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Exploring the impact of disruption on university staff resilience using the dynamic interactive model of resilience

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Keywords

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Abstract

The unanticipated changes in Higher Education settings brought about as a result of COVID-19 resulted in a range of personal, pedagogical and organisational challenges. This paper reports on research undertaken within a university in South West England, exploring how the pandemic impacted the working practices of academic and professional staff, the implications of those changes and the factors the respondents interpreted as influencing their resilience.

A mixed methods approach was adopted whereby data were gathered from 159 academic and professional staff members using an online survey. Nine respondents were then individually interviewed. The data were analysed using the Dynamic Interactive Model of Resilience (DIMoR) in order to explore protective and risk factors from the various systems surrounding the respondents, alongside their more personal vulnerabilities/invulnerabilities.

The results highlight the importance of considering individual and wider contexts when analysing the potential for resilience to emerge in times of disruption. The significance of movement of proximal and distal influences depending on the individual and their context also emerged, offering implications for university leaders to consider in supporting staff within their institutions. The value of the DIMoR is discussed as a lens for analysis to support understanding and future action.

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Introduction

The impacts of the COVID-19 pandemic were felt across the globe, threatening the resilience of individuals and institutions as a result of shocks caused to systems and the loss of supportive and protective networks. Impacts on learning and emotional health were experienced through all phases of education, and recent studies have shown that, in Higher Education (HE), students felt the effects on their ability to study (Gonzalez-Ramirez et al., 2021), their engagement with courses (Daumiller et al., 2021), and on their health and wellbeing (Idris et al., 2021). The impact was not felt equally, however, by all students. While some experienced severe difficulties, others were more able to cope, and some actually performed better during the pandemic (Paudel, 2021).

As yet, little research has been conducted in the UK into the effects of the COVID-19 pandemic on university staff as they responded to shifts in their working practices and migrated from working on campus to working from home. This paper addresses this gap by reporting research carried out at a university in South West England. The article reviews pertinent literature before presenting the results and discussing the implications of the findings for future practice. The research aim was to investigate the impact of the disruption caused by the pandemic on university staff resilience using the Dynamic Interactive Model of Resilience (DIMoR) as a framework for interpretation. The study focused on four research questions:

- (1) In what ways did the pandemic affect the working practices of academic and professional services staff?
- (2) What were the implications of the changes to working practices caused by the pandemic on individual staff?
- (3) What factors affected the ability of staff members to cope with the changes to working practices?
- (4) What are the implications of the findings for:
 - (a) understandings of the resilience of university staff?
 - (b) universities in terms of supporting staff resilience?

Literature review

The impact of COVID-19 disruption on Higher Education

The COVID-19 pandemic disrupted HE profoundly. A series of lockdowns required university staff to rapidly adapt their practices to digital online spaces (Crawford et al., 2020; Blanford, 2022). For many academic staff, this involved a move away from long-established campus-based pedagogic norms, requiring them to rethink and adapt their practice quickly (Hodges et al., 2020). Professional services

staff also had to adapt to delivering support for learning in what were often novel, remote learning environments. The sudden move to remote learning and teaching, necessitating intensified use of technology, led staff to reflect upon their approaches to, and competencies in, service delivery in response to the benefits and challenges they encountered (Mok et al., 2021; Paudel, 2021).

Previous research highlights the impact of pandemic disruption on university students and how, for example, it exacerbates stress and feelings of insecurity (Gonzalez-Ramirez et al., 2021; Wen et al., 2021). Little research, however, has focused on university teaching staff and even less appears to consider professional services staff. Arguably, academic and professional services staff are accustomed to adopting new ways of working in line with changes to policy and practice (Dulohery et al., 2021) but with the pandemic, the speed of change was unprecedented (Blanford, 2022).

Watermeyer et al. (2021) suggested that COVID-19 engendered "significant dysfunctionality and disturbance to ... pedagogical roles and ... personal lives" (p. 623), which could be disorienting for university academics. They observed that the pandemic quickened the "authority of technological determinism and supercharged a sense of existential panic among academics – many of whom appear now snared in the headlights of digital disruption" (Watermeyer et al., 2021, p. 638).

Some academic staff viewed the shift to online working as a positive experience (Dulohery et al., 2021), but this was often dependent upon home circumstances and levels of technical expertise and experience (Longhurst et al., 2020). Perceived benefits have been documented as improved work-life balance, productivity and creativity (Hunter, 2019), and saving time and money due to reductions in commuting (Dulohery et al., 2021). Some academics believed the shift to online learning brought opportunities for developing novel and diverse teaching methods and content (Idris et al., 2021), generating some satisfaction (Feldhammer-Kahr et al., 2021).

Many faculty had a less positive time, facing a range of challenges and experiencing a subsequent drop in satisfaction with work and an increase in levels of stress (Vanda et al., 2020). Feldhammer-Kahr et al. (2021) noted that, for many academic staff, the shift online required "the rapid acquisition of new knowledge and skills in the use of online technologies and instruction" (p. 3), and this took considerable time and effort as they re-designed teaching and learning activities.

Online working was recognised as a complex task that required more than becoming familiar with new technology. Many academics considered the digital disruption of the pandemic to have a negative impact on pedagogical practice, reducing it to something transmissional, rudimentary, technical and easily automated, leaving tutors feeling "disembodied and depersonalised purveyors of education" (Watermeyer et al., 2021 p. 632). As teachers and university staff encountered the changes, it affected their sense of identity and led to role ambiguity, impacting their sense of appreciation, connectedness, competence, commitment

and career trajectory (Christensen et al., 2022; Maitland & Glazzard, 2022).

