Exploring Resilience in Contemporary Nursing Roles in Wales: a mixed methods study.

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Summary

Background: The exposure of nurses to pressurised workplaces is connected to escalating workforce stress levels, which can negatively affect patient care. Resilience can buffer stress and may positively influence the well-being of nurses. Despite knowing this there is limited evidence that that has examined how workplaces shape nurses' resilience.

Aim: To explore the intrinsic and extrinsic influences that shape the resilience of nurses in Wales.

Methods: A mixed methods design consisting of a purposively developed questionnaire and analysis of free text responses exploring perceptions of resilience and work environments was employed (November 2016). Respondents included Registered Nurses (*N*=1459) across Wales (all fields, pay bands and settings). Quantitative and qualitative responses (8,000 free-text comments) were analysed descriptively, framework analysis for the qualitative and descriptive statistics with some correlational exploration of the quantitative data. Main findings were shared at a pan-Wales stakeholders' event (March 2018), to inform the latter stages of the study.

Findings: Using a social-ecological theoretical framework of resilience to guide analysis, insights into three main thematic areas were found: perceptions of resilience, adversities within environments of care that can impact resilience and routes to resilience. It is suggested that resilience is a capacity that can protect nurses from occupational stressors and understanding the role of positive workplace factors (resources, education, and support) are key to its enablement. The findings contributed to a new definition and workplace model of nurse resilience.

Conclusion: The central argument to this thesis is that nurses' views of resilience and the nature of their workplaces are inseparable. Resilience is more than an individual capacity as it is shaped by the environment where changes to resilience occur. Therefore, consideration of both is required. These findings may help to inform future policy and practice to enhance the resilience and well-being of nurses in a post Coronavirus (COVID-19) pandemic era.

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Acknowledgments

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Dedication

For Peter, with love.

Peter Benbow (1959-2014)

Glossary of terms[1]

Referencing	Cardiff University Harvard (2021) referencing conventions have been adopted, also, for ease of location the prefix “the” has been removed from organisational references e.g., World Health Organisation.
Workforce statistics	Unless otherwise stated are taken from publicly available DH digital records. NHS workforce statistics unless otherwise stated refer to England but are broadly similar in Wales. Workforce statistics are notoriously known to be “estimates” due to differing digital regional data collection, omissions and the very nature of the “live “data. For instance, retention data cannot be broken down by region and importantly does not distinguish between staff who leave one NHS organisation to work in another and those who leave the NHS altogether. In addition, public and third sector data are not normally captured.
Extrinsic	Coming from outside a particular person or thing. (Oxford English Dictionary (oed.com).
Intrinsic	An extremely important and basic characteristic of a person or thing (Oxford English Dictionary (oed.com).
Workplace environments	Are either simultaneously referred to as practice/based environments or healthcare environments due to the lack of consensus on definition and professional usage.
Context	The setting in which something takes place, which relates to influences events and situations which can help to explain it. (Oxford English Dictionary (oed.com).
Salutogenesis	The salutogenic paradigm poses that health is qualitatively different to the absence of disease and seeks to explain why some individuals remain healthy when under stress rather than focusing on why they become ill (Windle et al. 2010).
Work-life balance	Work-life balance refers to the division of an individual’s time and focus between working and family or leisure activities. A modern commonly used term in

[1] Further resilience and stress associated terms are stated in Appendices 2 (Table 7) and 4 (Table 1)

	recognition that work, and life generally is more intense than previous, causing crossing of the two borders creating tension and the need for a balance, to prevent known mental and physical ill health (Oxford English Dictionary (oed.com).A debated concept.
Capacity	The maximum ability of an individual to receive or retain information and knowledge or to function in mental or physical tasks. The potential for intellectual or creative development or accomplishment (APA Dictionary 2015).
Ability	Ability is an existing competence or skill to perform a specific physical or mental act. Although ability maybe innate or developed through experience, it is distinct from capacity to acquire competence (APA Dictionary 2015).
Capability	The ability to do something (Oxford English Dictionary (oed.com)
Psychological safety	An individual's perception of the consequences of taking interpersonal risks in a particular context such as a workplace (Edmondson and Lei 2014).
Neo-liberalism principles	Drive to increase quality and efficiency for less with less public spending, increased emphasis on individual responsibility, principles of consumerism and necessity to "work" exist. resulting in people working longer and harder with less security.
Brexit	The contested British vote to leave the European Union.

List of abbreviations

A&E	Accident and Emergency Unit
ANP	Advanced Nurse Practitioner
APA	American Psychological Association
BMA	British Medical Association
BO	Burnout
BPS	British Psychological Society
CASP	Critical Appraisal Skills Programme
CDR	Connor Davidson Resilience scale
CNO	Chief Nursing Officer
CLIC	Cancer and Leukaemia in Childhood- CLIC Sargent
CNS	Clinical Nurse Specialist
CPD	Continuous Professional Development
CC	Critical Care
CU	Cardiff University
CYP	Children and Young People
DCS	Demands support control (work-stress model)
DH	Department of Health
DF	Degrees of Freedom
DN	District Nurse
ERI	Effort reward imbalance (work-stress model)
GMC	General Medical Council
HCARE	Healthcare Sciences (School of)
HE	Higher Education
HES	Health and Safety Executive
HF	Health Foundation
HEE	Health Education England
HEIW	Health Education and Improvement Wales
HIV	Human Immunodeficiency Virus
HV	Health Visiting
HSE	Health and Safety Executive
ICM	International Council of Nurses
IOM	Institute of Medicine
IT	Information technology

JBI	Joanna Briggs Institute
LDN	Learning Disability
MHF	Mental Health Foundation
MHN	Mental Health Nurse
KF	Kings Fund
NHS	National Health Service
NHS HEE	NHS Health Education England
NHSI	National Health Service Improvement
NIHCE	National Institute for Health and Clinical Excellence
NIOSH	National Institute for Occupational Safety and Health
NP	Nurse Practitioner
NPSA	National Patient Safety Agency
NMC	Nursing and Midwifery Council
NICE	National Institute for Clinical Excellence (now the National Institute for Health and Care Excellence).
ONS	Office for National Statistics
PCF	Point of Care Foundation
PG	Postgraduate
PGR	Post graduate Research
PR	Post Registration
RCN	Royal College of Nursing
RCP	Royal College of Physicians
R&D	Research and Development Unit
RGN	Registered General Nurse
RMN	Registered Mental Health Nurse
SCN	Specialist Community Nurse
SPN	Specialist Practice Nurse
SPSS	Statistical Package for the Social Sciences
UG	Undergraduate
WB	Well-being
WG	Welsh Government
WHO	World Health Organisation
WHPA	World Health Professions Alliance
WLB	Work-life balance

Chapter 1: Introduction and setting the scene

1.1: Introduction

This chapter will situate the study within the professional context to understand the rationale for the research. The focus of this study is the resilience of registered nurses (RN)[2] situated within Wales. Broadly, resilience is the human capacity to face adversity overcome or bounce back (or forward) from difficulties with positive outcomes, that can inhibit stress (American Psychological Association [APA] 2012). Nursing is recognised as a highly stressful occupation (NHS 2009; WG 2018a). Of intensifying concern are the escalating global shortfall and rising workforce stress levels and links to patient care (Francis 2013; Trusted to Care report WG 2014). This evidence substantiates the workforce stress levels that have been extensively documented over a sustained period (Hannigan et al. 2000; ICN 2003; WHO 2016; Kinman et al. 2020). Juxtaposed to this is the increasing recognition of how critical nurses are to healthcare (NHSI 2016). However, it has been established that although healthcare professionals work is demanding of itself, the exposure of nurses to pressurised workplaces are connected to workforce stress levels (Firth and Cozens 2001). Personal experience working locally as an academic nurse supporting undergraduate (UG) and postgraduate (PG) nurses within such workplaces endorsed these issues (see reflection Appendix 1). These combined factors encouraged a personal motivation to undertake this Doctor of Philosophy (PhD) study, which was funded by the Royal College of Nursing (RCN) Wales in response to this professional context focusing upon nurses' resilience in Wales.

