

Project Report

EMPOWERING MINDS: NAVIGATING MENTAL HEALTH IN ACADEMIC RESEARCH



WARWICK
THE UNIVERSITY OF WARWICK

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Executive summary:

This report investigates the prevalence and impact of stress and anxiety among postgraduate researchers (PGRs), highlighting contributing factors and discussing treatment options and coping strategies. It further examines various initiatives in the UK aimed at improving mental health support for PGRs. Key findings indicate that mental health issues among PGRs are prevalent and multifaceted, necessitating comprehensive support systems to mitigate their impact. A case study illustrates a postgraduate researcher's experience with stress and anxiety, emphasising the importance of providing substantial support during their PhD studies. The report also includes best practices and a range of recommendations to improve the mental health and well-being of postgraduate researchers at the University of Warwick. A breakdown of summary sections is provided below.

Prevalence of Mental Health Difficulties

- Mental health problems, such as stress and anxiety, are common among the general population and particularly acute among postgraduate researchers (PGRs).
- Studies show that PGRs experience high levels of stress and anxiety, often more than undergraduate students.
- A significant number of PGRs report severe mental health challenges, with some even thinking about suicide.

Understanding Stress and Anxiety

- Stress: It occurs when demands exceed coping abilities. Acute stress is intense but short-lived, while chronic stress is long-term and recurrent, leading to various health issues.
- Anxiety: Characterized by persistent worry or fear, it affects daily activities and can lead to more severe psychological disorders if left untreated.

Global and National Prevalence

- Around 4% of the global population is affected by anxiety disorders, with higher prevalence in developed countries and among women.
- In the UK, 57.4% of respondents reported high anxiety levels in 2021, with young people aged 16-29 particularly affected.
- Work-related stress impacts a significant number of UK workers, with vulnerable groups like BAME and LGBTQIA+ communities being more affected.

Prevalence Among Postgraduate Students

- Various studies have reported varying prevalence rates of anxiety among PGRs, with high levels of psychological distress and suicidal thoughts being indicated.
- Research suggests that PGRs in many countries, including the UK, USA, and Belgium, face significant mental health challenges.

Contributing Factors

- Chronic Environmental Stress: Key sources include personal regulation, research challenges, financial pressures, and lack of supportive networks.

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- Demographic and Financial Factors: Younger PGRs and female students report higher stress levels, with financial concerns being a major stressor.
- Psychological Factors: Imposter syndrome and perfectionism contribute to higher stress and anxiety.
- Social Factors: Social support is crucial, and loneliness and isolation are significant stressors, especially for part-time, distance, and international students.
- Supervisory Relationships: Poor supervision quality significantly impacts stress and anxiety, influencing students' decisions to continue or abandon their projects.

Treatment and Coping Strategies

- Effective treatments for anxiety disorders include cognitive-behavioral therapy (CBT), and various pharmacological and non-pharmacological approaches.
- Despite the availability of effective therapies, many individuals do not seek treatment.

UK Initiatives for PGR Mental Health

- Universities offer various support mechanisms, including dedicated well-being teams, stress management workshops, financial support, and peer support networks.
- Continuous evaluation and improvement of these support mechanisms are essential to address the high prevalence of stress and anxiety among PGRs.

Introduction:

Stress and anxiety are prevalent mental health issues in the general population. A prevalence study conducted by Kessler et al. in 2005 revealed that an alarming 50% of adults had experienced mental health difficulties before the age of 14, and 75% of adults had some form of mental health disorder by the age of 24 (Kessler et al., 2005). These statistics serve as a stark reminder of the extent of mental health issues in the general population. Likewise, doctoral degree students commonly experience mental health challenges, particularly stress and various anxiety disorders, varying in severity and frequency (Bogardus et al., 2022; Satinsky et al., 2021). Growing evidence suggests that postgraduate researchers (PGRs) are experiencing increasing levels of stress and anxiety, which consequently affects their mental and physical health (Cho & Hayter, 2020). A survey conducted by Nature found that 36% of the 6,300 PhD students sampled globally had sought help for mental health issues due to increased stress and anxiety (Woolston, 2019). Graduate students pursuing their doctoral degrees maybe six times more at risk of experiencing anxiety, depression, and severe stress compared to their undergraduate counterparts (Bogardus et al., 2022).

The mental health of postgraduate researchers (PGRs) has recently gained more recognition and attention. This increased focus is mainly due to concerns that PGRs' mental health is reaching a crisis point (Cho & Hayter, 2020; Hazell et al., 2020). Moreover, there are also concerns reported regarding PGRs' suicidal ideation, which, according to the literature, has been found to exceed 7% (Bogardus et al., 2022; Garcia-Williams et al., 2014). Concerning evidence indicates a consistent increase in suicide rates among PGRs over the past decade (Hazell et al., 2020; Thorley, 2017). The research, though limited, suggests that UK PGRs experience increased suicidal thoughts than taught students (Ejim et al., 2021).

However, it is essential to acknowledge that high levels of stress and anxiety can lead to a lack of motivation, fatigue, and depression, which may ultimately cause PGRs to abandon their projects and academic careers to preserve their mental health and well-being (Hazell et al., 2020). Even in the UK, data from the Higher Education Statistics Agency (HESA) report a 210% increase in the number of students terminating their studies due to stress, anxiety, and poor mental health (Hazell et al., 2020).