Due to the relocation of the working environment to remote locations, many staff found it difficult to maintain clear boundaries between work and non-work activity over both space and time (Ahmetoglu et al., 2021). Without a commute to campus, there was no longer a natural break between work and other activities, and there was a lack of social cues to indicate when it was time to stop work. There was also a blurring of device use whereby, for example, the same laptop was used during the day for work activity and again in the evening for relaxation to watch a film or access social media (Ahmetoglu et al., 2021).

Although there were financial savings due to less travelling, some staff had to purchase equipment and even furniture to adapt their private space for home working (Bento et al., 2021). For some, this was necessary to ease pain caused by poor ergonomics or to help motivation and productivity (Ahmetoglu et al., 2021). Idris et al. (2021) found that although there was potentially more time for exercise, an increase in screen time led to computer-related physical stress, such as back problems, eye strain, and carpal tunnel syndrome.

To help staff cope with the pace of change and potential feelings of isolation, there was a need to consider sources of support. Kotera et al. (2020) found that isolation affected the mental health and team morale of university lecturers. Steps were found to mitigate this, but they were usually organic and local rather than institutionalised, taking the form of activities like online huddles and informal chat groups. Where the creation of online communities was successful, and staff felt a sense of belonging and organisational identification as a result of believing they were valued and cared for, challenges were easier to overcome (Feldhammer-Kahr et al., 2021, Maitland & Glazzard, 2022). In the research of Watermeyer et al. (2021), most UK academics felt their institution had been supportive, but this was by no means a universal experience.

Role of resilience

A range of emotional responses to the pandemic situation influenced the resilience of university staff and the systems in which they operated. Stress and anxiety were identified as primary emotional responses to the challenges presented by change and adaptation (Peimani & Kamalipour, 2021; Müller et al., 2021). A review by Khan (2021) highlighted how the professional challenges associated with the impact of COVID-19 intersected with the personal lives of HE staff, at times exacerbating issues with mental health and emphasising the importance of forward planning to mitigate anxiety. However, Peimani and Kamalipour (2021) identified that a minority of academics felt the changes that ensued were needed and overdue, highlighting the importance of recognising the individual within the system and their interactions both with and between surrounding systems.

Working in UK schools, Maitland and Glazzard (2022) suggested adopting a systemic lens to analyse the sudden

and unpredictable impacts of the pandemic on the individual and their surrounding systems, including those close to the individual (proximal) and those more distant (distal). Although not based in HE, links can be drawn from their emphasis that, in line with a more dynamic conceptualisation of resilience, individual levels of resilience fluctuate over time as a result of both within-person factors and the contexts in which those individuals are situated. Support for this adaptive capacity can originate within individuals, from their more proximal contexts of family and institutions of which they are part or from more distal influences such as government and policy. The Dynamic Interactive Model of Resilience (DIMoR) proposed by Ahmed Shafi et al. (2020), where resilience is recognised as an adaptive capacity within a scaled systems context, provides a useful lens through which to view, analyse and interpret the resilience of systems (Figure 1).

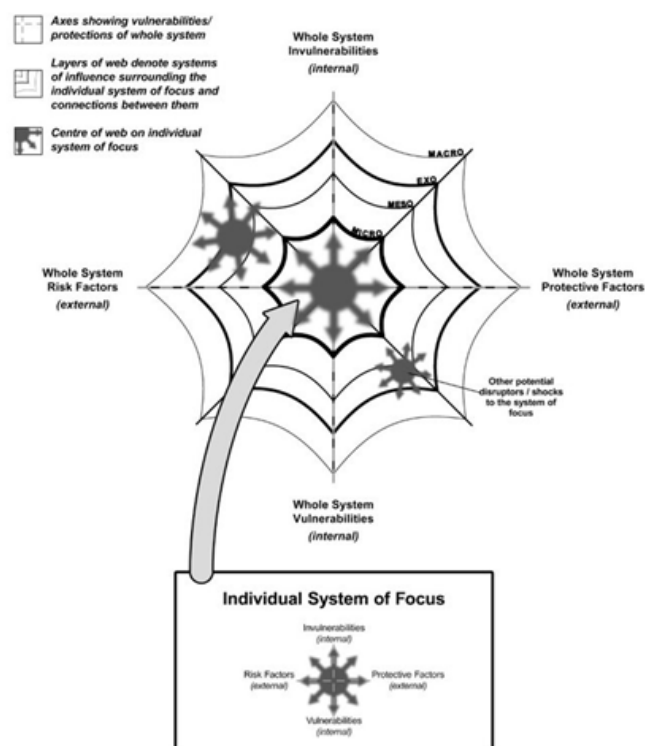


Figure 1. The Dynamic Interactive Model of Resilience (DIMoR).

As Figure 1 demonstrates, the adaptations that universities and their staff had to make as a result of the pandemic can be considered protective or risk factors for the individual (or the system in which the individual is situated), influencing their vulnerabilities and involnerabilities (ahmed Shafi et al., 2020). Folke's (2006) consideration of systemic resilience highlights the ability of a system to absorb shock whilst undergoing reorganisation and change alongside a process of evolution as a result of this disruption. According to Folke (2006), important factors in supporting the development of resilience include: flexibility within the institution; social networks and associated feelings of trust in peers and the institution; existing experience; and expertise in managing change. Folke (2006) cautions, however, that the ability to adapt through necessity is not always a good thing; the ability to sustain adaptive changes may not be present and,

therefore, can result in stress and distress further down the line. This can be on an individual level, but also systemically, as there can be further exacerbation as a result of any existing risk factors present within the various systems surrounding individuals (Maitland & Glazzard, 2022).

The responsibility of universities to train their staff in the ability to face vulnerability and thus develop resilience is emphasised by Sexson and Wilson (2021): “academics and professionals, as individuals embedded within the university and other societal organisations, share in the vulnerability and the resilience of the primary organisation” (p. 96). Bento et al. (2021) discuss the significance of collaboration and supportive networks and how these can operate as either risk or protective factors, finding that communication from the university and opportunities for informal as well as formal contact impact upon developing resilience. Stanz and Weber (2020) also advocate for the importance of communication in maintaining the physical and emotional health of staff to support them in working with students.