Resilience may mitigate nurses' stress (Mealer et al. 2012) and may positively influence the well-being of nurses but it is inextricably linked to the adversities and support available (Maben et al. 2012). Despite knowing this, research examining nurses' resilience and how workplaces shape resilience is limited. This study considered both the intrinsic and extrinsic influences that shape the resilience of nurses in one nation. It was found that resilience is a built capacity that helps nurses manage occupational stressors, and that the role of positive workplace factors are key to its enablement. As a result, we have a better understanding of adversities that

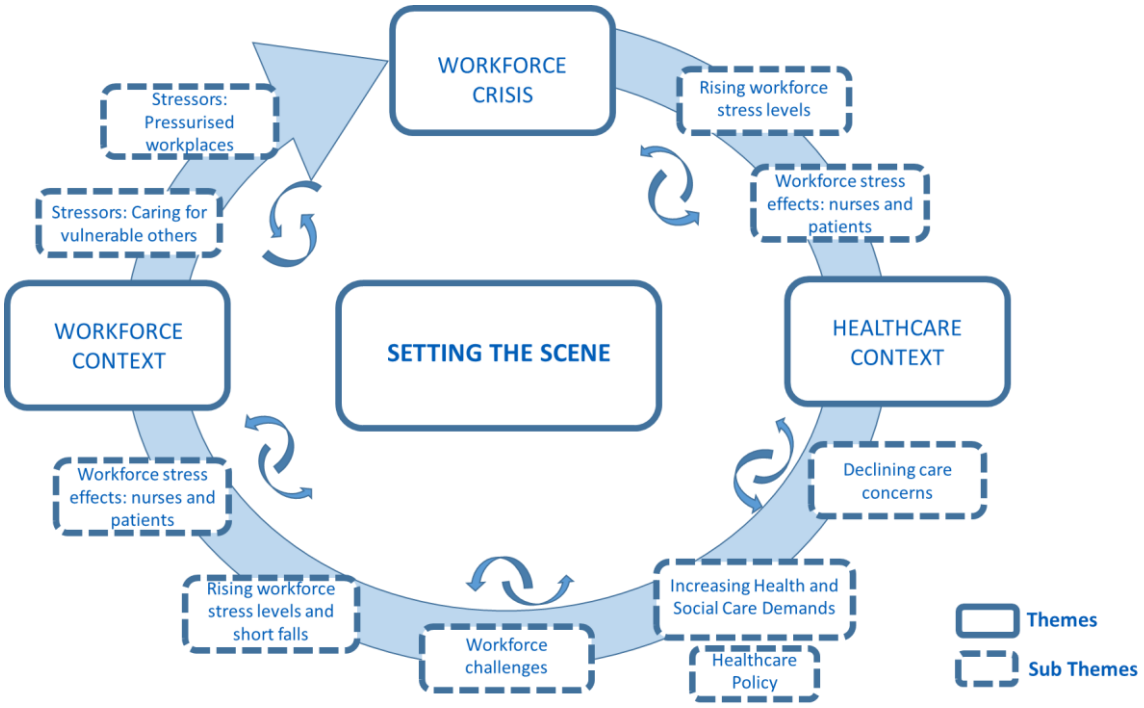
[2] From herein the term nurses will be adopted and will refer throughout to RNs.

nurses face, and how the workplace can be the adversity itself. This research has shown that nurses in Wales merit additional, varied continuous support and contributes to filling the gap in the literature. This study was conducted before the COVID-19 pandemic, the experiences and consequences of the pandemic have magnified the relevance of this research.

1.2: Chapter outline

This chapter comprises of two sections. In the first section, the broader healthcare context and challenges that are faced in NHS Wales are presented to outline the context where nurses develop resilience. Then the workforce context is presented particularly the challenges of rising workforce stress levels and shortfalls to help understand the potential multi-level relevance of resilience. The empirical and grey evidence, pertaining to healthcare and the workforce is vast and was informed by the literature search (Appendix 2). Therefore, only key policy, legislation, and salient debates relevant to the study's aims are covered. However, workforce policy is sparse, largely embedded within healthcare policy so key elements will be drawn upon. The figure below outlines the main themes and sub themes.

Figure 1: Setting the scene outline.



1.3: Section one: Healthcare context

The NHS is continuously undergoing structural reform to continuously overcome the worldwide recognition task of providing national healthcare services, which are free at the point of need from public funding (Health Foundation [HF] 2017). Wales has a rural and urban population of approximately three million. The key NHS challenges that will be outlined are concerns regarding declining care, increasing health and social care demands, and the workforce.

1.3.1: Concerns regarding declining care.

The dominant backdrop to this research were the high-profile care failings that led to public concerns regarding declining care which overshadowed other NHS challenges. Rightly or wrongly, nurses were at the forefront of the public spotlight. The Francis Report (2013; DH 2013; 2014a) and others that followed[3] in England. Similarly, in south Wales, older people's care in The Trusted to Care Report (WG 2014a) and in the North, the mental health failings (WG 2015a): "*truly appalling care*" was the description by the Deputy Health Minister, Vaughan Gethin ,at the time. The landmark Francis Report documented accounts of hundreds of unnecessary deaths and scandalous care failings, which caused public and professional distress and disbelief that brought worldwide attention to the negative effects of organisational pressures on nurses.

The NHS and particularly nurses' positive public image were threatened, a "*crisis of compassion*" was a picture painted in much of the coverage from nursing/healthcare unions presenting how nurses were at "*breaking point*" (RCN 2013) and "*running on empty*" (Unison 2014). Of importance, however the Francis Report (2013) concluded that the failings at the individual level were more likely reflections of systemic organisational issues. These issues were broadly attributed to an increasing over emphasis on efficiency and performance at a cost to care, lack of leadership and positive culture, staffing pressures (inadequate staffing levels and the delay in addressing the issue, impacted on the morale of the staff), and some health and demographic changes (e.g., increased incidence of dementia in acute care). Indeed,

[3] The Keogh (2013) and Winterbourne reviews (DH 2012: 2014b)

there were parallels with the conclusions of the ground-breaking patient safety report: To Err is Human[4] (IOM 2000) which concluded that often healthcare system failures require attention rather than individuals.

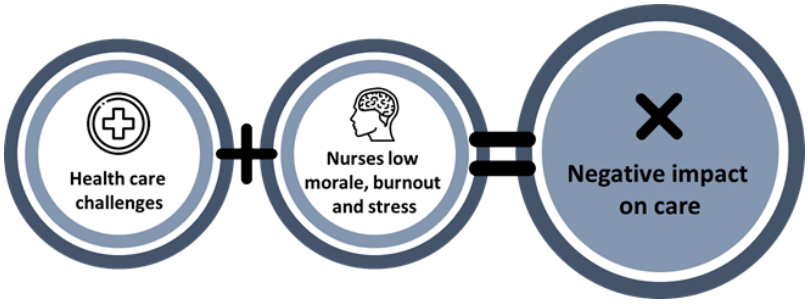
Linked to this, the attempts to reform whole systems also had a profound impact. For instance, for the Welsh Government, it resulted in an overhaul and strengthening of inspections, new organisations (e.g., Health Inspectorate Wales) and complaints processes (Clwyd and Hart 2013; WG 2014b). Cultural reform advocating the centrality of compassionate workplace culture[5] (Dixon-Woods et al. 2014; DH 2015a; Rafferty et al. 2015) underscored by transparency and candour (West 2013; DH 2015b; NMC 2015) and listening organisations (Jones and Kelly 2014). For nurses, increased regulation occurred, the NMC's role and function was scrutinised (NMC Review 2012) resulting in a refocus on core public safeguarding business and compassion, professional revalidation, NMC leadership and governance. The public trust of the NHS had been deeply tested, the reforms were to avert distressing patient stories (Patient Stories 2015) and criticism from a society more broadly informed and questioning towards the public sector with higher expectations (see Appendix 3, for broader influencing factors). However, despite declining care concerns, in Ipsos Mori polls (2015/16) nurses were still cited as the most trusted profession, suggesting perhaps some public understanding of the broader healthcare context.

