

# WORKFORCE The perceptions and experiences of doctors training in intensive care medicine on their personal resilience and strategies practiced to enhance resilience

Author: Nishita Desai<sup>A</sup>

## ABSTRACT

### Background

There is limited understanding of the meaning and conceptualisation of personal resilience in doctors training in intensive care medicine (ICM). This study aims to analyse the perceptions and experiences of doctors training in ICM to conceptualise personal resilience in ICM careers.

### Methods

Semi-structured interviews were conducted of doctors training in ICM with a qualitative thematic analysis of their perceptions and experiences of personal resilience.

### Results

The five major themes were identified: personal resilience is developed through experiences; resilient attitudes and behaviours are important; maintaining balance and harmony; maintaining cognisance; and understanding the professional environment and system challenges.

Two overarching themes became apparent: personal resilience as a continuous process and self-awareness within an environment.

### Conclusion

Doctors training in ICM perceive themselves to function at a high level of personal resilience. Personal resilience can be conceptualised as a continuous process, which is developed through experiences. Adaptive strategies such as maintaining balance and harmony, and upholding resilient attitudes and behaviours can be used to maintain an individual resilience equilibrium.

**KEYWORDS:** personal resilience, intensive care medicine, burnout, resilience, coping strategies

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## Introduction

There is a high level of burnout and work-related stress among NHS medical staff, and the 2020 staff workplace survey revealed

that 40.3% of staff felt unwell due to work-related stress.<sup>1,2</sup> The General Medical Council (GMC) doctors' survey revealed that 25% score high on the burnout questionnaire and 50% feel worn out at the end of the working day, highlighting that more work needs to be done to improve doctors' wellbeing.<sup>3,4</sup>

The expected increase for demand in critical care services, nationally, has been predicted to be 100% over 20 years.<sup>5</sup> The recent COVID-19 global pandemic has highlighted the level of resilience required to cope with this demand.<sup>6</sup> Over a third of UK intensive care unit (ICU) healthcare professionals are at high risk for burnout syndrome.<sup>7</sup> This will affect career sustainability; 51% of respondents in a UK workforce survey said that they found working as a doctor in intensive care medicine (ICM) significantly stressful so as to influence future career plans.<sup>8</sup> In a national survey of ICM consultants, 91% reported work-related fatigue, with over half reporting a significantly negative impact on health, wellbeing and home life.<sup>9</sup> Additionally the main reasons for leaving ICM careers being high work intensity and better work–life balance.

In the UK, 30% of all doctors working in ICUs suffer from psychological distress; common causes include bed allocation, being over-stretched, longer hours of work, stress on personal/family life and compromising standards when resources are short.<sup>10,11</sup> For doctors in training programmes, there are certain important transition points in their career where personal resilience may be important, such as changing a rotation. These are 'critically intensive learning periods' and less regulated aspects of work (such as uncertain rotas and staff shortages) can impede performance during these times.<sup>12</sup>

There is surprisingly little research on protective factors (such as the role of personal resilience) as a buffer against the negative impacts of stress and burnout for doctors.<sup>13</sup> The meaning and understanding of personal resilience as related to doctors training in ICM is poorly defined and conceptualised, with a paucity of empirical studies.<sup>14</sup> A recent systematic review of 100 empirical studies and 25 different population groups revealed that there is no universal definition of resilience.<sup>15</sup> The word resilience comes from the Latin word 'resiliens' which means 'leaping back', 'rebounding' or 'the capacity to recover quickly from difficulties; toughness'.<sup>16,17</sup> Resilient characteristics at the individual level can be described as anticipation, adaptation, sensemaking and cognitive trade-offs.<sup>18</sup> Resilience is the everyday performance variability that provides the adaptations that are

**Author:** <sup>A</sup>consultant in intensive care medicine, Guy's and St Thomas' NHS Foundation Trust, London, UK

needed to produce desirable outcomes, both when conditions are favourable and when they are not.<sup>19</sup> There are 31 empirical studies for resilience in medical doctors, none included ICM doctors.<sup>20</sup> Despite the challenges related to the construct of resilience, work on resilience has substantial potential for augmenting the understanding of processes affecting at-risk individuals.<sup>21</sup>