This report aims to define stress and anxiety, explore the prevalence rates of stress and anxiety, contributing factors, and potential interventions for stress and anxiety among postgraduate researchers (PGRs), while providing insights into practical strategies for improving their mental well-being.

Understanding stress

The term “stress” refers to the imbalance between environmental demands and an individual's ability to cope with them (Cho & Hayter, 2020). Stress is a normal response that motivates individuals to meet demands from their environment (Cho & Hayter, 2020; Pappa et al., 2020). It occurs when individuals feel under pressure or threatened, usually in situations they cannot manage or control. In other words, stress occurs when an individual's coping mechanisms are overwhelmed by prolonged and increased pressures, leading to a survival reaction to adverse events (Pappa et al., 2020). Subsequently, this evokes a response, often manifesting as distress, affecting an individual's physiological, behavioural, and cognitive functioning (Pappa et al., 2020). Too little stress can lead to feelings of boredom and lack of motivation, but too much stress can lead to burnout and anxiety symptoms. Therefore, stress has a positive side known as "eustress," which helps individuals meet demands and achieve positive outcomes (Pappa et al., 2020). Positive responses to stress at the postgraduate level include the completion of projects, analysis, and engagement with different tasks, which results in productivity (Pappa et al., 2020).

However, prolonged stress can have adverse effects on the physical and mental health of PGRs, leading to both chronic and acute stress.

- Acute stress: This type of stress is intense and lasts for a short period, usually less than a few weeks (Musazzi et al., 2017). It can happen after an upsetting or unexpected event, such as sudden bereavement, assault, or natural disaster, and cause significant changes to brain structures (Musazzi et al., 2017).
- Chronic stress: On the other hand, chronic stress lasts for an extended time or keeps returning (Schetter & Dolbier, 2011). Individuals may experience these levels of stress if they are under a lot of pressure most of the time, such as being a carer or experiencing significant financial difficulties, such as poverty (Schetter & Dolbier, 2011).

Long-term stress can increase the risk of various mental and physical health problems (Marks Hedy, 2024). These problems may include anxiety, depression, substance abuse, sleep issues, muscle tension, headaches, gastrointestinal problems, weakened immune system, difficulty conceiving, high blood pressure, cardiovascular disease, and stroke (Marks Hedy, 2024). Even though stress is not recognised as a disorder, it can be a primary risk factor for the development of mental health, physical and neuropsychiatric disorders (Musazzi et al., 2017).

Understanding Anxiety

Anxiety is often described as persistent and excessive worry or fear that does not go away even in the absence of a stressor or when there is no apparent reason for it (Chi et al., 2023). In other words, anxiety often leads to excessive worry and fear in everyday situations, resulting in negative thoughts and predictions about what the future may look like (Perrotta, 2019). Anxiety can cause symptoms similar to stress, such as insomnia, difficulty concentrating, fatigue, muscle tension, and irritability. In addition to feelings of panic and overwhelming fear, individuals affected by anxiety may experience a range of physical symptoms such as nausea, pain, health palpitations, struggles with breathing, or dizziness (Chi et al., 2023). If left untreated, anxiety can progress into more severe psychological disorders such as depression, obsessive-compulsive or panic disorder, and ultimately may even lead to suicide (Chi et al., 2023; Javaid et al., 2023). Predictors of anxiety among postgraduate researchers (PGRs) are often associated with factors such as age, lower resilience, workaholism, and maladaptive perfectionism (Milicev et al., 2023). Academic progress, supervisory relationships, and negative departmental climate are also linked to high anxiety levels (Milicev et al., 2023). For PGRs receiving mental health support, anxiety is considered the most common and pressing concern assessed by mental health professionals (Tan et al., 2023).

Global prevalence rate of stress and anxiety

The World Health Organization (WHO) reports that stress and anxiety are widespread mental health concerns globally. Anxiety disorders can significantly disrupt daily activities and negatively impact a person's family, social, work, or school life. WHO estimates that around 4% of the global population currently suffers from an anxiety disorder. Similarly, an epidemiological study found that approximately 4.05% of the worldwide population is affected by anxiety disorders, which amounts to 301 million people globally. These statistics indicate a significant and ongoing increase in the severity, incidence, prevalence, and impact of anxiety disorders on daily life (Javaid et al., 2023). The study also suggests that developed (high-income) countries have been more impacted by anxiety disorders, with Portugal, Brazil, Iran, and New Zealand being some of the most affected countries (Javaid et al., 2023). Moreover, anxiety disorders seem to affect more women than men, with women being 1.66 times more likely to be affected by anxiety compared to men (Javaid et al., 2023). Typically, anxiety-related disorders start in adolescence, with the critical period for their development being between the ages of 14 and 29 (Javaid et al., 2023).

There are no official stress prevalence rates, but in 2023, a survey was conducted in numerous countries, revealing that 44% of respondents considered South Korea one of the most stress-impacted countries. Similarly, 39% of adults in Switzerland believed that stress is a significant health issue in their country. In the USA, only around 18% of adults reported being stressed. In most countries, stress has been identified as the primary health problem in 2023 (Wirth, 2024). Comparing these figures to the adult survey data for 2021, the reported percentages are similar. The survey revealed that 41% of the global adult population experiences high-stress

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levels (Wirth, 2024). When compared to other countries, Afghanistan has the highest reported stress levels at 68%, while the USA reported 53 % (Wirth, 2024).

However, these global stress rate statistics should be interpreted cautiously due to less robust methodologies than appropriate epidemiological studies. Nevertheless, the results could indicate how much stress impacts individuals' daily functioning.