Linked to concerns regarding declining care, evidence had also mounted that workforce stress can negatively affect quality of care (Salviogoni et al. 2017). By contrast, staff well-being, had been increasingly highly correlated with productivity in healthcare (Perlo et al. 2017). Well-being is about feeling good and functioning well and comprises an individual's experience of their life; and a comparison of life circumstances with social norms and values (NHS Wales 2014). Previously, the "watershed" Boorman Review (NHS 2009), overwhelmingly concluded a link between staff well-being and patient experience (Figure 2 below). Reference to resilience within the report is absent (published prior to resilience in healthcare), nevertheless, the review firmly concluded that if staff are not well/happy, patient care can suffer. The

[4] To Err Is Human" was the inspiration for the IHI patient safety 100,000 Lives Campaign
[5] Organisational culture is a debated concept however it is generally considered to be the shared beliefs routines and norms that the individuals within the organisation can be interpreted and understood by (Rafferty et al. 2015).

review recommended that the workforce's health should be core NHS business that requires investment for both economic and patient care improvements. Previously, the Black Report (2008) had identified the rise in common mental ill-health in the workplace and the necessity for improvements. The broader stressors associated with the fast-paced western world were recognised (Appendix 3). There is ample evidence that work has an impact on well-being, life expectancy and chances (Work Foundation [WF] 2009), which means that balance is necessary between individual efforts, rewards and coping. There is also a strong business case as healthier employees are considered generally to be more resilient and better able to cope with high-risk workplaces fraught with change and ambiguity, such as the NHS (WF 2010).

Figure 2: Links between staff well-being and patient care (adapted from NHS 2009)



Moreover, the major multi-centre study by Maben et al. (2012) further reinforced that staff experiences are an important antecedent to patient care, not solely consequences, as traditionally thought. In Maben et al.'s (2012) study, it was found hospital-based staff had autonomy work in supportive. Whilst where patients rated care as 'bad', staff also felt their well-being was poor, with high job demand and burnout risks. However, when patients rated their care as 'good', staff felt much more supported by their team as well as having higher levels of job satisfaction. This is a seemingly powerful case demonstrating that not only is staff health and well-being important, but it is an important antecedent and consequence of quality patient care. Indeed, NHS patient and staff surveys (WG 2014c; Dawson 2014; NHS Wales 2018) substantiate that the experiences of staff are associated with safer patient care. Escalating stress levels within the workforce are known to be linked to increasing healthcare demands within fiscal constraints, which we turn to next.

1.3.2: Health and social care demands

The broader health and social care challenges facing the NHS have been extensively documented (see Appendix 3, for review). A healthcare dilemma exists (Health Foundation [HF] 2017) that is how to allocate limited resources (especially nurses) to meet escalating demands and costs, increasing efficiency and performance goals, whilst maximising society benefits. Changing population demographics present challenges, significantly Wales has the largest and fastest growing UK elderly population (WG 2018b). These challenges have driven healthcare policy, for example, the NHS' Five Year Forward Plan (DH 2014d), and previously Together for Health (WG 2012) all of which informed this thesis. In Wales, Prudent Healthcare[6] (WG 2015b) has been central to reform in the NHS.

Figure 3: Structure of NHS Wales (WG 2015)

[6] Prudent healthcare can be described as healthcare which is conceived, managed and delivered in a cautious, safe and wise way that is characterised by forethought, vigilance and careful budgeting which achieves tangible benefits and quality outcomes for patients (WG 2015b).

Any major healthcare reform also results in structural reform. The map above outlines the structure of NHS Wales in 2015. This research followed a substantial period of structural instability and large-scale NHS reorganisation, involving innumerable restructuring and reporting systems, specialist tertiary services spread more thinly, reconfiguration of services, with reduced inpatient lengths of stay and increasing community caseloads (WG 2015b). Such systemic reform affects all nurses, across hospital and community settings. For example, nurses at both ends of the patient's journey are affected by shorter inpatient lengths of stay- pressure is created on hospital wards and when the patient is discharged the pressure, albeit different, is transferred to the community nurse. Moreover, in Wales nurses can work across large geographical regions, serving both rural and urban populations with similar and differing needs. The effect of such reforms on the workforce cannot be underestimated namely delayering and downsizing resulting in job losses, insecurity, anxiety and increasing feelings of complexity individually and between organisations (Edmonstone 2013).

1.3.3:The workforce challenge

The "central challenge" to the NHS has been described as the escalating gap between the number of nurses available and numbers needed to meet demand and the detrimental impact on care and increasingly staff, exacerbated by poor workforce planning (HF 2015; 2016; 2018). Workforce policy means how the NHS plans, trains, regulates, pays, and supports the nursing workforce to ensure affordable, quality care. To put this in context, the NHS is the biggest global employer of highly skilled professionals, the largest European and UK employer (around 10% of the UK workforce). There are approximately 1.4 million nurses in the UK and 28,000 in Wales[7] (approximately 80% women). As a result, the NHS workforce represents over two-thirds of allocated hospital budgets (HF 2016).

In 2015, an increasingly complex picture of rising levels of stress in healthcare staff and the workforce shortfall, especially nurses (NHSI 2016) were mounting major concerns (WHO 2016). Nurses and midwives account for over 50% of the estimated 17.4 million global shortfall (WHO 2016). A nurse's average NHS career length was

[7] [7] Primarily NHS not private or third sector

reported as five years (NMC 2017), working conditions (e.g., staffing levels, workload and dissatisfaction with care provided) were cited as the main contributory reasons, compounded by other complex workforce issues discussed. In 2015, the head of leadership at the King's Fund [KF] Michael West said in his blog that "*levels of stress among NHS staff are astonishingly high, probably getting worse, and should be treated as a public health problem*".

Over the last decade, a powerful evidence base has risen for safer nurse staffing levels for both patient and staff outcomes, namely the positive impact on patient morbidity and mortality (Aiken et al. 2012). Ball et al. (2014) identified that having higher ratios of registered nurses (RN) improved patient outcomes as well as reducing staff turnover (Heinen et al. 2013). This last outcome is of importance to this study, given the known detrimental effects from turnover on nurses' well-being. In Wales, unprecedented UK legislative reform to enforce staff–patient ratios were being driven by the profession, particularly RCN Wales. Detailed evidence reflecting the position in Wales was building to inform this controversial debate (Jones et al. 2015). The impression was that typically all nurses in Britain were dissatisfied, burnt out, and resigning (DH 2015c). As a result, the narrative positions nursing in crisis, which in turn is an escalating threat to achieving healthcare goals and meeting demands. Despite these bleak descriptions, thousands of nurses were resisting such occupational pressures, providing quality care whilst maintaining their own well-being. One possible reason why some nurses appeared to cope better than others was increasingly cited to be resilience.

1.3.4: Section one summary

The key NHS healthcare context and challenges have been presented. The impact on the over stretched nursing workforce struggling to cope with these challenges speaks for itself by the volume of vacancies and the documented toll on the remaining nurses that face increased pressures. It is the workforce context we now turn in order to explore in more depth the incidence, affects, and causes of nurses' stress and the potential relevance of resilience.

1.4: Section two: Workforce context

1.4.1: Stress in nursing

Simply, stress is the feeling of being overwhelmed or unable to cope with mental or emotional pressure (Mental Health Foundation 2016). Specifically, work related stress arises from work demands that exceed the person's capacity and capability to cope (HSE 2015). Some stress that is perceived as challenging not overwhelming can indeed contribute to positive adaption which is known as 'stress inoculation' (Lyons et al. 2009). However too much can cause negative effects, which can affect physical and mental ill-health in the long-term. The human performance curve describes an optimal level of pressure for peak performance, which outlines how an individual's performance will increase to a tipping point and once a threshold is superseded through additional pressure – this will result in a drop in performance and cause ill health or breakdown of the individual (HSE 2015). It is acknowledged that stress and associated concepts (e.g., burnout) are of parallel relevance to this study, see outlines of these concepts in Appendix 4.

It is estimated that the NHS workforce suffers 28% more stress than the general population [14-18%] (NHS 2009; HSE 2019) and increasingly endure high incidence of chronic stress and mental ill-health, such as depression (Harvey et al. 2009; DH 2015c; Kinman and Teoh 2018; HEE 2019). Nurses are known to be more likely to commit suicide than women generally, which is estimated to be 23% higher (2001-2017) than the national average regardless of profession and in some settings higher (e.g., emergency departments) (Clegg 2001; Institute for National Statistics 2017). In 2015, 40% of NHS nurses reported work related stress in the last 12 months (NHS 2016). Similarities exist in the USA (NIOSH 2018) and Australia (Holland et al. 2018). However, the incidence of burnout in the UK (40%) is reported to be higher than that of nurses from 10 other European countries [average for the sample of almost 3,000 was 28%] (Heinen et al. 2013). These facts are of severe concern as the workforce is the greatest resource of the NHS, particularly as nurses are the largest occupational group (HF 2016) and stress is known to be contagious (Bakker et al. 2005).