Personal resilience can be managed by attitudes and behaviours, but it is affected by workplace stressors; resilience enables the ability to cope but also to thrive in instances of adversity.<sup>22</sup> The concept of 'thriving' refers to a person's ability to 'go beyond his or her original level of functioning and to grow and function despite repeated exposure to stressful experiences'.<sup>23</sup> Further still, thriving can be determined by an individual's resilience capacity.<sup>24</sup> Resilience capacity is the capacity reserve to face an adversity; the greater the capacity the more the individual is likely to thrive.

Doctors have a higher level of resilience than the normal population but, despite this, they have higher levels of burnout.<sup>25</sup> This, in part, may be explained by other modifiable factors (such as organisational contexts, social support and leisure time activities) that influence the relationship between personal resilience and burnout.<sup>20</sup>

This study aims to analyse the perceptions and experiences of ICM doctors to conceptualise personal resilience in ICM careers and identify any coping or thriving strategies used to enhance resilience. The objectives of the study are to answer two research questions.

- > How do personal experiences and perceptions of ICM doctors relate to personal resilience?
- > What are the coping or thriving strategies practised to enhance resilience?

## Methods

This was an experiential qualitative study, using a naturalistic paradigm with inductive thinking and a phenomenological framework.<sup>26</sup> The realities of the perceptions and experiences of ICM doctors were interpreted within the context of workplace environments. A convenience sampling strategy from the total accessible population of all London-based ICM trainees registered with the Faculty of Intensive Care Medicine (FICM; who facilitate a GMC-approved ICM training programme) was adopted.<sup>27</sup>

Participation into the study was by voluntary informed consent. A consent form and participant information sheet were provided. The right of the participant to withdraw from the study was respected until the data was coded. The collected data were anonymised and stored confidentially. Ethical approval was granted via the Birkbeck, University of London ethical committee as per the British Psychological Society (BPS) code of conduct for human research ethics principles. Ethical approval was requested from the FICM and the reply was that formal approval was not required.

A discussion of experience, perceptions, understandings and accounts of practice through interactive data collection methods in the form of a semi-structured individual face-to-face interview with the researcher (the sole investigator of this study) was selected. Based on empirical research, the recommended credible sample size in qualitative inquiry is between 15 and 60 participants.<sup>28</sup> This study was undertaken with no funding or specifically dedicated time. So, taking into account the available

time, resources and data saturation (explained later), a sample size of 16 participants was selected.

Participants were invited to participate in the study via email and the London ICM trainees' group on a smartphone communication app. The interviews were conducted in a quiet private room using pre-determined, open-ended, pre-prepared questions formulated from literature discussed in the introduction and designed to explore the research questions (supplementary material S1). The interview process was an iterative process of face-to-face in-depth interviews lasting up to 1 hour in total, digitally audio-recorded, transcribed and de-identified.<sup>27,28</sup> The mean interview length was 25 minutes and 39 seconds.

The 16 audio recorded files were first transcribed using intelligent verbatim transcription into a word document. The audio files were then listened to for a second time; transcripts were checked and amended for accuracy and details. The audio files were listened to for a third time to pick up on full dialogue and transcripts were re-read for familiarisation and for identification of potential areas of interest. Thematic analysis of the transcripts was undertaken as per the stages described by Braun and Clark.<sup>29</sup>

Each transcript was initially coded independently by a descriptive coding method. Following which, complete coding of the dataset was undertaken and refined across the dataset to answer the two research questions. Table 1 and Fig 1 show how data saturation was achieved with 16 interviews; no new significant codes appeared, therefore, it was deemed not necessary to conduct further interviews.

Themes were identified using the recommended stages of thematic analysis of defining themes, an iterative process was adopted requiring multiple reviews.<sup>29</sup> Themes were related to the research question and had a core centralising concept.

