Spacey, A.; Harvey, O.; Casey, C. Postgraduate researchers’ experiences of accessing participants via gatekeepers: ‘Wading through treacle!’. *J. Furth. High. Educ.* **2020**, *45*, 433–450. [\[CrossRef\]](#)
- Cornell, B. *PhD Life: The UK Student Experience*; Higher Education Policy Institute: London, UK, 2020.
- Ryff, C.D.; Singer, B. Flourishing under fire: Resilience as a prototype of challenged thriving. In *Flourishing: Positive Psychology and the Life Well-Lived*; American Psychological Association: Washington, DC, USA, 2003; pp. 15–36.
- World Health Organization. *Promoting Mental Health: Concepts, Emerging Evidence, Practice: A Report of the World Health Organization, Department of Mental Health and Substance Abuse in Collaboration with the Victorian Health Promotion Foundation and the University of Melbourne*; World Health Organization: Geneva, Switzerland, 2005.
- Connor, K.M.; Davidson, J.R.T. Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depress. Anxiety* **2003**, *18*, 76–82. [\[CrossRef\]](#)
- Masten, A.S. Ordinary magic: Lessons from research on resilience in human development. *Educ. Can.* **2009**, *49*, 28–32.
- Brewer, M.L.; van Kessel, G.; Sanderson, B.; Naumann, F.; Lane, M.; Reubenson, A.; Carter, A. Resilience in higher education students: A scoping review. *High. Educ. Res. Dev.* **2019**, *38*, 1105–1120. [\[CrossRef\]](#)
- Worsley, J.; Pennington, A.; Corcoran, R. What interventions improve college and university students’ mental health and wellbeing? In *A Review of Review-Level Evidence*; What Works Centre for Wellbeing: London, UK, 2020.
- Casey, C.; Trenoweth, S.; Harvey, O.; Helstrip, J.; Knight, F.; Taylor, J.; Polkinghorne, M. Qualitative Pilot Interventions for the Enhancement of Mental Health Support in Doctoral Students. *Psych* **2024**, *6*, 426–437. [\[CrossRef\]](#)
- Wight, D.; Wimbush, E.; Jepson, R.; Doi, L. Six steps in quality intervention development (6SQuID). *J. Epidemiol. Community Health* **2016**, *70*, 520–525. [\[CrossRef\]](#)

26. Teddlie, C.; Tashakkori, A. A general typology of research designs featuring mixed methods. *Res. Sch.* **2006**, *13*, 12–28.
27. Creswell, J.W.; Plano Clark, V.L. *Designing and Conducting Mixed Methods Research*; Sage Publication: London, UK, 2010; p. 457.
28. Tennant, R.; Hiller, L.; Fishwick, R.; Platt, S.; Joseph, S.; Weich, S.; Parkinson, J.; Secker, J.; Stewart-Brown, S. The Warwick-Edinburgh mental well-being scale (WEMWBS): Development and UK validation. *Health Qual. Life Outcomes* **2007**, *5*, 63. [CrossRef]
29. 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]
30. Dodd, A.L. Student mental health research: Moving forwards with clear definitions. *J. Ment. Health* **2020**, *30*, 273–275. [CrossRef] [PubMed]
31. Dodd, A.L.; Priestley, M.; Tyrrell, K.; Cygan, S.; Newell, C.; Byrom, N.C. University student well-being in the United Kingdom: A scoping review of its conceptualisation and measurement. *J. Ment. Health* **2021**, *30*, 375–387. [CrossRef]
32. Schmidt, M.; Hansson, E. Doctoral students' well-being: A literature review. *Int. J. Qual. Stud. Health Well-Being* **2018**, *13*, 1508171. [CrossRef]
33. Scott, H.; Takarangi, M.K.T. Measuring PhD student's psychological well-being: Are we seeing the whole picture? *Stud. Success* **2019**, *10*, 14. [CrossRef]
34. Braun, V.; Clarke, V. Using thematic analysis in psychology. *Qual. Res. Psychol.* **2006**, *3*, 77–101. [CrossRef]
35. Cronbach, L.J. Coefficient alpha and internal structure of tests. *Psychometrika* **1951**, *16*, 297–334. [CrossRef]
36. Leonard, D.; Metcalfe, J.; Becker, R.; Evans, J. *Review of Literature on the Impact of Working Context and Support on the Postgraduate Research Student Learning Experience*; The Higher Education Academy: London, UK, 2006.