A range of protective factors for educators during the COVID–19 pandemic have been identified in the literature as: support from colleagues (Bento et al., 2021, Duloherly et al., 2021, Maitland & Glazzard, 2022), support from family and friends (Bento et al., 2021, Duloherly et al., 2021, Maitland & Glazzard, 2022), boundaries between work and home (Maitland & Glazzard, 2022), routine (Maitland & Glazzard, 2022), and clear communication (Bento et al., 2021). Alongside this (and often conversely), risk factors have been identified as: reduced opportunities to create and maintain bonds (Müller et al., 2021; Maitland & Glazzard, 2022), poor delineation and demands of home and work life (Peimani & Kamalipour, 2021), poor internet stability (Pokhrel & Chhetri, 2021), lack of organisational support (Duloherly et al., 2021), and government policy and decision-making (Maitland & Glazzard, 2022).

In line with dynamic conceptualisations of resilience (ahmed Shafi et al., 2020; Maitland & Glazzard, 2022), it is important to note that out of challenge and adversity, resilience can emerge. This is demonstrated by the research of Müller et al. (2021), whose participants described taking risks as a result of the speed of movement to a changing pedagogical approach demanded by the pandemic. A risk-taking environment emerged, which encourages sharing of experiences and a collaborative approach to developing pedagogy (Müller et al., 2021; Pokhrel & Chhetri, 2021). The need for innovation was also noted by Bento et al. (2021), where HE staff developed skills and positive changes to practice as adaptive responses to the pandemic. Duloherly et al. (2021) observed the upskilling of university academics in different pedagogical approaches alongside the development of resources and assessment approaches that could save time and thus reduce workload in the future. Additionally, participants in the research of Müller et al. (2021) emerged with new skills, saying they valued the potential for flexibility of approach and delivery. It would seem, therefore, that the disruption and challenges caused by the COVID–19 pandemic may also have unintentional positive consequences of protective factors emerging at both institutional and individual levels.

Methodology

Data collection

Given the research was focused on the thoughts and feelings of staff, we followed an interpretivist (Burbules et al., 2015), case study (Flick, 2011) approach. We adopted a social-constructivist perspective, acknowledging that each individual reality is unique but valid. The case study object was a post-1992 university in England, with a student cohort of 7,915 students and 1,500 staff. Data were collected to answer the four research questions in two phases, firstly through an online questionnaire and then through follow-up individual online interviews in order to triangulate and further explore emerging issues to achieve a deeper and richer understanding (Biesta, 2017).

The online survey was administered between the lockdown of December 2020 and January 2021. The survey generated quantitative and qualitative data derived from 14 questions, with additional demographic questions at the close. The survey design was shaped by research objectives 1-3 and informed by the DIMoR model. The majority of the survey questions used a closed-ended format to ascertain the frequency of key factors. These questions were supplemented by open-ended responses to capture any missing factors and to allow an explanation of quantitative responses. The questionnaires were piloted with a selection of colleagues to check for focus and bias, to refine wording, and then placed on an online survey platform. Colleagues were invited to respond via all-staff emails, through the institution’s internal web page communiqués and by word of mouth. Respondents were asked at the close of the questionnaire survey to indicate if they were willing to participate in a follow-up individual online interview.

In total, 159 survey responses were received from academic and professional staff, and nine volunteers took part in an individual semi-structured interview. Interview questions were derived from an initial impression of responses to the questionnaire survey, allowing space to probe lines of interest more deeply. Interviews were conducted using Microsoft Teams in March 2021, during a second national UK lockdown. Interviews lasted, on average, 45 minutes. All interviews were recorded and transcribed using the MS Teams function for the purpose of analysis.

Ethical approval was sought and provided by the University’s Research Ethics Panel. Identities have been concealed, data protected, and participants had the right to withdraw.

Data analysis

The transcripts from the nine individual interviews were analysed by two research team members who individually immersed themselves in the responses and, using a constant comparison (Onwuegbuzie et al., 2011) and a reflexive approach (Braun & Clarke, 2021), looked for connections between comments to identify patterns and generate themes. These themes were then discussed together to achieve an agreement of categorisation and labelling. Finalised themes were considered using DIMoR to identify

the direction and source of influence and whether these were supporting or hindering the emergence of resilience.

The full research team met to refine the themes drawn out from both data sources, adopting, once more, a constant comparison approach. Data from both data sets were then mined to respond to each research question in turn; (I) denoting responses from the interview data and (S) denoting responses from the survey data.

Data demographics

To highlight the demographic breadth of the respondents, of the staff who completed the online survey, 65% were female, 32% male and 3% preferred not to disclose their gender. Most participants (82%) fell between the ages of 31-60. Only 7% of staff were under 30 years of age and 6% were over 60. There were roughly equal proportions of academic and professional services staff. Four per cent of all respondents identified as middle managers, and two per cent identified as researchers. 40% of respondents had worked at the university for five years or less, 55% for 6-20 years and 5% for 21 years or more. The nine staff interviewed were a balance of four academics and five professional services staff, representing a range of genders, experience, background and expertise.

Findings

Research question 1: Impact of the pandemic on the working practices of academic and professional services staff

The survey results highlight that before the pandemic, 73% of staff respondents felt positive about their work, but by January 2021, positive responses had diminished to 48%. Furthermore, 55% noted that they found the switch to online working during the pandemic difficult, whilst 40% found it not too bad/easy, and only 5% said it made no difference to them.

Four themes emerged from the open-ended survey and interview responses in relation to changed working practices during the pandemic (Table 1), and these themes explain the increase in negative staff feelings.

Table 1: Effects of the pandemic on staff working practices.