**Table 1. The total number of codes and the new codes identified in each interview transcript**

Transcript	Total codes identified, n	Total new codes identified, n
P1	75	75
P2	47	28
P3	33	18
P4	34	12
P5	31	13
P6	44	14
P7	45	11
P8	42	9
P9	45	7
P10	41	8
P11	45	4
P12	42	5
P13	38	5
P14	43	3
P15	34	3
P16	51	1

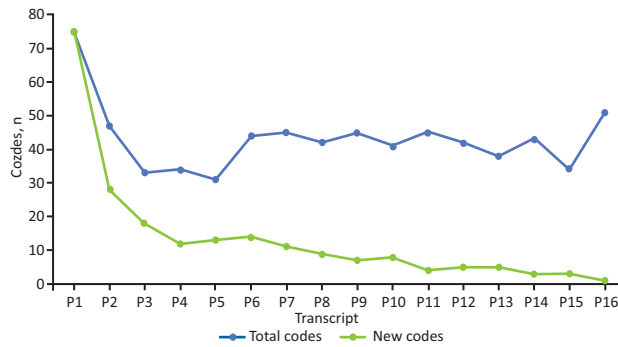


Fig 1. Balance of themes per interview transcript.

Quotes from participants that best represented the themes and subthemes from the codes generated were selected (supplementary material S2).

**Results**

Overall, 8.5% of the 188 doctors training in ICM in London registered with the FICM were interviewed.<sup>30</sup> In total, there were 16 participants: eight men and eight women. The breakdown between single verses dual specialty training were equal: eight were single ICM specialty trainees and eight were dual specialty trainees with ICM and another specialty (five anaesthetics, one acute medicine and two respiratory medicine). Of note, this was not a complete sample and did not represent all the possible dual specialty training options available. There were three less-than-full-time trainees. All 16 participants considered themselves to be resilient and all felt that, as a career, the ICM specialty requires a much higher level of personal resilience compared with other specialties. Participants acknowledged that resilience is context specific and other specialties may have different interpretations and applications.

Five major themes were defined and two overarching themes became apparent. These are summarised in Table 2, for a more detailed description see supplementary material S2.

**Personal resilience developed through experiences**

The participants found defining personal resilience challenging and difficult, P8: ‘People have different interpretations,’ P12: ‘It’s a really hard thing to describe,’ and P5: ‘Resilience means something different to everyone.’

Generally, personal resilience was thought to be a process or journey, P2: ‘Not just day-to-day but week-to-week, month-to-month experiences,’ P3: ‘Naturally develop it ... to survive in this specialty,’ P11: ‘It’s not just coping with stress in a particular moment ... but also, in a prolonged period of time your ability to keep up a certain standard.’

Personal resilience was emphasised; it changes and fluctuates with time in a career and repeated exposure to adversity, P7: ‘[A] test for time,’ P12: ‘It is continuous and develops with experience. I think I developed it over the years. I’ve developed some tactics and some ways to increase my resilience,’ P16: ‘The skills that are required for a future doctor won’t be the same as when you’re training in the start.’

**Resilient attitudes and behaviours**

Certain attitudes and behaviours were developed over time to enable resilience, such as being adaptable, P16: ‘[One should be] reflective and dynamic, and to be able to change yourself and mould yourself to a new situation.’

There was a strong sense of meeting expectations, fear of failure and judgement. The ability to provide reassurance to oneself but also opinions/reassurance from peers is important, P1: ‘Ask colleagues the question, was that the right thing to do. And then reassure myself.’

One should be able to feel satisfied that you are doing the right thing and tried your best, P9: ‘You get to a point where you know

Table 2. The overarching themes, main themes and subthemes

Overarching themes	Personal resilience as a continuous process			Self-awareness within an environment	
<b>Main themes</b>	Personal resilience developed through experiences	Resilient attitudes and behaviours	Maintaining balance and harmony	Maintaining cognisance	Understanding the professional environment and system challenges
<b>Subthemes</b>	Maintaining career longevity <sup>a</sup> Personality trait A test of time Dealing with the unexpected Everyday emotional strength Ability to carry on and perform Building reserve capacity	Resilience as a weakness <sup>a</sup> Adaptability Acceptance Positivity and enjoyment Recognising fatigue Self-forgiveness Managing expectations of others Feeling valued and reinforced with feedback	Build in time away from work and maintain other interests Time out during stressful situations Healthy lifestyle Social interactions and personal relationships are important Emotional separation from work	Maintain perspective <sup>a</sup> Knowing oneself and reflecting Professionalism Peer support: power of talking and sharing	Identify and solve barriers to successful professional development and training <sup>a</sup> Address system failures <sup>a</sup> Identify and manage workplace stressors Maintain psychological safety Ability to juggle demands and resources