37. Mackie, S.A.; Bates, G.W. Contribution of the doctoral education environment to PhD candidates' mental health problems: A scoping review. *High. Educ. Res. Dev.* **2019**, *38*, 565–578. [CrossRef]
38. Ivankova, N.V.; Creswell, J.W.; Stick, S.L. Using Mixed-Methods Sequential Explanatory Design: From Theory to Practice. *Field Methods* **2006**, *18*, 3–20. [CrossRef]
39. Duckworth, A.L.; Taxer, J.L.; Eskreis-Winkler, L.; Galla, B.M.; Gross, J.J. Self-Control and Academic Achievement. *Annu. Rev. Psychol.* **2019**, *70*, 373–399. [CrossRef]
40. Byrom, N.; Metcalfe, J. Impact of COVID 19 on Doctoral and Early Career Researchers. 2020. Available online: <https://www.smartern.org.uk/covid-19-study.html> (accessed on 20 June 2020).
41. Gill, P. Imposter syndrome; Why is it so common amongst nurse researchers and is it really a problem? *Nurse Res.* **2020**, *28*, 30–36. [CrossRef]
42. Overall, N.C.; Deane, K.L.; Peterson, E.R. Promoting doctoral students' research self-efficacy: Combining academic guidance with autonomy support. *High. Educ. Res. Dev.* **2011**, *30*, 791–805. [CrossRef]
43. Thompson, D.R.; Kirkman, S.; Watson, R.; Stewart, S. Improving research supervision in nursing. *Nurse Educ. Today* **2005**, *25*, 283–290. [CrossRef]
44. Doloriert, C.; Sambrook, S.; Stewart, J. Power and emotion in doctoral supervision: Implications for HRD. *Eur. J. Train. Dev.* **2012**, *36*, 732–750. [CrossRef]
45. Foot, R.; Crowe, A.R.; Tollafield, K.A.; Allan, C.E. Exploring Doctoral Student Identity Development Using a Self-Study Approach. *Teach. Learn. Inq.* **2014**, *2*, 103–118. [CrossRef]
46. White, N.; Milicev, J.; Bradford, D.R.; Rodger, A.; Gardani, M. The mental labyrinth of postgraduate research: A qualitative study of the impact and role of the supervisory relationship on postgraduate mental health and wellbeing. *High. Educ.* **2022**, *87*, 1–16.
47. Emmioğlu, E.; McAlpine, L.; Amundsen, C. Doctoral students' experiences of feeling (or not) like an academic. *Int. J. Dr. Stud.* **2017**, *12*, 73–90.
48. Pyhältö, K.; Vekkaila, J.; Keskinen, J. Exploring the Fit between Doctoral Students' and Supervisors' Perceptions of Resources and Challenges vis-à-vis the Doctoral Journey. *Int. J. Dr. Stud.* **2012**, *7*, 395–414.
49. Nixon, E.; Scullion, R.; Hearn, R. Her majesty the student: Marketised higher education and the narcissistic (dis)satisfactions of the student-consumer. *Stud. High. Educ.* **2018**, *43*, 927–943. [CrossRef]
50. Jones, S.; Vigurs, K.; Harris, D. Discursive framings of market-based education policy and their negotiation by students: The case of 'value for money' in English universities. *Oxf. Rev. Educ.* **2020**, *46*, 375–392. [CrossRef]
51. Albertyn, R.; Bennett, K. Containing and harnessing uncertainty during postgraduate research supervision. *High. Educ. Res. Dev.* **2021**, *40*, 661–675. [CrossRef]
52. Butler-Rees, A.; Robinson, N. Encountering precarity, uncertainty and everyday anxiety as part of the postgraduate research journey. *Emot. Space Soc.* **2020**, *37*, 100743. [CrossRef]
53. Schmidt, S.; Roesler, U.; Kusserow, T.; Rau, R. Uncertainty in the workplace: Examining role ambiguity and role conflict, and their link to depression—A meta-analysis. *Eur. J. Work. Organ. Psychol.* **2014**, *23*, 91–106. [CrossRef]
54. Guthrie, S.; Lichten, C.A.; van Belle, J.; Ball, S.; Knack, A.; Hofman, J. *Understanding Mental Health in the Research Environment: A Rapid Evidence Assessment*; RAND Health Quarterly: Santa Monica, CA, USA, 2018; Volume 7, p. 2.