1) Shifts to personal identity and relational interactions
2) Changes to workload
3) New and different pandemic pedagogies
4) Creation of new working spaces and drawing of boundaries

1) Shifts to personal identity and relational interactions

A prominent theme from the survey responses was the need to adapt job roles in a short space of time. For some academic staff, this seemed like a trespass against their fundamental identity as a teacher: "I'm a teacher because I like interaction and online teaching cannot replace this. My job has fundamentally changed without consent or

consultation" (S).

Both the survey and interview responses identified a lack of 'organic' interaction with colleagues and students inside and beyond the classroom as a key negative change in working practice. Almost 70% of survey respondents said they had reduced or stopped speaking with their colleagues, making online working difficult during lockdowns: "Not being able to just walk into an office next door and have a discussion about a student who's really struggling is a big issue" (I).

Staff also lamented a lack of face-to-face contact with students: "The lack of human contact and interaction is negative – I hate speaking into the void of online teaching" (S). There were 25 references to this theme made by six of the nine interviewees: "I've lost the connection with students – that kind of getting to know them" (I). "Online, I think there's a physical barrier, there's a wall there. You can't be as warm and empathetic" (I).

Where positive relationships were forged online, this enriched the learning environment: "I met with my tutees on quite a regular basis online, individually. I learned a lot about how each was coping with learning in the pandemic... it taught me quite a lot" (I).

2) Changes to workload

A second predominantly negative change to practice identified in both data sets was increased workload associated with the need to develop appropriate technological skills, learn new software, and adapt teaching materials to engage students online. This theme was cited 38 times by six interviewees. Academic staff added more task-based activities into sessions and pre-recorded transmissive elements. They viewed these activities as adding significantly to their workload:

The difficulty comes with increased workload from things like editing videos, making sure activities can be completed in an online environment, supporting students one-to-one to try to replace the 'walk around' during practical tasks, trying to ensure students remain engaged during sessions. (S)

This was coupled with a need to deal with an increased number of student queries and to offer more one-to-one academic support to students: "I've suddenly become a sponge for every student who wants something. They're gonna email me individually ... Previously, I would deal with ten students at once" (I).

Some academic staff commented that their efforts were not formally recognised in their workload allocations and, as such, felt they were working for free. There were, however, some positive comments about workload. Half of the respondents rated working from home as manageable/positive, noting the increased efficiency of online meetings replacing travel between different campuses, coupled with a better ability to control their time: "Working from home has revolutionised my workload, my effectiveness and productivity" (S).

Some staff escaped noisy offices and office politics and found the benefit of peace and quiet to concentrate, having access to all the resources they needed. Others mentioned the ability to get daily chores completed amidst their working day. Staff did note, however, that such streamlined working was often less enjoyable for them.

Some staff commented upon the pandemic introducing more realistic expectations from managers in the institution, noting that COVID-19 had 'streamlined some mission creep' back to what is important and realistic. Staff further commented about the pandemic driving positive change in institutional services, processes and approaches.

3) New and different pandemic pedagogies

The majority of academic staff referred to 'difficulty' and 'challenge' when asked how they managed their move to online teaching. Far fewer commented that the transition was 'fairly easy' or 'no issue'. There were many negative comments about online teaching and support for learning. There were, for example, 92 references to this theme from the nine interview respondents. A key issue was about online teaching and learning being more transmissive and less participatory: "Classes are far more didactic now, and the aspect of my job I enjoy is running classes which are dynamic and participative" (S).

The difficulty of engaging students online (such as having their cameras on) was cited as a challenge by 52% of survey respondents. A lack of corporeal physical contact was noted by staff in the interviews: "You miss things like interpersonal communication, like touch etc. Body language doesn't come across the same way online, and you need it to establish relationships" (I).

There were numerous comments about online delivery (and wider online working) leading to increased screen time. Eighty-seven per cent of survey respondents said their screen time had increased. A further 69% noted a key challenge of online working during the pandemic related to being static, such as sitting at a desk for teaching and meetings. Increased screen time related to online classes was cited as being more tiring than delivering teaching in person.

Staff also commented on the difficulty of planning in a time of uncertainty. Academic staff noted a lack of clarity about future plans for teaching delivery communicated by the institution, stemming from dynamic government regulations. Coupled with this, they felt pressure from the institution to deliver high expectations with seemingly little reward, leading some to feel 'undervalued'.

Staff did note some positive aspects with online learning and these related strongly to accessibility of learning resources for a diversity of students: "Certainly, the resources that students now have on the VLE are excellent. You know, we're recording every session. Those students who maybe missed a class, or even the ones who were there, can review the recordings" (I).

The survey respondents found that communicating with colleagues online was less of an issue than other aspects of online working (45% rating it as manageable/ positive), and they also rated IT and equipment support from the university as similarly manageable/positive.

4) Creation of new working spaces and drawing of boundaries

Many negative comments were made by the survey and interview respondents about the difficulty (time, cost and practicalities) of establishing a suitable workspace at home. Staff commented upon poor internet access, the need to share IT equipment with family, lack of functional space to work at home with a comfortable chair and desk, and a lack of quiet space due to family members, particularly children, interrupting work:

I'm not enjoying being in a space which isn't a functional space as an office, where I can leave my stuff out and, you know, just to be able to sit down and work. (I)

My daughter was using my studio office space. I was then working in the sitting room with a laptop, Ipad and everything. (I)

Working from home was identified as challenging by over 40% of the survey respondents and cited 55 times by the interview participants. There were specific comments concerning the difficulties of juggling home and work life, from the distractions of childcare and home-schooling to the blurring of private home space and public workspace:

It's so much harder working from a desk at home with children running around ... there is no separation between work and rest space... I'm exhausted. (S)

The pandemic has made my home my office as well. So, the impact has blurred the boundaries of my work even more. I don't know when work starts and finishes. (I)

Management of boundaries was cited 35 times by the interview participants. A physical journey to work used to offer staff a time of transition, moving from one mental space to another, 'to put everything in order'. The lack of transition between home and work made some staff feel as though they 'lived at work' and that they were 'always online and always available'.