<sup>a</sup>Key subthemes

that you can do what you can do and you can't do anything further.'

There was the notion that personal resilience is emotional strength and reserve, P14 'You have the capacity to handle whatever life throws at you.'

### Maintaining balance and harmony

Striving for work–life balance and being happy is continuous, P1: '[It is a] constant process of finding the balance.' In ICM there is a strong work ethic, P1: 'When you're on call, you can't do anything else. The rest of life has to be paused.'

Being at peace with yourself and coming to terms with emotions is important, P5: 'Letting it go and look forward rather than looking backwards.' Dealing with highly stressful situations and fast-paced changing environments requires planning, P12: '[You] need some time of pure rest prior to tackling a set of shifts,' P4: '[Daily] try to find a little bit of time just to do something else, talk to someone.' Personal relationships with family and friends are universally important and cited by all, P3: 'Family stability and support at home to allow you to do this job.'

There is a stronger sense that an important strategy is to strive to achieve a balance. When things are destabilised, it's a challenge to get back on balance, P3: 'A family illness set me back a few months in training, I felt under a lot of pressure.'

### Maintaining cognisance

Having knowledge and awareness of the organisation and surroundings is essential to thrive in the career. There is a strong sense of vocation, P1: 'That's what I've signed up for, it's the right thing to do.' A sense of vocation is also closely linked to professionalism and what is expected from doctors in society, P1: '[It's a] personal obligation.'

It is important to maintain a sense of perspective, P3: 'Just realising that actually you're not alone, that everyone shares the same stresses and concerns.' Not being aware of this can lead to burnout, P10: 'Losing perspective, and becoming too anxious about every single decision.'

It is important to know your own personal stressors, P12: 'Try and develop an understanding of what your triggers are and what you struggle with.' These can be adapted and modified to help cope with a changing and evolving situation or environment, P4: 'You

have to be quite self-aware in order to pick up and deal with things as the come along.'

### Understanding the professional environment and system challenges

The professional environment is complex, P11: 'You have to accept that you're going to work difficult anti-social hours, and also the pressure that you're under due to the acuity of the patients that you look after.' At times, the morale at work can be low, P9: '[Sometimes you] go into a shift knowing that there's never going to be a full team due to constant staff shortages.'

There are numerous challenges, P1: 'The working pattern, and the fact that acute specialities are 24 hours a day,' and P2: 'Trying to deal with logistical problems,' and the work intensity is high, P2: 'Long periods of very intense work,' and P10: 'You can often be standing at the bedside for hours trying to keep someone alive, that's a different intensity.'

Knowing the environment enables a broader view on strategies to cope and thrive, P14: 'The environment also needs to be supportive of doctors ... they may be seen as a resilient person but actually the system doesn't support them and so they're then seen as a failing or non-resilient person.'

### Overarching themes

Overall, there are two overarching themes: personal resilience as a continuous process and self-awareness within an environment. The relationship between these themes and some important subthemes are displayed in Fig 2.