Coping is a key concept within the mechanism of stress. Nurses use various positive coping strategies most frequently reported in large scale surveys is receiving support from colleagues (NHS Staff Survey 2016). Nevertheless, evidence (Mark and Smith

2012) suggests that positive coping might not be enough to reduce the negative effects of stress, whereas maladaptive coping (suppression and denial), might significantly increase stress and causes harm to nurses and/or patients.

1.4.2: Workforce effects of stress

Mounting evidence exists that increasing rates and effects of workforce stress are linked to low morale, burnout and compassion fatigue (HEE 2017). In turn, sickness absence[8] and presenteeism results in reduced work performance; contributes to turnover, raises costs, and can negatively affect quality of care, which are all urgent healthcare "challenges" (DH 2015). Of concern, in Wales nurses next to ambulance drivers, have the highest sickness absence rates (WG 2015b). Healthcare occupations are considered most prone to presenteeism[9], suggesting cultures predicated in part on concern for vulnerable individuals and exacerbated by understaffing (Johns 2010). Sickness presenteeism[10] costs are more complex, usually hidden and more difficult to quantify because employees are ill, often with mental ill-health, but remain in work (Harvey et al. 2009; Demerouti et al. 2009), are reluctant to seek help and described as the "invisible patients" (DH 2015c). This can be associated with various factors particularly cultures of coping, guilt, stigma and professional regulator fears, and if healthcare professionals do seek help, it is often done in subversive ways (such as informal consultations with colleagues') (NHS 2009).

Absenteeism and staff turnover (often described as "churn") are directly linked and have been extensively documented. Turnover refers to nurses leaving their jobs, the NHS, or the profession, resulting in a vicious circle of less nurses, which results in extra burdens on those remaining in work, who themselves may consequently leave their jobs (Halter et al. 2017). Stress, burnout, and job dissatisfaction are the strongest determinants of turnover in adult nurses, whilst supervisor support being the most supported determinant for retention reported by Halter and colleagues. Burnout is often combined with a reduction of stress relieving activities (e.g., exercise) and an

[8] Sickness absence refers to absence due to health reasons and means no work productivity.

[9] Presenteeism refers to the inability to focus in work, efficiency/impaired performance, or deciding to work instead of recovering at home.

[10] Sickness presenteeism refers to individuals that attend work despite being ill and feeling, they should have taken sick leave employees feel sick and tired with low morale (Miraglia and Johns 2016).

increase of harmful ones (e.g., substance abuse) (Maslach et al. 2001): high obesity and alcohol consumption are growing workforce concerns (DH 2015c).

Financially, it is considered that 30% of NHS sickness absence is caused by work related stress, despite individual health and social costs, it costs approximately £400 million (NHS Employers 2014). In addition, overall sickness absence due to ill-health is about £2.4 billion per year (HEE 2017), which is annually increasing. These worrying figures have both health and economic significance due to the healthcare workforce size and endorse long standing worldwide concerns related to the rising workforce stress levels, particularly nurses and the severe global health workforce shortfall (ICN 2003; WHO 2016). Further substantiated by a sustained period of nursing research (Hannigan et al. 2000; Kinman et al. 2020). Nevertheless, Ruotsalainen et al.'s (2015) Cochrane Review provided empirical evidence that stress prevention of the healthcare workforce is understudied or of low quality. They add that the pathology and management of stress has been prioritised rather than stress prevention.

The collective effects of nurses' stress cannot be ignored and substantiate the narrative of a workforce crisis as an increasing threat to achieving healthcare goals. So why is nursing such an increasingly stressful occupation? Exploring potential answers can help understand how resilience can buffer stress hence known sources of stress we now turn.

1.5: Sources of nurses' stress

The two main inextricably linked sources of nurses' stress can be categorised as a result of caring for vulnerable others and organisational stressors from the healthcare context already outlined (Point of Care Foundation [PCF][11] 2015).

1.5.1: Nurses' work caring for vulnerable others.

It is widely recognised that nurses caring work can be highly rewarding, the principal reason many enter nursing is to make a difference (Holland et al. 2018). However, caring for vulnerable others is mentally (Benner 2000), physically (NHS 2009) and emotionally demanding (Smith 2011). The relational aspects that are core to nursing

[11] An independent charity working to improve patients' experience of care and increase support for the staff who work with them.

(NMC 2018) necessitate both giving and receiving compassion (PCF 2015). An increasingly strong message exists that this “invisible” (Allen 2015) caring work that has defined nursing, is not necessarily understood, and valued in the same way as other work (Latimer 2000). This work however does take its toll on individuals, which is substantiated by the incidence of compassion fatigue (Figley 1995) and thus should not be viewed as a “gift” (Holland et al. 2016).

Nurses are known to use a range of emotional strategies to maintain a professional demeanour. Seminal work (Menzies-Lyth 1988) has described distancing and withdrawal as a form of self-protection and that healthcare environments provide barriers to retreat behind (e.g., routines/uniforms). Related to this, is Hochschild’s (1983) influential concept of “emotional labour”, which describes induction and or suppression of emotion: deep and surface acting[12] that the more that nurses’ behaviour conflicts with their true feelings, the risks of burnout are increased. Different forms of emotional labour (e.g., instrumental, therapeutic, and collegial) linked to direct care giving have been identified (Theodosius 2008).

Concerns related to the so called “compassion crisis” in nursing drew attention to the strain on nurses to not only be compassionate to others but to themselves (Darbyshire and McKenna 2013). The Compassion in Practice Nursing Strategy: the 6 C’s[13] (DH 2014d) and the healthcare leadership compassion movement (KF 2013) can be considered as English policy consequences of these concerns. In recognition of nurses demanding work, Emotional Intelligence (EI) (Goleman 1996) has gained traction in nursing. EI is the ability to perceive and integrate emotions to facilitate thinking, understand and to regulate or engage emotions to promote personal growth of self and others (Mayer et al. 2001). Notwithstanding the stress resulting from the caring work of nurses, thinking has moved on, there is rising and ample evidence that the increasing workforce stress levels are a known consequence of escalating pressurised NHS workplaces, not necessarily nurses work itself or work patterns (Firth and Cozens 2001). It is these we now turn to bring this section together.

[12] Deep: refers to self-inducing real emotions or attempting to express and experience an appropriate genuinely felt emotion. Surface: refers to the suppressing of genuine/felt emotions to present an appropriate response.

[13] The 6’Cs: care, compassion, courage, communication, commitment and competence.

1.5.2: Organisational stressors from the healthcare context:

1.5.2.1: NHS workplace environments

Mounting evidence of nurses' job dissatisfaction and disillusionment (Holland et al. 2016) are linked to chronic organisational stressors from NHS workplace environments (Mark and Smith 2012). These reflect the principal sources of global workforce stress connected with burnout and compassion fatigue over a sustained period (Kinman et al. 2020). Namely excessive workloads, nursing shortages/skill mix, disillusionment with sub-optimal care delivered, poor leadership, organisational culture, bullying and harassment and subsequent limited personal resources to cope. Compounded by unfavourable working conditions and patterns (RCN 2013; DH 2014c) such as long hours, irregular, unsociable shift patterns that affect work life balance. These facts concur with the HSE (2015) that normally job demands are the most frequent and high-risk stressors and insufficient support from managers and colleagues. Certainly, such workplace environments can exist, and devastating care failures can occur, as discussed, indeed, just prior to this research a local nurse described her workplace as a "battlefield", which was broadcast nationally (BBC Wales 2015). These workplaces can hinder nurses caring work, thereby diminishing the rewards from "making a difference".

Conversely, global health bodies (WHPA 2008 p.4) have long recognised positive practice environments (PPE) as:

> *"Settings that support excellence and decent work. In particular, they strive to ensure the health and safety and personal well-being of staff, support quality patient care and improve motivation productivity and performance of individuals and organisations".*

Leadership, support, positive open culture, education, and training are known factors of such environments (Laschinger et al. 2014) endorsed by the long-established Magnet status[14] US hospitals and the PCF (2014). There is favourable evidence that PPE's influence quality of care and reduce nurse burnout (Maben et al. 2012). Likewise, substantial evidence exists (e.g., Aiken et al. 2012) that improvements in workplace environments may have cost, patient and staff benefits, which can improve

[14] Magnet Status recognition is an organisational credential awarded to exceptional healthcare organisations that meet the ANCC (American Nurses' Credentialing Center https://www.nursingworld.org/ancc) standards for quality patient care, nursing and midwifery excellence and innovations in professional nursing and midwifery practice.

organisational performance through recruitment and retention, a reduction in sickness costs and subsequent agency spend. Positive practice environments linked to resilience however appear underexplored.