National Prevalence rates of anxiety-related disorders (UK)

In 2019, the WHO reported that the national prevalence rate of anxiety in the UK was 4.5%. The majority of the UK's data comes from the Office for National Statistics (ONS), which revealed that 57.4% of respondents reported high levels of anxiety (Office for National Statistics, 2021). In 2022-2023, 3.9 out of 10 adults in the UK reported feeling anxious (Office for National Statistics, 2023). The ONS data also shows that women tend to report higher levels of anxiety than males, with 26.6% of women suffering severe anxiety, which is consistent with global figures (Office for National Statistics, 2023). Young people aged 16-29 are 28% more likely to experience anxiety (Office for National Statistics, 2021). Across all age groups, women are more likely to report anxiety at a rate of 37.1% compared to men at 29.9%. Furthermore, 41.49% of those reporting anxiety experience medium to high-level anxiety, and 45% of UK adults aged 18 to 24 acknowledged feeling ashamed to disclose their anxiety (Mental Health Foundation, 2023).

According to the Mental Health Foundation, success in university is a significant trigger for anxiety among younger people, while work also contributes to it (Mental Health Foundation, 2023). According to the Health and Safety Executive, 914,000 workers in the United Kingdom experience stress, anxiety, and depression at work (Salisbury, 2022). Additionally, the Mental Health Foundation identified Black, Asian, and Minority Ethnic (BAME) and LGBTQIA+ groups as more vulnerable to the effects of anxiety (Mental Health Foundation, 2021).

When it comes to stress levels, the statistics are not optimistic either. According to one survey, 23% of UK individuals attribute their stress to employment (CIPHR, 2021). The biggest stress triggers are money (39%), lack of sleep (39%), health (35%), family (31%), and the news (24%) (CIPHR, 2021). Globally, 66% of 18 to 24-year-olds report suffering from severe forms of stress, and in the UK, this figure was 60% among the same age group in 2018 (Mental Health Foundation, 2018; Statistica, 2023). Working women between 35 and 44 who are balancing work and motherhood are 50% more likely to experience stress than men of the same age (Priory Group, 2018). Men are much less likely to talk about their stress and even less likely to report work-related stress to a line manager – a pattern seen worldwide (Boettcher et al., 2019). Vulnerable groups in this regard include BAME and LGBTQIA+ groups, who are also more affected by high-stress levels (Mental Health Foundation, 2021). In the UK, 914,000 workers suffer from work-related stress (Salisbury, 2022).

Contributing factors to the high prevalence of anxiety

The global increase in anxiety disorders can be attributed to a combination of biological, psychological, and environmental factors (Johnson, 2023).

- **Biological Factors:**
Biological factors, including genetic predispositions, can influence anxiety disorders. Individuals with a family history of anxiety disorders may be more likely to develop them. In addition, imbalances in brain chemistry, particularly neurotransmitters such as serotonin and dopamine, can contribute significantly to anxiety.
- **Psychological Factors:**
Personality traits such as neuroticism and a tendency to worry excessively can increase the risk of developing anxiety disorders. Traumatic experiences, especially those occurring during childhood, such as abuse, neglect, or significant life changes, can all play a role in the development of anxiety disorders later in life.
- **Environmental Factors:**
Anxiety disorders may be affected by social and cultural factors. Levels of anxiety can be influenced by various factors, including socioeconomic status, access to healthcare, exposure to violence or trauma, and cultural expectations related to success and achievement. Additionally, modern lifestyle issues such as increased screen time, social media use, and societal pressures may contribute to higher levels of stress and anxiety.
- **Stress:**
The fast-paced modern life, combined with increased work demands, academic obligations, and economic uncertainty, can lead to chronic stress, which is a significant risk factor for anxiety disorders.
- **Technology and Social Media:**
Although technology has many advantages, excessive use of digital devices and social media platforms can lead to increased feelings of anxiety and isolation. Constant comparison with others, fear of missing out, cyberbullying, and information overload all contribute to higher stress and anxiety in the digital era.
- **Environmental Stressors:**
Climate change, natural disasters, political instability, and global health crises like the COVID-19 pandemic can all lead to uncertainty and stress, resulting in heightened levels of anxiety worldwide.
- **Stigma and Lack of Awareness:**
Despite improved knowledge and understanding of mental health issues, the stigma associated with anxiety disorders and mental illness in general remains prevalent in many communities. This stigma may deter people from seeking help and receiving proper treatment, resulting in underreporting and undertreatment of anxiety disorders.

Prevalence rates of stress and anxiety among postgraduate students

Numerous studies have explored the prevalence of anxiety disorders among PGRs. The observed prevalence of anxiety amongst PGRs varied from 9.2% (Wang et al.,2018) to 86.0% (Garcia-Williams et al.,2014), and the trajectory of the change remained unclear. Moreover, a study in Belgium suggested that half of PGRs experience psychological distress, and one-third have or may be at risk of common mental health difficulties such as anxiety or low mood(Levecque et al., 2017). Similar reports from the USA have also indicated increased levels of academic stress, with three out of four PGRs experiencing high levels of stress (DeYoung, 2020; Milicev et al., 2023; Smith & Brooks, 2015). High levels of stress and anxiety also predisposed one in ten post-graduate researchers (PGRs) to contemplate suicide (Smith & Brooks, 2015). Anxiety disorders are prevalent in the PGRs population, with one in three students diagnosed with social anxiety, panic, generalised anxiety disorders, and specific phobias (Tan et al., 2023).