The analysis suggests that personal resilience as a continuous process / journey, developing through experiences and changes with time. The 'growing tree model' depicts the majority of influences on resilience, however, this research has highlighted an important difference in concept.<sup>25</sup> Personal resilience is a limited resource and cannot infinitely grow, it is more closely modelled to a spirit level tool (Fig 3). For a state of harmony and balance, and optimised performance, the personal resilience equilibrium needs to be maintained at a steady level. The closest existing model to the resilience equilibrium is the 'ecosystem resilience equilibrium' model where the term 'resilience' is used to describe a steady state of 'ecological equilibrium' following a perturbation.<sup>31</sup>

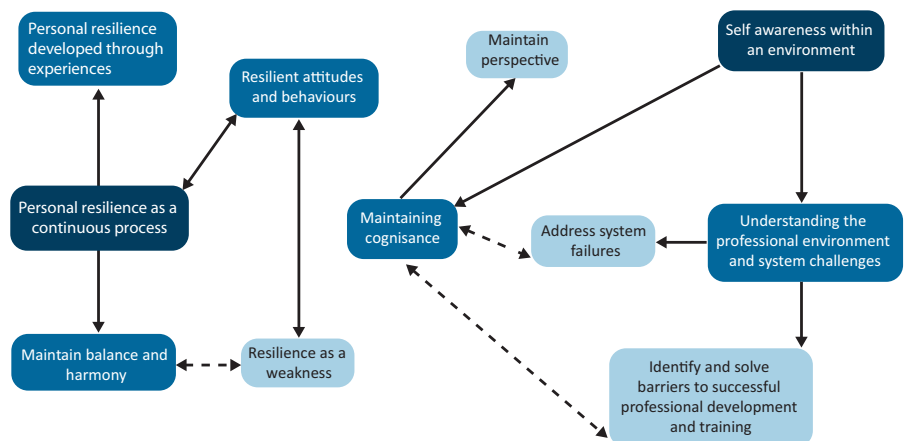


Fig 2. Relationship between themes and important subthemes.

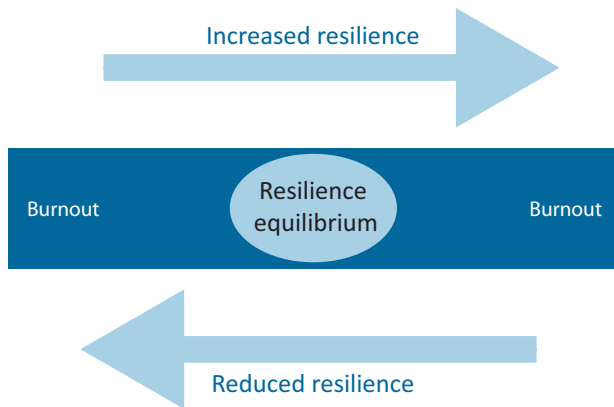


Fig 3. Resilience equilibrium model.

### Coping or thriving strategies to increase personal resilience

This study identified two important coping/thriving strategies: maintaining balance and harmony that allows replenishment of the resilience capacity and building a reserve capacity through attitudes and behaviours to enhance resilience. Further still, this study identifies high levels of personal resilience as a maladaptive coping strategy. Intensivists seem to thrive despite high work intensity and enjoy intensive periods of work which rely on high levels of personal resilience, P2: 'Enjoy the patterns ... quite intensive on-calls. Not much rest. Very busy. Quite fun,' and P4: 'I just seem to be able to, somehow, carry on delivering even under physical and emotional strain.'<sup>32</sup> It can be difficult to interpret the perception of high resilience among colleagues, that could be true resilience or may be concealing the actual problem or ability to cope, P1: 'I think people are probably quite good at disguising whether or not they're coping, the assumption and perception is that they are coping and everyone pretends that they're coping, unless we really are not coping.'

### Discussion

This study adds richness to the concept of personal resilience; conceptualising personal resilience of ICM doctors as a continuous process, which is developed through experiences. This study supports other studies suggesting that ICM doctors perceive themselves to have a higher level of baseline personal resilience.<sup>32</sup> The 'resilience equilibrium' model (Fig 3) can be used to conceptualise personal resilience. This research suggests that ICM doctors feel that their resilience capacity reserves can be replenished through maintaining balance and harmony and upholding resilient attitudes and behaviours; these are adaptive strategies to maintain the resilience equilibrium. Fostering individual resilience is a key protective factor against the development of and managing burnout.<sup>33</sup> Other studies similarly show 'planning, active coping and seeking support' and 'job-related gratification, leisure time activities and attitudes' are important resilient strategies.<sup>34,35</sup> Lower than normal levels of functional resilience may be responsive to the coping and thriving strategies identified.