Furthermore, policy changes in response to increasing healthcare demands means that nurses are under pressure to change their roles to be ever more effective, despite rising costs, whilst coping with healthcare reforms (Traynor 2017). Connected to this is the much-debated expansion of nurses' scope of practice that has occurred. In one sense, expansion aligns with nursing's professional aspirations. Yet in another sense expansion has reinforced the historical metanarrative (Latimer 2000) that often nurses "pick up" the pieces of everyone's work. In addition, nurses, are often considered to take the public brunt of the pressurised NHS but expected to remain compassionate professionals. There is no shortage of praise for nurses but at what cost. For example, "*The beating heart of the NHS*" (Vaughan Gethin: Health Secretary of Wales 2016, p.2).

Principally, employers have a duty of care to protect the well-being of their staff and provide supportive workplaces (HSE 2015). Although there is no specific law that covers stress at work, it is an occupational health hazard that is covered by the Health and Safety at Work Act (1974) and the Health and Safety Regulations (1999) evidence-based standards. The standards outline conditions that if they exist implies staff well-being and high organisational performance to help employers reduce the risks and implications of workplace stress. In 2015, despite some well-being initiatives following the Boorman Review (NHS 2009) (e.g., NICE 2009; Maben et al. 2012; NHS Wales 2014) they appeared underutilised in practice.

1.5.3: Section two summary

Prior to offering an overview of the thesis, to summarise, nurses' work is seemingly more complex and emotionally demanding than considered previously, evidenced by the increased incidence of nurses' stress, not necessarily from nurses' caring work but from organisational stressors. These stressors, which have demanded traditionally less professional enquiry can inhibit nurses' ability to perform their core work which is inherently stressful in its own right and necessitates positive supportive workplaces. If we continue to overlook workplaces, we may fail to expose the adversities that nurses

face and diminish our understanding of the critical impact on the workforce and links to patient care.

1.6: Overview of thesis

This first chapter has situated the study within the professional context. A scoping review of the literature in nursing and an overview of the conceptual theoretical origins of resilience is presented in Chapter Two as well as the rationale for utilising the social-ecological theoretical framework. The justification for the methodological design, a convergent mixed methods approach (Creswell and Plano Clark 2017) is offered in Chapter Three. Chapter Four presents the quantitative results followed by the three qualitative findings chapters: perceptions of resilience (Chapter Five), adversities within environments of care that can impact resilience (Chapter Six) and routes to resilience (Chapter Seven). Finally, Chapter Eight discusses the merged findings aligned to the research questions. The stakeholders' event is reported prior to the synthesis of the findings in a new definition and model of nurses' workplace resilience that emanated from the study findings. The implications, recommendations then the strengths and limitations of the study are discussed, the dissemination strategy and finally conclusions are made.

1.7: Chapter one conclusion

The study has been situated within the professional context. The workforce consequences of pressurised workplaces due to rising healthcare demands, not necessarily direct caring work was outlined to help understand the potential multi-level relevance of resilience. Nurses' capacity to cope and support to do their work are vital. Previously, the priority has firmly been patients' health not the workforce, which is understandable but the consequences of failing to tackle nurses' health are significant and ultimately undermine patient outcomes as seen here by care failings and the workforce worries. Resilience the moderation of workforce stress, has moral and economic implications with consequences for patient care. More in-depth study of resilience offers opportunities to help understand why some nurses and teams do not collapse and continue to function and grow under stress. The complexity of nurses' work and their workplaces and the multi-level multivariate stressors suggested a holistic perspective was required, this has been touched upon, in readiness for the literature review to develop a deeper understanding of the enquiry.

Chapter 2: Literature review

2.1: Introduction

This chapter will offer an overview (map) of the core evidence base of nurse resilience, which is applied to the broader waves of resilience research. This chapter comprises of two sections: The first section will introduce resilience as well as the growing interest in nursing. The second section will then outline the conceptualisation of resilience and the evolvement of the extensive enquiry within the dominant field of developmental psychology, to help understand the concept's professional relevance. Building on this, the scoping review in the second section maps the enquiry within nursing to inform the study aims. Followed by the rationale for the initial organising social-ecological framework that provided structure to the research.

2.2: Section one: introducing resilience

2.2.1: What is resilience?

Originating from developmental psychology resilience is difficult to define. However, the APA (2012) broadly describes it as the human capacity to face adversity[15] overcome or bounce back (forward) from difficulties with positive outcomes. This echoes the Latin root of the word *resilire* meaning to leap, rebound, or recoil, which provides the visual analogy of a pliant or elastic quality of a substance. Whilst in environmental science resilience is viewed as the capacity of a system to withstand disturbances and maintain stability (Folke 2006). Broadly, resilience implies psychological flexibility and adaptability (Rutter 1985), which is a learnt preventative strategy that can inhibit potentially debilitating effects of chronic stress (Charney 2004) and living longer (Ong et al. 2006). Resilience is considered to be appealing, optimistic, hope embedded in adversity (Dyer and Minton McGuinness 1996).

Despite extensive theoretical debates, resilience has gained traction in multiple sectors. Namely national disasters (Bonanno 2004), military (Palmer 2008), academia (Reyes et al. 2015), sports (Fletcher and Sarkar 2013), public health (Friedli 2009), ecology (Folke et al. 2006), systems resilience (Folke 2004), healthcare organisations

[15] Adversity: A state or instance of serious or continued difficulty or misfortune (Oxford Dictionary online https://www.oed.com)

(Hollnagel et al. 2013), and patient safety (Jeffcott et al. 2009). This proliferation has been questioned as it may dilute or trivialise the concept whilst others suggest it reflects its value (Luthar et al. 2000). Of relevance to this study, resilience is increasingly emphasised in influential global health reports (WHO 2014), policy, and law as core to mental health[16]. For instance, in Wales (Together for Mental Health, WG 2012; Well-being of Future Generations Act, WG 2014d) and England (No Health Without Mental Health, DH 2011; 5 Year Plan, DH 2015d). It is to the interest of resilience in nursing that we now turn.

Resilience in nursing received relatively little attention, until Jackson et al. (2007) asked how some nurses, not only survive but thrive when faced with adversity, whilst remaining compassionate. Resilience rapidly gained popularity in response to the narrative of a workforce in "crisis" formally discussed. Healthcare practitioners were reported as having lower levels of resilience than other sectors (Business in the Community 2009). Resilient nurses were portrayed as those who can:

> *"Transform a disastrous day into a growth experience and then move forward in practice rather than leave and seek a new career" (Hodges et al., 2005, p. 550).*

Professional literature focusing on resilience flourished (e.g., Petit and Stephens 2015; PCF 2015) often with an emphasis on self-care[17] skills (RCN 2015). However, the NMC were quiet, their guidance focused on nurses developing resilience of others rather than themselves (NMC 2010a). On the other hand, the General Medical Council [GMC] (2014) mandated resilience training for junior doctors. This was likely as a reaction to the tragic premature deaths of 28 doctors whilst undergoing professional investigation. Conversely, there was another camp who disagreed with the excitement about resilience, it received scepticism as a temporal, faddy notion and criticism for propagating the narrative that "nurses need to be stronger and work harder" (Traynor 2013). To help understand these debates, we now turn to the theoretical origins and conceptualisation of resilience in the broader literature.

[16] An assets salutogenisis approach (see glossary).
[17] Self-care refers to the ability of individuals to promote heath, prevent disease, maintain health and to cope with illness and disability with or without the support of healthcare provider (WHO 2017) which can mediate compassion fatigue and prevent the spiral of burnout.

2.2.2: Conceptualisation and evolvement of resilience enquiry

Resilience is a deeply contested concept (Southwick et al. 2014). The literature search resulted in over 75 definitions within the broader literature, which have been critiqued to explore the main debates applicable to this study[18]. The challenge to theoretically categorise resilience is recognised in the literature (Masten 2007), an approach to overcome this challenge in developmental psychology has been the categorisation of the evolutionary waves of enquiry (Table 1 below). The waves are interrelated and comprise a complete developmental whole. Therefore, is it important to understand and outline each wave. The discussion is supported by Appendix 2, Table 6.