Moreover, a study encompassing 26 countries found that approximately 40% of PGRs experienced high levels of anxiety (Evans et al., 2018). A recent meta-analysis also reported high-stress levels in PGRs compared to the general population(Hazell et al., 2020). According to Hazell et al. (2021), 40% of PhD students had moderate to severe depression or anxiety, which was higher than the percentage of working professionals. This is in line with the similar findings of the study which showed that anxiety in graduate students was six times that of the general population (41% vs. 6%) (Evans et al.,2017).

Additionally, a thorough review and meta-analysis has revealed that 17% of the 15,600 PhD students sampled experienced anxiety(Satinsky et al., 2021). However, the study noted significant variations in sampling and measurement methods. Despite this, it still concluded that anxiety is widespread among PhD students (Satinsky et al.,2021).

Causes of stress and anxiety among postgraduates

Chronic environmental stress is the main factor leading to anxiety. Stress among academics is alarmingly widespread, especially in postgraduate students, a group that typically faces high levels of job insecurity and imbalance between life and work (Bozeman & Gaughan, 2011; Reevy and Deason, 2014 and Kinman, 2001). The principal sources of stress identified were intrapersonal regulation, challenges related to research, funding and career prospects, and lack of supportive networks (Pappa et al.,2020). Reportedly, 85% of postgraduate students spent 41+ hours a week on their postgraduate program, yet 74% could not finish their studies in the set time, and 79% had uncertainty about their job and career prospects (Woolston,2019).

Ejim et al. (2021) conducted a mixed-methods study to investigate the factors contributing to stress and anxiety among postgraduates in the United Kingdom (Ejim et al., 2021). Their quantitative data showed that several factors increased levels of stress and anxiety. These factors include encountering new learning styles, needing more confidence in critically

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appraising academic material, needing more trust in self-study, and perceiving inadequate staff assistance. The qualitative findings supported the quantitative results, indicating that studying in a different language with a high level of self-directed learning and insufficient academic support can lead to isolation. This, along with feelings of nostalgia, loneliness, and the challenge of adjusting to life in the UK, poses significant obstacles for international postgraduates (Ejim et al., 2021).

Several factors led to stress, anxiety, and depression in this study, making it especially relevant to postgraduate and international students (Ejim et al., 2021). For example, students in the Arts and Humanities had the highest risk of stress, anxiety, and depression. This is consistent with findings from a study of graduate students in California, which found that anxieties about their prospects after graduation caused increased mental health challenges among art students. Specifically for postgraduate overseas students, courses in the UK frequently have less prescriptive teaching, require more independent study, and provide less face-to-face time with academic personnel than science degrees. This study's quantitative and qualitative data revealed that students were unsatisfied with the emphasis on individual study, had reduced confidence in managing self-directed learning, and had a greater preference for in-person tutor groups. Many respondents in this study felt unsupported during their postgraduate courses.

Other variables contributing to academic stress included linguistic issues, such as understanding a fast-paced British accent and a need for more confidence in articulating complicated academic arguments in English, which limited participation in academic activities. There was widespread concern that these obstacles might jeopardise their academic progress. According to research, social support and English literacy are crucial factors in preventing students from developing stress, anxiety and/or depression. Social support has helped students to cope with stress and reduces negative perceptions during difficult situations. Proficiency in English can help with social interactions, friendships, and cultural integration while alleviating homesickness. However, problems such as learning style, language barriers, and the need for increased academic help can cause students to doubt their academic abilities, resulting in diminished confidence. A 2008 ethnographic study of international postgraduate students in the United Kingdom discovered that individuals who succeeded in their home countries needed to adapt to new obstacles in their host country.

Contrary to the notion that these challenges would disappear over time, the study found that students who had been in the UK for more than three years were more likely to experience stress, anxiety, and depression than those who had been there for less than three years. Possible explanations included the stress of completing a thesis, long-term separation from family and the resulting loss of support networks, personal relationship concerns, financial issues, racism, and difficulty adapting to the host culture. Other research has identified "cultural stress" as a significant factor influencing the psychological well-being of international postgraduate students, especially when there are considerable cultural differences between the host and home countries. This cultural gap might exacerbate feelings of loneliness and isolation, which frequently arise during anxiety or depressive episodes in an unfamiliar setting.

Specific determinants of stress and anxiety in the PGR context

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Various factors, including demographic, financial, psychological, social, and supervisory relationships, influence PGRs' mental health and well-being.

Demographic factors:

The period between the ages of 14 and 25 is a critical time for the development of anxiety-related disorders. Many full-time PhD students begin their academic journeys before the age of 25, and younger postgraduate researchers (PGRs) often experience higher levels of stress and anxiety, as noted by Berry et al.(2021). Consistent with previous findings, female students tend to report greater levels of stress and anxiety compared to male students(Berry et al., 2021).

Financial factors:

Financial concerns are a major source of stress for postgraduate researchers (PGRs)(Mackie & Bates, 2019). Existing research indicates that the longer the duration of the PhD program for PGRs, the more stress and anxiety they experience(Gallea et al., 2021; Waight & Giordano, 2018).