Overall, many staff rated the transition to online working more positively: "You're more efficient – when you knock off, you're there straight away with your loved ones, and your families and your interests. You're not slogging through traffic or on a bus" (I).

Many of those staff who were positive about working from home indicated that they were used to working in this manner and to using the university technologies, and they

rated themselves as adaptable generally. These staff also commented that they had a good internet connection, IT equipment and appropriate space at home to facilitate their online working.

Research question 2: Implications for individuals of the changes to working practices caused by the pandemic

Six themes were generated concerning how individual staff members were affected by the changes to working practices brought on by the pandemic (Table 2). The majority of staff expressed negative impacts both in the survey free-text responses and interviews.

Table 2: Implications for staff of changes to working practices caused by the pandemic.

1) Isolation and sadness
2) Reduced physical and mental health
3) Increased fear
4) A sense of emasculation
5) Loss of motivation
6) Feeling positive

1) Isolation and sadness

Feelings of isolation and sadness featured both in the survey responses and in five interviewee transcripts. These stemmed from an inability to interact socially (physically and emotionally) with friends, family and colleagues:

Having to remain indoors for long periods of time without interaction with others makes it more difficult to stay upbeat. (S)

For me, it's just been more isolating ... I just feel like I'm doing it all on my own. (I)

In the survey responses, staff said working remotely made them feel 'detached', 'lonely' and 'not included in the team'. They sometimes felt dislocated from colleagues and at times they felt unable to build 'trusting relationships' that require rooting in physical contexts and body language. Even when on campus, the sense of isolation prevailed, especially for professional services staff: "It's felt quite lonely. We feel like the only people on campus. You walk around, the refectory is closed. There are no academics. There are very few students. So, it feels like we are alone in the space" (I).

2) Reduced physical and mental health

The increased screen time, lack of movement around classrooms and offices, and more sedentary nature of working online clearly took its toll on the physical and mental health of staff. Qualitative responses from the surveys revealed that staff experienced heightened physical fatigue: "Everything is mediated through a screen, and I am not physically active.

I have suffered head and neck pains as a consequence" (S). The responses from interviewees reiterated the impact this lack of movement was having on staff: "I just feel sluggish, especially sitting on a sofa all day. And I've put on weight because when I'm teaching I'm always on my feet" (I).

Perhaps unsurprisingly, it was evident that there was a significant impact on the emotional health of staff, with many commenting in the questionnaire surveys about the transition to online working being 'stressful', 'very challenging' and 'overwhelming'.

A comment in an interview revealed the relationship between physical and emotional connections: "It's like a physical separateness creates an emotional separateness" (I).

In some cases, the stress of working during the pandemic became quite profound for staff: "It was the closest I've come to, cracking is probably over-dramatic, but you know, there were times where I would just get home, because we were still at work, and I would just kind of break down" (I).

3) Increased fear

The unprecedented nature of the pandemic and the rapidly changing scenario caused by various lockdown policies led to feelings of fear and anxiety. This was due to concerns about personal health, but also about risks to loved ones: "The risk of COVID – the fear of dying or being ill long term and losing loved ones. I am afraid" (S). Coping with the pandemic, with the attendant fear and anxiety, was rated as challenging by 58% of the survey respondents. The issue of 'remaining safe' was particularly important for staff who expressed long-term physical or mental health conditions in their survey responses.

There were also concerns that the disruption caused by the pandemic might impact on student recruitment, leading to the fear of losing one's job, for example:

We were all worried. Will students still want to come to university? We've got quite small year numbers. You think, okay, if we don't recruit xx students next year, then I've only got three years left of my job to support these students (I).

4) A sense of emasculation

The changing societal and higher education landscape brought on by the pandemic and imposition of restrictions and guidelines led to staff members experiencing a feeling of disempowerment:

The constant negative reporting by the media is frustrating... watching the daily updates on numbers of deaths and feelings of uselessness. (S)

The attitude of senior managers... has made me feel irrelevant, unimportant and un-required. (S)

5) Loss of motivation

Given all of the factors noted above, it is perhaps not surprising that staff suffered some loss of enthusiasm for work:

It's reduced my enjoyment and pleasure of work. (I)

Having to remain indoors for long periods of time without interaction with others makes it more difficult to stay motivated and upbeat. (I)

6) Feeling positive

Despite the dominance of negative impacts, some staff believed that the changes brought on by the pandemic resulted in positive outcomes for them. These were mostly concerned with savings on time spent commuting to work, a reduction in financial cost as a result, and also having more time at home for self and family:

Less of my day is taken up by travelling time to the office. Less money is spent on petrol. More time to walk my dog during daylight hours. Better work-life balance. (S)

More time in the garden, you know, that stuff definitely made a huge difference. (I)

These staff expressed more control over their lives compared with before the pandemic, establishing a better work-life balance and maintaining healthy daily routines.

Research question 3: Factors affecting the ability of academic and professional services staff to cope with the changes to working practices

Results were categorised according to whether they were proximal or distal in a staff member's sphere of influence (Table 3).

Table 3: Factors affecting staff ability to cope with changes to working practice caused by the pandemic.

Proximal factors	Distal factors
1) Prior knowledge of online working	1) University leadership
2) 'In the moment' learning	2) University support
3) Access to the internet and technology	3) Government decision-making
4) Access to local support	

Proximal factors

1) Prior knowledge of online working

For any academic staff member who had been an early adopter of technology and/or who had been delivering online resources and classes to some extent prior to the pandemic, the shift to entirely online delivery seemed to be a fairly easy transition to manage: "It wasn't a big shift for me – it just allowed me to use my online skills and teaching experience more fully" (S). For other academic staff, it was a

lot more difficult to adjust due to the steep learning curve they faced. The task was also viewed to be more difficult by many staff who delivered creative and practical courses.