Table 1: Waves of resilience enquiry

Wave of enquiry	**Emphasis of investigation**
Wave one	Outcomes and presence of individual characteristics/traits.
Wave two	Learnt protective mechanisms and processes.
Wave three	Assets of individuals and communities.
Wave four	Social-ecological enquiry: dynamic interaction of the assets of both the individual and their environment.
Wave five	Social justice enquiry aimed at reducing factors that contribute to adversity.

The earliest wave of enquiry was focused on outcomes that viewed resilience as a development through the presence or absence of intrinsic attributes, traits and or characteristics (Garmezy 1993). This enquiry is sometimes associated with attachment theory[19]. Despite a finite list of resilience characteristics yet to be determined, a consensus on key characteristics exists, including hope, optimism, adaptability, and self-control. These characteristics can be associated with the attributes of nurses. The enquiry then identified that such characteristics could be protective against mental ill-health (Werner and Smith 1982), whereas adaption was

[18] Definitions of patients' and students' resilience are acknowledged but not included.

[19] Attachment theory (Bowlby 1907-1990) asserted that the separation of a child from a primary care giver was often related to acute trauma and sometimes emotional and social issues when an adult (APA 2015).

found to be hindered by risk factors (Tugade and Fredrickson 2004). Hence widespread support for identifying and measuring both protective and risk factors followed (Appendix 2, Table 6: 1-12).

In contrast, a significant paradigm shift came in the second wave of research. Rutter (1987) identified that protective processes are of more value to mediate adversity than factors (Appendix 2, Table 6: 13-16). However, these processes were recognised as profoundly complex, and individualised (Masten 2007). To offset this complexity Masten (2001 pg. 27) made the important distinction that these processes were not extraordinary of exceptional individuals but everyday human adaption ("ordinariness"). This interpretation of ordinariness shifted resilience to be seen as commonplace and therefore could be studied. Hence various resilience scales arose (e.g., Connor and Davidson 2003) alongside theories (e.g., Charney 2004). Various attempts have been made to measure nurses' resilience, which will be critiqued later.

Another major debate within the enquiry has been the relationship between vulnerability and adversity. These have been viewed as constructs at opposite ends of a continuum (Rutter 1985), opposing constructs (Kulig et al. 2008), and or separate ones (Zautra et al. 2010). In addition, what constitutes adversity, and its subjective risk nature has also been heavily debated. These debates centre on not all adversities are major life events, not all negative circumstances mean negative outcomes, additionally not all events that build resilience are negative (Fletcher and Sarker 2013). Also, that it is not risk per se but accumulation of risks. Furthermore, an enduring debate is the "toll" of resilience (Masten 2014). At first the toll was considered more likely to be from the adversity then increasingly the "price" of striving for resilience under adversity and long-term health effects has been recognised. Applied to nurses this could mean nurses toll of building resilience under chronic stress.

In the third wave, building on resilience as a process (Appendix 2, Table 6: 17-20) was fundamental to conceptualise resilience through an individual and community assets perspective (Sroufe et al. 2005). Strong connections with one's social/physical environments and relationships being core dimensions, including motivation to engage in resilience processes (Richardson 2002). Of relevance to this study, the fourth wave

of social-ecological enquiry[20] then emerged, which supported the third wave but differed in that there was a shift in emphasis. That is, from individual assets – what the individual does, to an added dimension of what the environment provides – the assets of both and their interaction (Wyman 2012). This stance views resilience as reliant on the interaction of both the context and or environment including relationships, particularly during adversities (Kent 2012). According to Davydov (2010), resilience is an interactive biopsychosocial process, importantly that it does not occur in isolation. Ecological means natural environment, for nurses this means the workplace.

Ungar (2011; 2012) a respected theorist of this approach contends that the context should be examined first, then the individual (Appendix 2, Table 6: 21-23) and that if certain conditions exist, there is more potential for resilience to occur. Ungar and Liebenberg (2011) found that when faced with similar adversities, how individuals cope varies greatly across contexts and cultures. They argued that their understanding differed from previous perspectives. They concluded that it was the availability of the help sought in addition to the individual's capacity to seek help. If the help is unavailable or potentially harmful, we cope as best we can with what we have, we improvise on hidden resilience. This means that one can only navigate towards what is readily available, implicating the responsibility of others to intervene. Applied to nurses, resilience is more likely to ensue when nurses are provided with the necessary resources. To illustrate, as resourceful as nurses may be, if workload is overwhelming, and team building is not prioritised, the environment lacks resilience to enable supportive relationships, and thus not nurses lacking resilience (Marie 2015). Adaption to adversity within this perspective is not considered straightforward that tensions exist, reflecting individual pathways (Ungar 2004). The relationship between individual and collective (community) resilience is considered important (Zautra et al. 2010). Therefore, a sense of collective strength underpins individual strength. Similarly, adversity can be collective and individual embedded within the context. For nurses, this stance could refer to both individual and team resilience within resource constrained workplaces.

Prior to this wave, the enquiry was dominated by positivist quantitative methodologies utilising resilience scales (Mertens 2015). The scales have however received

[20] Social-ecological/socio-ecological/socio ecological appear to be interchangeable terms in the literature the term favoured in this thesis is social-ecological.

widespread criticisms, due to the challenges of operationalising resilience (Connor and Davidson 2003), the randomness of variables measured and their decontextualisation (Ungar and Liebenberg 2009). The inconsistences have questioned the extent to which researchers are measuring resilience, or something else (Robertson et al. 2015; Mertens 2015) due to the known considerable overlap between resilience and associated concepts (Appendix 4: Table 2). Hence the shift by some researchers (Ungar and Liebenberg 2009) to mixed and qualitative methods to better understand resilience, which is of relevance to this study.

Although the social-ecological interpretation has gained recognition, some authors such as Hart et al (2016) maintain that it is still focused upon individual ecologies rather than wider systems, which does not fully address how individuals negotiate power differentials within their contexts. Which moves us onto the last wave of enquiry that views resilience through a social justice perspective aimed at reducing factors that contribute to adversity (Appendix 2, Table 6: 24-25). This perspective shifts the emphasis more to the individual's social political setting (e.g., Theron and Theron 2010). Theorists have argued that to merely support individuals to overcome the adversity distracts from tackling the causes, applied to nurses this can refer to systemic healthcare stressors. As a result, there is much debate on resilience in the literature (O'Dougherty et al. 2013). Nonetheless, consensus seems to exist that the key antecedent is adversity, and the main consequence is positive adaption (Masten 2014). Conversely, building resilience is not so certain, that hidden resilience processes can be embedded in culture and social-ecology. Therefore, Ungar (2011) calls for a greater understanding of context.

2.2.3: Section one summary

Resilience and the profession's growing interest in the concept alongside the evolvement of the inquiry more broadly has been outlined. Despite the concept's complexity and criticisms its merits would suggest that resilience implies psychological flexibility and adaptability that can buffer stress. It follows that there is value in increasing our understanding of nurse resilience and the environment in which it is experienced. Therefore, we now turn to the scoping review of the enquiry within nursing to inform the study aims.

2.3: Section two: Scoping review of the enquiry within nursing

2.3.1:Rationale for a scoping review

Early on it became apparent that given the evolving nature of resilience enquiry within nursing, that a systematic review or meta-analysis that synthesise results/answers to a particular question (Tricco et al. 2016) was not appropriate. An integrated review (Whittemore and Knafl 2005) that incorporates diverse methodologies to produce summaries to guide practice was also considered but thought to be premature and key detail may be missed. Whereas scoping reviews are useful for examining emerging evidence when it is still unclear what other more specific questions can be valuably addressed by a systematic review (Tricco et al. 2016). Also, they have the potential to provide options when faced with complex concepts or broad research questions (Munn et al. 2018), such as resilience and the research questions of this thesis. Therefore, a decision was taken to conduct a scoping review to provide an overview of the enquiry, by drawing upon a range of evidence to clarify the concept to inform the research. This decision reflects the known reasons for conducting scoping reviews (Arskey and O' Malley 2005; Levac et al. 2010; Munn et al. 2018) see Table 2 below.

Table 2: Reasons indicated for conducting a scoping review

1	To determine the coverage of a body of literature on a given topic and field and give a clear indication of the volume of literature and type of studies available in addition to an overview (broad or detailed) of its focus.
2	To clarify key concepts/definitions in the literature. To examine how the research has been conducted.
3	To identify key characteristics or factors related to a concept.
4	As a precursor to a systematic review, they can be added to.
5	To identify and analyse knowledge gaps.