Burnout can be dealt with in three ways: recognition, reversal and resilience.<sup>14</sup> Self-reported resilience is associated with

decreased reporting of work-related stress.<sup>36</sup> However, an important recognition is that the idea of the 'resilient superhuman doctor' who can cope with everything independently is, in fact, associated with an increased risk of burnout, mental illness and suicide.<sup>37</sup> There is the impression that most doctors manage due to a high level of resilience; burnout may be seen as 'a loss of resilience'.<sup>32</sup>

The strategy of stretching personal resilience beyond optimal resilience equilibrium may actually be maladaptive. Increasing individual personal resilience beyond the optimal resilience equilibrium as a coping strategy increases burnout. This may explain why local workplace interventions to improve resilience and reduce burnout have modest effects and may not offer much benefit to professional quality of life.<sup>25,38</sup>

Further still, this study highlights that the environment and the system are important. Personal resilience is required to maintain a career in ICM, where a person can develop resistance to career disruption in a less than optimal environment.<sup>39</sup> System failures, training challenges and austerity results in resilience disequilibrium, which can cause burnout. In the UK, ICU consultants are facing 'significant stressors whilst at work, due to working patterns and limited resources'.<sup>8</sup> There are unavoidable ethical challenges and austerity that impact the healthcare system, these challenges cause moral distress.<sup>40</sup> Clinicians need to engage in critical resilience and activism to address problems created by austerity and it is the responsibility of institutions to support healthcare professionals in such challenging times.<sup>41</sup> We need to understand the transition points for trainee doctors as potential times where personal resilience is tested, and crucially respect and identify 'critically intense learning events'.<sup>12</sup> Challenges to training reduces the capacity reserve for personal resilience.

As ICM specialty doctors, we need to understand our own individual resilience equilibrium and work to improve the system and environment that we train and work in to improve the sustainability of ICM as a career.

### Limitations

The main limitation of the project is that the selected accessible population sample size is small in comparison to the expected population size in London and the universal population in the UK. Selecting a sample size from the more accessible group attempts to identify a group that is more homogeneous in terms of the training experience, however, training may still vary between hospitals and regions. It, therefore, limits the generalisability and transferability of the research findings.

The use of an independent advocate with no direct connection to the researcher to send out invites mitigates the potential effects of 'snowballing' whereby study subjects are recruited by acquaintances.<sup>27</sup> However, voluntary recruitment to the study means that the participants may be self-selected and not truly representative of the whole population.

The ethnography of the research was enriched because the author/researcher can also be thought of as a participant in the study. As the researcher, I have direct experience of the setting (an ICM career), the workplace environment and training process; sharing many values and attributes with the other participants. This professional relationship adds value to the data collection and analysis. Further still, the researcher had no direct personal or professional connection to the participants. However, as a sole researcher of the study, there may be potential for bias.



The nature of the qualitative design of this study means the richness of the data relies on active participation during the interview. The quality of the research generated through the codes, quotes and themes depend on the interaction between the interviewer and participant, and this may vary in quality, length and depth of interview.

### Future directions

Further larger empirical studies are required to explore ICM doctors' perceptions of personal resilience and explore the relationship between increasing personal resilience beyond the resilience equilibrium and burnout. A larger study including all healthcare professionals working in the ICU and extending nationally would enrich our understanding of personal resilience further. By developing our understanding of personal resilience, we can try to embed resilience strategies into medical schools and training programmes to help improve wellbeing throughout careers and develop a more sustainable workforce.<sup>42</sup> ■

### Supplementary material

Additional supplementary material may be found in the online version of this article at [www.rcpjournals.org/fhj](http://www.rcpjournals.org/fhj):

S1 – Interview questions.

S2 – Tables of themes, subthemes, description and exemplar quotes.

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**Address for correspondence: Dr Nishita Desai, Department of Adult Intensive Care, Guy's and St Thomas' NHS Foundation Trust, Westminster Bridge Road, London SE1 7EH, UK.  
Email: nishita.desai@gstt.nhs.uk**