Many professional services staff found it easy to carry on their work online using institutional technology: "Working from home lends itself well to my professional services role. I can still communicate with colleagues, it's just by email or video call instead of in-person meetings" (S).

2) 'In the moment' learning

The importance of learning on the job through trial and error, via self-guided study, or from colleagues, team leaders and central support services (such as the Academic Development Unit (ADU) and Library, Technology and Information services (LTI)) was highlighted as important in supporting academic staff to make the transition online:

I learnt as I went along, I attended webinars and read documents on the VLE. I also asked students what was working for them. (S)

I attended training events put on by my department and ADU. I worked with colleagues. (I)

Professional services staff also noted a steep learning curve to deliver in their role, and they too mentioned learning on the job as they went along, through colleagues, and via university training: "I had to figure most of it out myself or with colleagues in the same team through trial and error. However, LTI and ADU were also extremely helpful" (S). By persisting in the online environment, both academic and professional services staff became more comfortable and confident with their delivery: "I learnt more about technology-enhanced learning as I used it and am now more confident with working online" (S).

3) Access to internet and technology

Many academic staff struggled with adequate internet connectivity and sufficient bandwidth to deliver online learning effectively: "My home internet can be unreliable, which is not ideal when the internet goes down during teaching" (S).

By contrast, many professional staff could access with relative ease the systems they needed from home: "I can carry out 99% of my tasks from home so it has not been a problem. The 1% I haven't been able to do has been done by other colleagues – we share jobs so there's no problem" (S). These staff seemed to communicate well using online collaborative tools, and they worked together effectively to plan delivery effectively across teams.

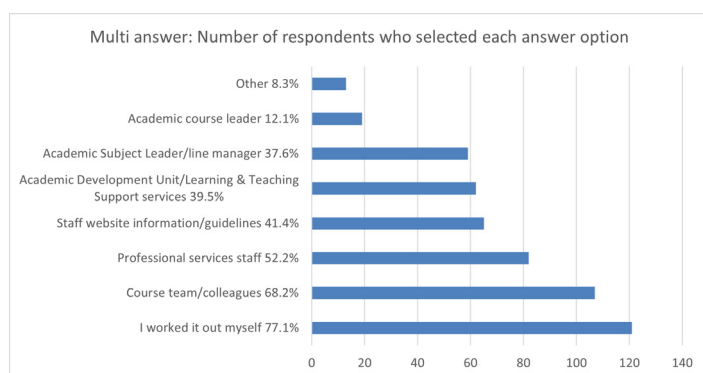
Professional services staff noted that in order to work remotely, they acquired the necessary IT equipment. This seemed to be easier for them than for academic staff, who seemed to take longer to secure the technology they needed to deliver teaching effectively. They had to persist, working

with the Library, Technology and Information Services, to procure the equipment they needed and to move through different software that was promoted by the institution.

4) Access to local support

Staff were asked in the survey to rate which of the eight sources of support they used to help them move their teaching and support for learning online (Figure 2). The most common response was staff working through issues on their own, followed by gaining support from colleagues. These more immediate forms of support sat ahead of wider institutional support.

Figure 2: Sources of support for staff moving their teaching and learning online.



In the 'other' category, staff cited their own prior experience, support of friends, partners and family members, and online resources beyond the institution as helping them to move their work online. It is also worth highlighting that 22.5% of respondents utilised five or more of these methods to help their transition to online working. Working from home impacted the support systems staff had previously put in place, and they referred specifically to difficulties with childcare and schooling.

Distal factors

1) University leadership

When staff were asked to rate the response of University Leadership to the pandemic, their responses were positive. Overall, 69% of respondents noted that the leadership team had 'done okay' or responded 'very well'. By contrast, only 26% of staff noted the leadership team had 'struggled a bit' or had 'not responded very well'. Open-ended questions asked staff to comment on one thing the leadership team were doing well and one thing they could do better. Staff generally thought leadership were communicating clearly and consistently to staff and students (as far as dynamic government regulations allowed): "The communication of the decisions to staff and students have been timely" (S).

Coupled with this was the feeling that the leadership team was interpreting the wider landscape effectively, making rapid decisions, and directing the institutional response

clearly, allowing teams to respond in a manner suitable to context: "Constantly keeping up to speed with new guidelines and instructions and providing well thought out procedures which are communicated clearly to staff and students" (S). Respondents also mentioned a supportive atmosphere with leaders demonstrating 'empathy', 'gratitude' and 'genuine care' towards staff: "Recognising the efforts of the staff to support students ... keeping in mind that we are human" (S).

There were fewer responses to the question about what leadership could have done better with some staff simply noting that they could not think of anything that could have been improved given the difficult circumstances. Most comments concerned how leadership might have offered more time in workloads to support the extra effort needed to deliver and support online learning and to prepare for three different planning scenarios of online, in-person or blended teaching and support for learning. One staff member, for example, commented: "Leadership need to acknowledge the expansive impact on academic responsibility. A conservative estimate would be that the admin/tutorial/planning side of my work has doubled" (S).

2) University support

In the survey, 52% of staff noted that they worked with other institutional, professional services staff to help them move their teaching and support for learning online (Figure 2). A further 41% of staff accessed online materials, and 40% worked with the Academic Development Unit and Library, Technology and Information Services. Staff commented that the University helped them in their use of technology (69% rated support as 'okay' or 'very good'), learning new ways of doing things (60% rated as 'okay' or 'very good'), working from home (58%) and supporting health and wellbeing (54%).