2.3.2: Scoping review method

The five-stage method for conducting a scoping review (Arksey and O' Malley 2005) was undertaken (Table 3), whilst the method and reporting was informed by the enhancements to the method by Levac et al. (2010) and the Joanna Briggs Institute (JBI) (Peters 2015; 2017; 2020). For example, consultation with the project's steering group was not considered optional. They were consulted throughout the study and

their feedback informed the review process (Peters et al 2017; 2020). An assessment of methodological limitations of the evidence included within a scoping review is generally not performed.

Table 3: Scoping review process (Arksey and O' Malley 2005)

1.	Identify initial research question (1-5)
2.	Identify relevant studies .
3.	Study selection
4.	Chart collate summarise and report the results
5.	Describe the key elements/trends of the review avoiding methodological quality or empirical weight.
6.	Consultation [information scientists, stakeholders and/or experts] including in the topic prioritisation, planning execution and dissemination (optional)

2.3.3: Stage 1: Identifying the research question.

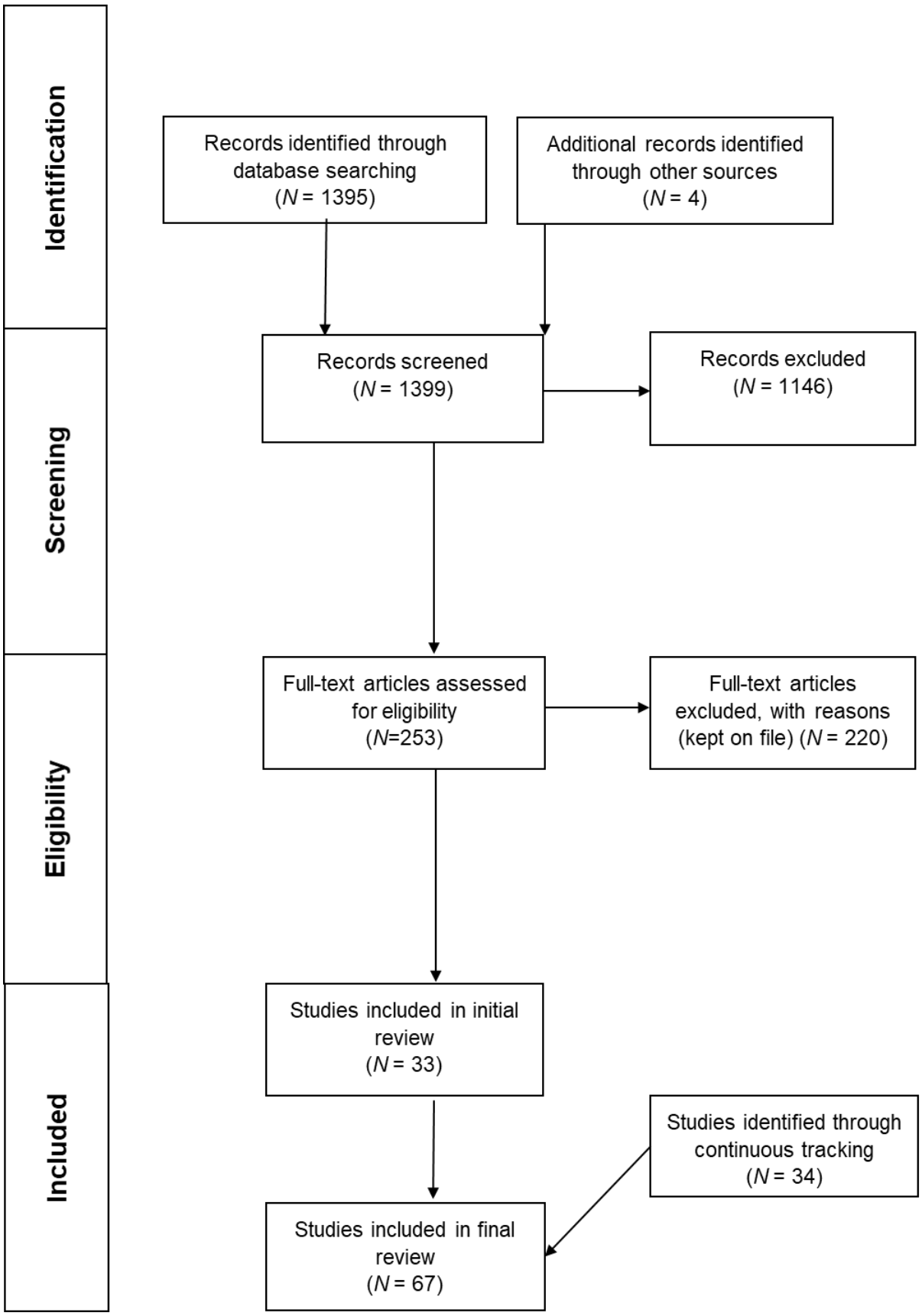
The aim of the review was to offer an overview of the evidence base of the resilience of nurses in the workplace, applied to the broader waves of resilience enquiry, to inform the study's aims, and design to identify gaps to inform future research, policy and practice. The review addressed these main questions:

- What are the conceptual, theoretical origins of the concept of resilience and the resilience of nurses?
- What are the research outcomes of the research examining resilience of nurses applied to the broader waves of resilience research?
- What key elements, trends and or shifts have occurred in the enquiry and what is the future direction?

2.3.4: Stages 2 3 4: Identifying relevant studies, study selection and charting the data.

A comprehensive search of the literature was employed following the three step JBI PRISMA guidelines (Peters et al. 2017; 2020) (PRISMA Extension for Scoping Reviews, PRISMA-SCR) to promote consistency, accountability, integrity and consistency of the review (Tricco et al. 2018) (see Table 4 overleaf and Appendix 2).

Table 4: Preferred reporting Items for Systematic Review and Meta-Analysis (PRISMA- SCR) extended guidance on scoping reviews (JBI 2018)



2.3.5: Stage 5: Collating, summarising, and reporting the results.

The total number of nursing studies included in the final review was 67. The initial search in 2015 returned 33 studies. The findings from which provided comprehensive preliminary knowledge that informed the research questions and study design. Over the course of the study up to June 2019 the number of studies from continuous tracking had almost doubled (*N*=34), suggesting the popularity of the topic. The final review of 67[21] studies contributed to the iterative analysis and synthesis of the study findings.

2.3.5.1:Description of the studies

First the studies will be described followed by a narrative review of the findings. Tables 7-10 in Appendix 2 outline the characteristics and summaries of each study. The earliest study was in 2004 (Simoni et al. 2004) and the latest in 2019 (Tabakakis et. al. 2019) there was a group in 2018 (*N*=15). Among the 67 studies the most were quantitative in nature (*N*=42) a smaller number were qualitative (*N*=21) and four studies used mixed methods approaches. Most of the quantitative studies gathered data through some form of self-report. 12 intervention studies (one-off resilience programmes) were identified most of these were pilots of which three were RCTs. The majority were pre and post-test designs, most measure points were at the end of the programme one comprised a 12 month follow up. The mixed methods studies were mainly quantitative with a programme evaluation. The predominant qualitative approach was phenomenology, qualitative follow up research was frequently recommended in the quantitative studies, which encouraged the decision to include the open questions in the questionnaire.

Apart from a few exceptions (e.g., Koen et al. 2011; Marie et al. 2016) most of the evidence has originated from high income countries with developed healthcare systems. The majority were from the USA (*N*=28) and Australia (*N*=17). UK evidence is sparse (*N*=2) and no Welsh studies were identified. All the studies were in English but there were some varied origins and one cross-nation study (Ang et al. 2018). The literature was from a broad cultural perspective, which results in difficulties of transferability between varying healthcare systems.

[21] In addition to ten literature reviews (see Appendix 2: Table 12)

Most of the quantitative studies had small samples but did range from *N*=28 to *N*=2397. Predominantly, the samples as expected were females whilst age, ethnicity, education and experience were mixed except one (Koen 2011) reported an ageing population and two (Hodges 2008; Chesak et al. 2015) examined newly registered. Various practice settings were studied; often known high intensity areas were chosen for instance CC (CC) (*N*=13) mental health (*N*=11). Some settings were explicit, and some nurses clearly provided direct care (Zander et al. 2013) or were Senior Nurses (Wei and Taormina 2014). Whereas others were less clear, often-broad statements such as “hospital nurses” were stated (e.g., Russo et al. 2018) accordingly working patterns and roles were unclear. One author (Mealer) led seven studies in the field of American CC. These factors influenced the decision to recruit an explicit sample across all fields and roles.