Psychological factors:

Certain psychological factors, specifically impostor syndrome and perfectionism, are linked to higher levels of stress and anxiety (Barry et al., 2021). Impostor syndrome, in particular, is strongly associated with increased stress and anxiety. In essence, impostor syndrome involves feeling that one's achievements, like being on a doctoral course or completing a PhD, are undeserved and that others may see the individual as not smart enough (Bothello & Roulet, 2019). Consequently, any successes are attributed to luck or chance. Conversely, perfectionism also contributes to increased anxiety, particularly when postgraduate researchers envision unrealistic goals(Moate et al., 2019). Failing to meet those goals leads to significant distress (Moate et al.,2019).

Social factors:

Social support for PhD students is crucial and can also be a source of stress and anxiety (Berry et al.,2021). Loneliness is often linked to distress among PhD students, and it can be more significant than academic or non-academic factors (McIntyre et al.,2018). Feelings of isolation and not belonging are also associated with poorer mental health among PhD students(McIntyre et al., 2018). Particularly vulnerable groups that may face loneliness and isolation are PGRs from part-time or distance study routes and international students (Waight & Giordano, 2018).

Supervisory relationship and quality of supervision:

Postgraduate researchers (PGRs) also worry about their supervisory relationships (Hazell et al., 2020). A low quality of supervision often leads to increased stress and anxiety. PGRs who experience higher levels of anxiety and stress are more likely to see their supervisory relationship as negative or lacking in mentorship (Milicev et al., 2023). PGRs who are content with their supervision and relationship with supervisors experience greater satisfaction with their academic journey and reduced impact of stress and anxiety on their well-being (Milicev et al., 2021). On the other hand, postgraduate researchers with poorer relationships with their supervisors are more likely to consider suspending or leaving their projects (Milicev et al., 2021). However, research has not examined the relative impact of supervision alongside other characteristics or conducted a detailed examination of its predictive validity (Berry et al., 2021). Recommendations from Berry et al. (2021) study suggest that supervisors should receive training to enhance their degree of agency and especially communion in the relationships they form with PGRs.

“It seems likely that supervisory practices could exacerbate loneliness and perfectionist-type beliefs; for example, supervisors may themselves be isolated and unable to help connect PGRs to peers, and they may inadvertently reinforce PGRs’ sense of failure and impostor thoughts through modelling and critical communication. Therefore, research and training initiatives should both consider how best to support supervisors, and in doing so, consider how supervisors can help to reduce PGR loneliness and perfectionism, alongside fostering a sense of communion and agency in the supervisory relationship” (Berry et al., 2021).

A PGRs’ lived experience of stress and anxiety and contributing factors

A case study – Dr Ehsan Ghadim

Direct Approach Conflicts

Some supervisors introduce conflicts during meetings to gauge student reactions to subjects like chemistry problems. This approach can cause students to experience a blank mind due to stress and anxiety. Supervisors must recognise this and create a calmer environment to help students articulate their thoughts effectively.

Impact of Interruptions

Frequent interruptions during discussions can exacerbate students' anxiety, causing them to lose their train of thought. Allowing students ample time interruption is essential. This patience can significantly reduce their stress and enable them to communicate more effectively.

Managing Multiple Supervisors

Having multiple supervisors with conflicting approaches can overwhelm and increase a student's stress levels. It is essential to manage these interactions carefully to prevent students from feeling bombarded by differing opinions and expectations. A coordinated and supportive supervisory approach can mitigate anxiety.

Creating a Supportive Environment

Supervisors should give students ample time to speak and explain their points without creating stressful situations. A calm and supportive atmosphere is crucial for helping students manage their anxiety and articulate their thoughts clearly.

Step-by-Step Guidance

Breaking down discussions into manageable parts and focusing on one issue at a time can help prevent students from feeling overwhelmed. This step-by-step guidance can make it easier for students to follow the conversation and contribute meaningfully.

Understanding Cultural Differences

Recognise that international students may feel isolated, and build trust and empathy to support them. This understanding helps them feel more at ease and enhances their academic performance and well-being.

Handling Interruptions

Understand that students might interrupt to share ideas immediately due to fear of forgetting. View these interruptions as enthusiasm rather than impoliteness, and provide reassurance that their contributions are valued and will be heard.

Impact on Performance

Acknowledge that anxiety can affect a student's lab work and overall performance. Provide a reassuring and patient approach to help them perform better. By fostering a supportive environment, supervisors can help students manage their anxiety and achieve their academic goals.

Types of Supervisors: Positive vs. Negative Approaches

Based on my experiences throughout different stages of my education, I would like to discuss two types of supervisors. Some supervisors tend to have a more negative outlook. They often express doubt about the success of a project with comments like, "We do not know if it is going to work," or "I think this will not work." Such negative comments can be detrimental, especially for students who already feel anxious or hesitant about their work.

In contrast, positive supervisors can have a significantly encouraging impact. For example, I once had a supervisor who would consistently provide positive reinforcement. He would say things like, "Well done, you have achieved a lot in a short time," or "Focus on your work and believe in yourself. I am here to support you." This kind of positive feedback helps students build self-confidence, reduce anxiety, and stay focused on their tasks.

Encouragement and Positive Impact

Positive reinforcement from supervisors makes students feel more confident and less stressed. When students receive supportive comments, they can concentrate better on their work in the lab or other academic activities. This positive atmosphere fosters an active, optimistic research group where students feel trusted and valued.

Building a foundation of trust between a supervisor and a student is paramount, especially for those dealing with anxiety. When students trust their supervisors, their stress levels decrease, and their self-confidence grows. This positive dynamic significantly enhances their performance and ability to showcase their skills and potential.