The University was less successful in supporting screen time balance (68% rating support as 'poor') and work/life balance (59% rating support as 'poor'). Rated above 60% were adapting systems for students (such as assessment extensions), IT support, and support for student wellbeing. The worst-rated area was senior leadership visibility, which 25% of respondents rated as not undertaken '(very) well'. Respondents asked for greater clarity about working from home, particularly the support and expectations surrounding this (such as loaning and/or financial support for home office equipment and checking on welfare) and how home working might evolve as the pandemic drew to a close. There were also comments about how some leadership decisions made to help students had knock-on effects for staff, notably the impact of extensions to assessment submissions that rendered consistent and timely marking for academic staff very difficult.

3) Government decision-making

Within the survey, staff were asked to respond to seven macro-environmental factors that might have impacted their role at the university during the pandemic in a negative or positive manner or to no effect. What was noticeable for

this range of factors was that staff rated them largely as having no effect on them. Two factors identified as having clear negative effect were 'government decisions and policies', with 82% of respondents noting this affected them negatively, and 'things you hear on the news', for which 66% of respondents noted a negative impact. These issues were also picked up in the open-ended survey responses:

The constant negative reporting by the media is frustrating... heightening feelings of uselessness. (S)

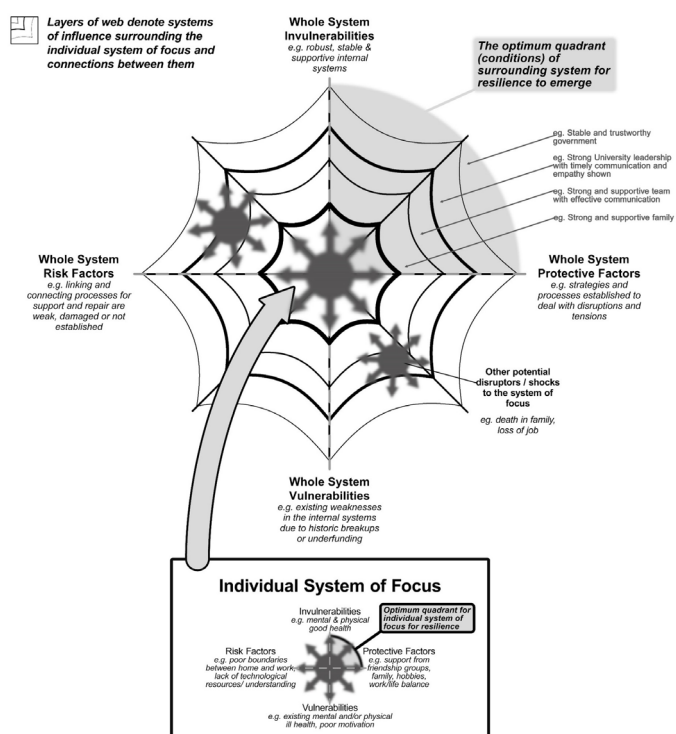
The external stress is mainly from the rather too-changeable and inept government policy. (S)

Discussion

Using the DIMoR as a framework for analysis

Analysis using the DIMoR provides insight into the factors that have influenced the ability of academic and professional services staff to cope with their work and to develop resilience during the pandemic. Figure 3 gives an example of this in practice. The factors identified on the figure are examples and by no means an exhaustive list. They nevertheless help to demonstrate the need for a holistic perspective when trying to understand resilience.

Figure 3: Using the DIMoR as a lens to help analyse optimum conditions for the emergence of resilience in academic & professional staff at times of disruption showing interplay between system of focus and its surrounding support systems.



Both academic and professional services staff highlighted that the impacts of the pandemic on their working practices were largely located in their proximal, interpersonal sphere. These included feelings of isolation and sadness emerging from home working and stemming from an inability to interact socially (physically and emotionally) with colleagues, students, family and friends, which supports findings from, for example, Duloherly et al. (2021), Kotera et al. (2020) and Maitland and Glazzard (2021). Increased workload and being static at a desk for long periods, spending increased time looking at a computer screen and delivering teaching or meetings more transmissively, were also found by staff to be difficult and echo the physical challenges identified by Ahmetoglu et al. (2021) and Idris et al. (2021) and the pedagogical challenges discussed by Watermeyer et al. (2021).

Factors in the staff exo- and macro-systems also featured, such as a fear of the unknown, with the consequent inability to plan, and debilitating messages coming from the media and government; findings also noted by Maitland and Glazzard (2022). By contrast, good university leadership and support services helped to reduce negative impacts on staff (see also Stanz & Weber, 2020; Watermeyer et al., 2021). It can be argued that factors that are usually more distal for individuals, such as university executive and government policies and actions, became more proximal and influential for staff under the stresses of the pandemic.

Akin to findings from Maitland and Glazzard (2022), our data also revealed that factors such as relationships, access to technology, government and university policy, and communications could act as protective or risk factors and that the vulnerabilities/ invulnerabilities of the system itself (in this case individual staff members) were influential. Thus, if staff had appropriate access to the internet, technology and a comfortable, quiet space to work from home, and if they had already received training and had prior knowledge about how to use technology, they found affordances in remote working (agreeing with Duloherly et al., 2021; Longhurst et al., 2020). For staff who experienced poor internet access, were juggling work with caring duties, and who might not have been trained in digital technology, they felt more vulnerable working from home. The rapidity of the move online and the increased workload, particularly for academic staff, seemed to make many staff feel vulnerable at the start of home working, leading to them expressing a range of negative emotions (agreeing with Feldhammer-Kahr et al., 2021; Peimani & Kamalipour, 2021; Vanda et al., 2020).