55. 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]
56. Taylor, S. *Good Supervisory Practice Framework*; UK Council for Graduate Education: Staffordshire, UK, 2019.
57. Lashuel, H.A. Mental health in academia: What about faculty? *eLife* **2020**, *9*, e54551. [CrossRef]

58. Kearns, H.; Forbes, A.; Gardiner, M. A Cognitive Behavioural Coaching Intervention for the Treatment of Perfectionism and Self-Handicapping in a Nonclinical Population. *Behav. Chang.* **2007**, *24*, 157–172. [[CrossRef](#)]
59. Pyhältö, K.; Stubb, J.; Lonka, K. Developing scholarly communities as learning environments for doctoral students. *Int. J. Acad. Dev.* **2009**, *14*, 221–232.
60. Kettell, L. Young adult carers in higher education: The motivations, barriers and challenges involved—A UK study. *J. Furth. High. Educ.* **2020**, *44*, 100–112. [[CrossRef](#)]
61. Winstone, N.; Balloo, K.; Gravett, K.; Jacobs, D.; Keen, H. Who stands to benefit? Wellbeing, belonging and challenges to equity in engagement in extra-curricular activities at university. *Act. Learn. High. Educ.* **2022**, *23*, 81–96. [[CrossRef](#)]
62. Schmidt, M.; Umans, T. Experiences of well-being among female doctoral students in Sweden. *Int. J. Qual. Stud. Health Well-Being* **2014**, *9*, 23059. [[CrossRef](#)]
63. Martinez, E.; Ordu, C.; Della Sala, M.R.; McFarlane, A. Striving to Obtain a School-Work-Life Balance: The Full-Time Doctoral Student. *Int. J. Dr. Stud.* **2013**, *8*, 39–59. [[CrossRef](#)] [[PubMed](#)]
64. Peterson, S.; Saia, T. Disability, intersectionality, and the experiences of doctoral students. *Rehabil. Couns. Educ. J.* **2022**, *11*, 31773. [[CrossRef](#)]
65. Byrom, N. COVID-19 and the Research Community: The challenges of lockdown for early-career researchers. *eLife* **2020**, *9*, e59634. [[CrossRef](#)] [[PubMed](#)]
66. Jackman, P.C.; Sanderson, R.; Haughey, T.J.; Brett, C.E.; White, N.; Zile, A.; Tyrrell, K.; Byrom, N.C. The impact of the first COVID-19 lockdown in the UK for doctoral and early career researchers. *High. Educ.* **2022**, *84*, 705–722. [[CrossRef](#)] [[PubMed](#)]
67. Choi, I.; Milne, D.N.; Glozier, N.; Peters, D.; Harvey, S.B.; Calvo, R.A. Using different Facebook advertisements to recruit men for an online mental health study: Engagement and selection bias. *Internet Interv.* **2017**, *8*, 27–34. [[CrossRef](#)] [[PubMed](#)]
68. Choi, B.C.K.; Pak, A.W.P. Peer reviewed: A catalog of biases in questionnaires. *Prev. Chronic Dis.* **2005**, *2*, A13.
69. McManus, S.; Gunnell, D. Trends in mental health, non-suicidal self-harm and suicide attempts in 16–24-year old students and non-students in England, 2000–2014. *Soc. Psychiatry Psychiatr. Epidemiol.* **2020**, *55*, 125–128. [[CrossRef](#)]
70. Oliffe, J.L.; Rossnagel, E.; Seidler, Z.E.; Kealy, D.; Ogradniczuk, J.S.; Rice, S.M. Men’s depression and suicide. *Curr. Psychiatry Rep.* **2019**, *21*, 103. [[CrossRef](#)]

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