It's crucial to understand the significance of positive feedback, especially for students who are more sensitive and in need of additional support. While constructive criticism is important, unnecessary negative comments should be avoided. Positive encouragement plays a pivotal role in keeping students motivated and enhancing their overall performance.

Fostering a supportive and encouraging environment is beneficial for all students, particularly those with anxiety. Positive reinforcement from supervisors enhances the student's academic performance and strengthens the trust and relationship between the supervisor and the student.

Dealing with Uncertainty and Anxiety in Students

Communicating Meeting Agendas

Clear communication is a powerful tool in reducing student anxiety. When students are uncertain about the purpose of a meeting, it can lead to increased anxiety. By providing a clear reason for the meeting, such as discussing a report, recent progress, or a monthly check-in, you can significantly reduce their anxiety. This transparency empowers them, as they won't worry about being criticised or doing something wrong.

Managing Deadlines

Students often experience heightened stress and anxiety when faced with last-minute deadlines. It is crucial to inform them about deadlines well in advance, allowing them ample time to complete their work without unnecessary pressure. Encouraging students to submit their work a few days before the deadline can help them manage their time effectively and reduce stress.

Providing Clear Expectations

Ambiguity in expectations can lead to panic and anxiety. For instance, if students must present their work, they should be informed about the evaluation criteria and potential outcomes. Clear communication about what will happen during and after their presentation can prevent unexpected criticism and help them prepare better.

As supervisors, we are responsible for recognising the signs of anxiety in students and providing support accordingly. When students need to present or meet specific criteria, it's helpful to assure them that our goal is not to criticise but to help them improve. Understanding their need for clarity and support can build trust and reduce their anxiety levels, showing them that we care about their well-being.

Encouraging a Relaxed Environment

Students with anxiety often fear being judged or criticised, leading them to isolate themselves. By creating a supportive and non-judgmental environment, we can help them feel more relaxed and sociable. This approach, rooted in empathy and understanding, enables students to focus better on their studies and perform well in their PhD programs. It makes them feel accepted and at ease.

Avoiding Last-Minute Pressure

Supervisors are often busy, but it is essential to avoid putting students under last-minute pressure. Providing them with a clear schedule and sufficient preparation time can significantly enhance their performance and reduce anxiety. This practice can also be shared with the department to ensure that all students receive the same level of support.

Clear communication, timely feedback, and a supportive environment are crucial in helping students manage their anxiety and perform at their best.

Treatment of anxiety-related disorders and coping strategies

Although there are highly effective therapies available for anxiety disorders, only about one-quarter of those in need (27.6%) receive any form of treatment (Javaid et al., 2023). Barriers to care include a lack of awareness that anxiety is a treatable health condition, inadequate investment in mental health services, a shortage of skilled healthcare practitioners, and societal stigma. Current therapies for anxiety typically involve a combination of medication and psychotherapy (Javaid et al., 2023). While medication can alleviate the physical symptoms of anxiety, addressing the psychological causes requires a psychological approach (Javaid et al., 2023). Numerous studies demonstrate that cognitive behavioural therapy (CBT) offers long-term benefits for individuals with anxiety disorders (Javaid et al., 2023).

Based on the study by Ejim et al. (2021), individuals dealing with stress, anxiety, depression, and suicidal thoughts often turn to friends and family for support. This applies to both their home country connections and those in the UK. International students tend to rely more on their host country connections for emotional support as their time abroad increases. Some also seek help from religious counsellors, academic advisors, and healthcare providers. Although colleges offer interventions like CBT therapy, these services may not be effectively reaching those in need. The findings of Ejim et al.'s (2021) study highlight the necessity for more innovative approaches to promote these services to vulnerable postgraduate students from overseas.

The importance of psychoeducation and signposting

The mental health of PGRs is a critical issue that needs immediate attention and intervention. As discussed in the sections above, this population is experiencing high levels of stress, anxiety, and other common mental health challenges, which significantly affect their well-being and

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academic performance. To effectively tackle these issues, it is crucial to prioritize mental health literacy, psychoeducation, and signposting as key strategies.

Mental Health Literacy

Mental health literacy involves understanding mental health conditions, their symptoms, and the available treatments (Jorm, 2015). Enhancing mental health literacy among PGRs is crucial for several reasons:

1. **Early Recognition:** With better mental health literacy, students can recognize the signs and symptoms of mental health issues in themselves and their peers early on. Early recognition leads to timely intervention and support, which can prevent the escalation of these issues.
2. **Reducing Stigma:** Increased understanding of mental health conditions helps in reducing the stigma associated with them. This encourages students to seek help without fear of judgment or discrimination.
3. **Empowerment:** Knowledge about mental health empowers students to take proactive steps in managing their mental health. It equips them with the tools to cope effectively with stress, anxiety, and other challenges.

Psychoeducation

Psychoeducation refers to the process of providing education and information about mental health to individuals (Brown et al., 2020). For PGRs, psychoeducation can be transformative in several ways:

1. **Informed Decision-Making:** Psychoeducation provides students comprehensive information about mental health conditions, treatments, and coping strategies. This enables them to make informed decisions about their mental health care.
2. **Improved Coping Mechanisms:** Students can develop effective coping mechanisms by learning about various mental health issues and their management. This can improve their resilience and ability to handle academic and personal pressures.
3. **Support Systems:** Psychoeducation sessions can also serve as platforms for students to connect with others experiencing similar challenges. This can help in building supportive peer networks.