As staff became more accustomed to working online, seeking and accessing support, re-affirming their identities and re-establishing trusting relationships at a distance in this novel space, they increased their confidence and resilience through adaptive behaviours, helping to insulate themselves from disruption (Folke, 2006). Again, as with findings from Bento et al. (2021), Maitland and Glazzard (2022) and Kotera et al. (2020), it was noticeable that the sources of support staff used to help them manage the move to online working were predominantly proximal and located in the staff micro- (personal) and exo- (inter-personal) systems compared with distal institutional support situated in the macro-system.

What does the DIMoR tell us about resilience of university staff?

Reflecting on the data through the lens of the DIMoR leads to key reminders about the nature of resilience. Our findings demonstrate that resilience is not a static, in-person trait but something that changes as a result of circumstances and reactions to those circumstances (ahmed Shafi et al., 2020). Consequently, it is important to be mindful that we should not take resilience for granted and recognise that individuals who appear to be resilient in certain contexts may not be in others as circumstances change.

The data also serve as a reminder that individuals themselves act as systems with their own vulnerabilities/invulnerabilities and risk and protective factors. These individual systems are unique and an amalgam of their own individual life experiences, biological factors and support systems. As such, they need to be considered as individuals without making assumptions as to how they are likely to respond to, and cope with, challenge and adversity. The individual systems will also react to, interact with, and influence the surrounding systems they encounter. In line with findings from Khan (2021), there is a reciprocal interaction between work and personal life; it is, therefore, important to be mindful of all factors within the context of the individual. The DIMoR prompts us to take a holistic perspective and consider not only the influence on the individual system but also on those systems with which it is interacting.

The DIMoR also shows that factors influencing resilience are on a continuum on the invulnerabilities/vulnerabilities and the protective factors/risk factors axes and are not either/or binaries. It is important to identify impacting factors but to recognise that some may serve to support resilience, others may negatively impact resilience, and yet others may have little effect. To illustrate, in line with the findings from Bento et al. (2021), technology was perceived by many respondents to provide significant challenge linked to its reliability and the familiarity of staff and students with the technology, its availability, and also how increased online interactions had a negative impact on relationships between staff and students. However, some respondents noticed that the 'forced' increase in the use of technology had a positive impact on pedagogy (agreeing with Peimani & Kamalipour, 2021), supporting student engagement and a more flexible working approach for both academic and professional services staff.

What are the implications for universities?

Lessons can be learnt from our findings in terms of developing resilience in higher education for times of further disruption. In the proximal sphere, individuals can be prepared for change and rendered more adaptable through continuous staff development, keeping their working practices current. Professional development is needed so that academics can learn the pedagogies and technological tools, coupled with instructional design, to create effective future-facing learning experiences. Post-pandemic pedagogies are likely to blur educational times, spaces, roles and identities, and staff need to be sensitised

to, and prepared for, this lack of grounding. This will help to ease the sense of powerlessness staff feel when change is taking place, but it cannot remove the challenge of altered identities and teaching practices that might be experienced without warning or consent (Christensen et al., 2022). The sense of vulnerability associated with this, however, can be reduced if university systems and processes are maintained and kept responsive and if universities cultivate adaptive identities.

Concurring with findings from Khan (2021), where the importance of a collaborative culture is emphasised, systems of support were in place to help staff move their work online, and our findings illustrated that staff did make use of many of these over the duration of the pandemic. It was noticeable, however, that the dominant forms of support that staff used were self-made or seated within the micro- and exo-systems of these individuals, with wider university macro-system processes accessed more specifically and secondarily to proximal sources of support. It was positive to see staff exercising their own agency and working with colleagues to learn from one another. Staff developed emotional resilience, finding solutions to problems and building self-efficacy over the duration of the pandemic (Garcia, 2001). Institutional leaders should consider how best to link their levels of support such that staff access them optimally. These leaders also need to be mindful of the interplay between support systems as, for example, some of the processes put in place to help students during the pandemic created additional stress for staff. System resilience requires positive feedback loops and interconnectivity between emergent protective structures (Duchek, 2020).

It is important for university leaders in the distal sphere to communicate clearly and consistently with their staff, making timely decisions about operational and policy changes, and allowing staff to respond appropriately according to context. Staff also need to share their experiences and learn from one another via social reinforcement in relation to innovative practices. Communication across informal groups and organisational levels during times of disruption will facilitate the emergence of new and evolving patterns of behaviour at the system level (Bento et al., 2011).

University leaders would do well to exercise care and compassion in their roles (Burns, 2020). Whilst it is very difficult to manage workloads under disruptive circumstances, even small acts of recognition help staff to feel valued and can reduce the stresses they feel. To prepare for the dynamic education of the future, university leaders need to actively avoid work intensification and invest in technologically enhanced learning to support staff mental health (Watermeyer et al., 2021).

It is important for university leaders to instil a sense of social resilience in their staff (Garcia, 2001), encompassing aspects of community and belonging during times of disruption. This helps reduce the negative emotions that are released with the onset of rapid change (fear, anxiety, stress, sadness, loss of motivation) and helps to support positive mental health (Kotera et al., 2020), and can be achieved through local staff initiatives in the proximal sphere and through accessing support from institutional services in the distal

sphere. Ideally, a raft of integrated initiatives would allow staff to access the support that most suit their needs.

Finally, university leaders should take note of the positive changes that can be enacted in the teaching and learning environment if adaptive resilience and 'bouncing forward' (Blanford et al., 2022) are to be achieved. Our findings demonstrate that the move online upskilled staff and generated bespoke learning resources for students in different formats and available asynchronously as well as synchronously. It led to the development of university systems and to more inclusive and authentic assessment approaches and policies. Some staff welcomed the flexibility to work from home, and many wanted to see this maintained after the disruption of the pandemic had subsided. Such flexible working can positively redefine the working environment and its relationship with the home environment for staff.

Overall, using the DIMoR provides a reminder of the complexity of HE resilience during times of disruption and, thus, the need to take a holistic and systemic perspective when seeking to understand and create a context for future resilience to emerge.

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