Signposting

Signposting involves guiding individuals to appropriate mental health resources and support services (Mustafa et al., 2023; White et al., 2022). For postgraduate students, effective signposting is vital for several reasons:

1. **Access to Resources:** Many students may not be aware of the mental health resources available to them. Effective signposting ensures that students know where to find the help they need, whether it is well-being services, support groups, or online resources.

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2. **Navigation of Services:** The mental health support landscape can be complex. Signposting helps students navigate this landscape, making it easier to access the right services at the right time.
3. **Encouragement to Seek Help:** Clear and accessible information about where and how to seek help can encourage students to reach out for support. This is particularly important for those hesitant or unsure about seeking help.

A project aimed at increasing awareness regarding stress and anxiety among PGRS

The Stress and Anxiety project for PGRs, funded by Research Culture, was completed in July 2024. Over this period, three workshops based on evidence-based practice and NICE guidelines were developed and presented to PGRs, supervisors, and staff supporting PGRs. These workshops aimed to enhance stakeholders' understanding of stress and anxiety while providing them with a set of low-intensity CBT tools to manage these issues. An essential component of these workshops was to raise awareness about the impact of stress and anxiety on PGRs and staff, as well as the available support at the University of Warwick, Coventry and Warwickshire.

The project also provided various signposting to available resources for help and support, along with a website created for PGRs by Research Culture. The website contains materials and audio (podcasts) focusing on managing stress and anxiety.

Further information is available at the following link: <https://warwick.ac.uk/research/research-culture-at-warwick/invisibledisability/>

Case study of the good practice at the University of Warwick

The doctoral college well-being workshop journey began with initial workshops focused on general well-being, as recommended by Vitae. These workshops covered topics such as how to deal with stress and impostor syndrome. It became apparent from these workshops that many of our postgraduate researchers (PGRs) were silently struggling with their mental health, lacking both mental health literacy and help-seeking behaviours. Most of these students were international, and some even considered these struggles a normal part of the PhD experience.

Upon consulting with the PGR community, it became evident that they lacked knowledge of where to seek help and were reluctant to engage with mental health services due to fears of stigma or concerns that it might negatively impact their PhD work. This was particularly true for international students, who displayed a significant lack of mental health literacy and help-seeking behaviours, in addition to fears that their mental health challenges could jeopardise their PhD progress.

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Armed with this understanding, we set out on a mission guided by a simple yet powerful idea: that mental health education could be the key to improving the mental health literacy and help-seeking behaviours of our PGRs.

The Doctoral College has implemented an evidence-based, low-intensity psychoeducation approach to offer proactive workshops to postgraduate researchers (PGRs) on their mental health and well-being. A series of low-intensity Cognitive Behavioural Therapy (CBT) workshops was created and conducted by qualified low-intensity CBT therapists and psychologists. The workshops aimed to help PGRs understand the vital importance of mental health and well-being, reduce the stigma around mental health issues, normalise these challenges, empower PGRs to identify early warning signs, and most importantly, equip them with the tools to manage their mental health and well-being. Our goal was to ensure they feel confident in seeking help when necessary.

Each workshop provides information about specific difficulties, symptoms, and steps for postgraduate researchers (PGRs) to manage their challenges. The workshops also helped identify at-risk students who may not have been known to wellbeing services or their supervisors. This is especially important for part-time and distance PGRs. The Doctoral College recognizes the importance of mental health literacy and provides equal emphasis on mental health and wellbeing workshops as on other research skills.



The evaluation of the Researchers Development Program in 2021-2022 has highlighted the significant positive impact of this approach on postgraduate researchers' (PGRs) mental health and well-being. Feedback from PGRs showed that these workshops have transformed them from a group struggling in silence to one that is more empowered, breaking down the barriers of stigma and enabling them to seek support when required actively.

Case study – The Result

<p>Session: Dealing with negative thinking and self-doubt</p> <p>"I very much like the idea that we can rewire our brains by using fairly simple methods. The workshop has made me look at my thought processes in a broader scale. Very useful. Thank you."</p>	<p>Session: Dealing with negative thinking and self-doubt</p> <p>"Actually, this session is very helpful, especially the last part of the videos. I realise that the RRR skills are very useful to overcome my negative thoughts. I hope that this can be my crucial skill for my new challenge in the future."</p>	<p>Session: How to deal with Isolation and loneliness</p> <p><i>"My key point - How normal how I am feeling is, I didn't know the statistics and I really liked the video where the main guy felt angry seeing people on social media looking happy and surrounded by friends, I often feel guilty for feeling angry or jealous and I didn't know that was normal.</i></p> <p><i>My takeaway - I had never considered joining groups like volunteering groups, it definitely makes sense and I'm definitely going to try that, meet good people doing good things. Thank you for this great session its really helpful"</i></p>	<p>Sessions rated 4.7/5 as a good use of the PGR's time</p> <p>95% would recommend the session they attended</p> <p>5% stated they 'probably' would recommend</p>
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Case study – The Result

- "Talking with someone who was in the same situation- change my mood – thank you for this session"
- "These types of sessions which combat mental health issues in academia came at a perfect time for me, as they mirrored and reinforced a personal breakthrough that I had recently in terms of my own mental health. Therefore, I ask the organisers of the RDO to continue offering different types of these mental health tutorials at various times each term, so that participants have opportunities to find a session that is perfect for them in terms of their own PhD or mental health journey."
- "In terms of knowledge, this tutorial had it all: all areas of potential fears in academia were covered, including general fears and specific fears from participants. I learnt many useful strategies for challenging avoidance of these fears"

Specific Recommendations for consideration:

Based on the contributing factors to PGR stress and anxiety mentioned above, as well as the synthesised findings and recommendations from other studies and the presented case study, we offer the following suggestions for improving the mental health and well-being of PGRs.

- **Inclusion of PGRs in co-production:**
Involving participants through user-centred research is a crucial methodology for well-being research to truly understand and meet the population's needs (Waight & Giordano, 2018).
- **Normalisation and signposting:**
Stress and anxiety should be normalised for postgraduate researchers (PGRs) as common occurrences, considering that they are prevalent in the population (Waight & Giordano, 2018). Early intervention and prevention have a significant role to play in educating PGRs about the importance of seeking help early before mental health difficulties escalate into a crisis.
- **Provision of online self-help resources:**
Online self-help resources are crucial for removing barriers associated with help-seeking or stigma. They also draw on PGRs' self-efficacy and can help teach them how to manage their stress and anxiety levels. A range of step-by-step materials could provide students with the necessary know-how regarding self-management and maintaining their mental health and well-being. In addition, providing online support systems, such as [Silvercloud](#), could also enable PGRs to work on their mental health in a structured and supportive way.
- **Proactive workshops:**
Workshops aimed towards understating stress, anxiety and low mood are encouraged by PGRs and literature (Waight & Giordano, 2018). These workshops are crucial in providing PGRs with an understanding of how to build individual resilience and what strategies they can use to maintain their well-being. A range of workshops aimed at relaxation, mindfulness, stress, anxiety and low mood management could facilitate normalisation, signposting and risk management.
- **Supervisor training:**
Most research findings indicate that supervisors have a critical role in monitoring their supervisees' well-being, especially since PGRs' mental health needs are not static and tend to change and evolve (Waight & Giordano, 2018). Supervisors should receive additional training on the specific mental health needs of the PGR population and how to respond to their supervisees' mental health crises.

Other recommendations by the expert by the experience:

1. Comprehensive Mental Health Resources

Counselling Services: Increase access to free, confidential counselling services specifically trained to handle the unique stressors of PhD students.

Wellness Programs: Implement regular workshops on stress/anxiety management, mindfulness, and relaxation techniques.

2. Supportive Academic Environment

Mentorship Programs: Establish peer and faculty mentorship programs to provide guidance and support throughout the PhD journey.

Regular Check-ins: Schedule regular check-ins between students and their advisors to discuss progress, address concerns, and provide feedback.

3. Flexible and Transparent Policies

Clear Guidelines: Ensure that all PhD program requirements, timelines, and expectations are communicated and accessible.

Flexible Deadlines: Allow deadline flexibility and accommodate students experiencing significant stress or mental health issues.

4. Community Building

Social Events: Organize regular social events and activities to foster a sense of community and reduce feelings of isolation.

Support Groups: Create support groups where PhD students can share their experiences and coping strategies.

Weekly Tours: Resume weekly sightseeing tours to help students socialize and explore the local area.

5. Cultural and Social Inclusion

Social Funds: Provide research groups with social funds to organize events throughout the year.

International Cuisine: Prepare weekly or international menus at university restaurants to offer traditional foods and cuisines for international students.

Cultural Celebrations: Support and run traditional ceremonies such as New Year celebrations from various cultures to enhance cultural inclusion.

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6. Supervisor and Staff Training

Mental Health Training: Provide training for supervisors on recognizing and supporting students with mental health issues.

Effective Communication: Encourage open communication between supervisors and students to build trust and understanding.

Guidance on Interaction: Prepare guidelines for supervisors, students, and staff on respectful interaction, such as avoiding interruptions during concentration and providing constructive feedback.

7. Support for Anxiety and Well-being

Viva Support: Set up support systems through the health centre, well-being services, and exam office to assist students with anxiety during vivas, including mitigation circumstances.

Anti-bullying Measures: Empower the doctoral college, student office, and well-being services to support students experiencing bullying and anxiety.

8. Physical Health Initiatives

Exercise Programs: Promote physical health by offering free or discounted access to university sports facilities and exercise programs.

Healthy Lifestyle Workshops: Conduct workshops on nutrition, sleep hygiene, and the benefits of regular physical activity.

9. Career Development Support

Career Counselling: Provide career counselling services to help students explore career options both within and outside academia.

Skill Development Workshops: Offer workshops on transferable skills, such as grant writing, public speaking, and networking.

10. Emergency Support

Crisis Intervention: Ensure clear, accessible protocols for students to follow in case of a mental health crisis.

Financial Aid: Provide emergency financial assistance for students facing unexpected hardships.

Conclusion:

The mental health challenges experienced by postgraduate researchers are significant and varied, with high levels of stress and anxiety reported globally and nationally. Factors such as financial pressures, social isolation, poor supervisory relationships, and psychological burdens like impostor syndrome contribute to these issues. Despite the availability of effective treatments, many postgraduate researchers do not seek help, highlighting the need for improved support systems. Universities should continue prioritising mental health initiatives and providing comprehensive and accessible resources to cultivate a healthier and more supportive academic environment for their postgraduate students. Addressing these challenges is crucial for postgraduate researchers' well-being and academic success.

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