Excepting a few who developed their own definitions (Gillespie 2007; Hodges 2008; Wei and Taormina 2014), the researchers utilised definitions originating in developmental psychology (Appendix 2: Table 9) and reflecting the first two waves of enquiry (e.g., Rutter 1985; Tusaie and Dyer 2004). The definition from the review by Jackson et al. (2007) was the most often quoted (9/67 studies). The concepts of hardiness and coping were interchangeably used (e.g., Ablett and Jones 2007). More recently, characteristics of moral resilience have been explored (Holtz et al. 2017). No discipline specific definition within a social-ecological perspective has been identified. A consensus was found that further research and clarification is required (Aburn et al. 2015). Furthermore, over 50 differing tools to measure variables in the quantitative studies were found (Appendix 2: Table 11), no discipline specific resilience scale was sourced.

2.3.6: Resilience of nurses’ past, present and potential discourse

In the 1990’s the enquiry in nursing was limited to a metatheory of patient resilience (Polk 1997), the focus shifted to operating theatre nurses’ resilience traits (Jacelon 1997). Then in response to higher-than-average workforce stress levels and mounting workplace pressures the enquiry evolved (Jackson et al. 2007) to help mediate workforce stress, which differed to previous psychological research. This was part of the establishment of practitioner resilience enquiry (Gu and Day 2006; Jensen et al. 2008; McFadden et al. 2012; McCann et al. 2013; Hunter and Warren 2013). In

recognition that direct and vicarious adversity can be experienced within and influenced by the workplace. Social Workers were influential to this enquiry (Grant and Kinman 2014).

Then the enquiry shifted towards resilience to help solve some of the global workforce issues of stress (Larrabee et al. 2010) and job dissatisfaction (Matos et al. 2010). Fundamental to this shift in focus was the growing belief that everyone has resilience potential (Tusaie and Dyer 2004). Some momentum then gathered for learning resilience strategies (McAllister 2009). As a result, some small intervention studies emerged (McDonald et al. 2013) and have continued (e.g., Slatyer et al. 2018ab). They have evaluated the impact of one-off resilience programmes which largely intended to develop individual stress management skills, including self-care to enhance resilience. Utilising a literary synthesis approach, a model of resilience workplace factors emerged (Cusack et al. 2016) which appears relevant yet underutilised.

Over the course of the study despite plentiful international research the spotlight remained largely at the individual level. How the workplace can sustainably support nurses' resilience has not been prioritised. The social-ecological perspective remained emergent (e.g., Foster et al. 2018). Excepting Traynor's (2018) "Critical Resilience" dialogue that argues for a more collective resistance to influence systemic change not acquiescence to workplace adversity a social justice perspective remains silent. Nevertheless, the opponents of resilience mentioned earlier within the professional literature can be considered to reflect this perspective.

In July 2020, a further check was done to ensure any additional literature was not missed, in one-year eleven items of relevance were returned (*N*=8 studies and *N*=3 literature reviews), see Appendix 2: Table 13. This suggests the continued popularity of the topic, but all were pre COVID-19, which will have also added to the literature. The themes mostly reflected the literature that had already been reviewed. However there appeared to be an emerging interest in the combination of external as well as individual factors, adversities nurses experience and sustained interventions, all of which supported the review that informed the study design. A few studies (*N*=3) could be aligned to a social-ecological approach. These more recent literature informed the discussion of the thesis.

2.3.7: Reporting the results

The search results (*N*=67 studies) will be reported next in a narrative format as the key findings were focused on results relevant to the review and thesis research questions aligned to the waves of enquiry. Categorisation of the enquiry in this way, is only emergent in nursing (Grafton et al. 2010; Marie 2015) so following this gap through adds to the literature. The known challenges of reviewing the literature were encountered (O'Dougherty et al. 2013) often due to the interchangeable terminology utilised[22] Table 4 (overleaf) summarises the studies, the greatest percentage were within the second wave (*N*=28 41.7%). Some studies were not exclusive to one wave and are reported in more than one category (e.g., Cameron and Brownie 2010).

[22] Factors can be described as characteristics/attributes or mechanisms/strategies or both e.g., optimism and positive thinking and often attributes translate into behaviours.

Table 4: Summary of included studies in the scoping review

Empirical studies overview: resilience in registered nurses broadly according to the waves of resilience research (Masten, 2007) adapted from Grafton et al. (2010) [23]			
Wave of inquiry	**Conceptualisation and emphasis of investigation**	**Focus of the studies**	**Major findings**
One	Outcomes focused that views resilience as developed through the presence or absence of intrinsic attributes, traits and or characteristics (Garmezy 1993).	Theme 1: Individual Resilience Characteristics**:** Ablett and Jones (2007); Edward (2005); Gillespie et al. (2007); Gito et al. (2013); Imani et al. (2018); Mealer et al. (2012b); Rushton et al. (2015); Tubbert (2016). Theme 2: Links between resilience and job satisfaction: Brown et al. (2018); Hudgins (2015); Larrabee et al. (2010); Matos et al. (2010); Oksuz et al. (2018); Pannel et al. (2017); Wei and Taormina (2014); Zhimin et al. (2017). (*N* =16)	Key personal characteristics identified: hope, optimism/positivity, self-efficacy, coping/control, flexibility, balance, commitment, focus social-connection and humour. Key professional characteristics identified: competence, self-control in stressful situations and altruism. Consistent findings with broader literature. Limited understanding of external influences e.g., support. Predominantly single setting studies. Established links between resilience and job satisfaction.
Two	Protective processes and strategies focused that views resilience as developed through adapting and learning or being taught resilience strategies via family and community networks (Rutter 1987).	Theme 1: Protection from stressors: Ang et al. (2018); García-Izquierdo et al. (2017). Garcia and Calvo (2011); Simoni et al. (2004); Zou et al. (2016). Arrogante and Aparicio-Zaldivar (2017); Mealer et al. (2012a; 2016; 2017). Theme 2: Levels of Resilience: Gillespie et al. (2009); Guo et al. (2017); Koen et al. (2011); Carpio (2018) Theme 3: Adversities: Cameron and Brownie (2010); Itzhaki et al. (2015); Hsieh et al. (2015); Rees et al. (2018); Lanz and Bruk-Lee (2017); Lankshear et al. (2016); Jackson, et al. (2018); Tabakakis et al (2019). Theme 3: Coping and resilience strategies: McGarry et al. (2013); Russo, et al. (2018); Hodges et al. (2008); Prosser et al. (2017); Manomenidis (2018); Shimoinabla et al. (2015); Zander et al. (2013). *(N= 28)*	Established association between resilience protects against burnout and compassion fatigue. Levels of resilience vary, (mostly low-moderate) inconclusive links with age and experience. Clear nurses are exposed to adversities from caring and workplace environments, less clear how adversities can both help and hinder resilience. Considerable attention given to investigating nurses' personal strategies, myriad identified no one strategy more effective than others probably more a combination related to various factors. Limited understanding of external influences and processes within strategies.

[23] Blue font denotes publications since the initial review.

Three	Focused upon building assets of the individual and the community, that views resilience as developed in individuals that have internal and external resources (Masten 2007). Connectedness to one's social/physical environments and strong relationships being core dimensions, including motivation to engage in resilience processes (Richardson 2002).	Individual level Kornhaber and Wilson (2011) Organisational level Resilience Programmes: Babanataj et al. (2018); Chesak et al. (2015); Craigie et al. (2016); Foureur et al.(2013); McDonald et al. (2013); Magtibay (2017); Mealer et al. (2014; 2017); Pipe et al. (2011); Potter et al. (2013); Slatyer et al. (2018ab); Steinberg et al. (2017); Tarantino 2013. Other**:** Wei et al. (2018). *(N = 16)*	Key individual level interventions identified: • Clinical experience and professional competence. • Motivation to overcome adversity from competence, making a difference and relationships with service users. • Team support Key organisational level interventions identified: • Main emphasis: one-off resilience programmes: despite variable approaches, broadly they can enhance personal stress management skills and motivation for self-care but appear limited on their own to build resilience, broader sustainable organisational interventions required. Findings consistent with other disciplines. • Limited evidence linked to other organisational interventions e.g., team working, management and debriefs.
Four	Broader enquiry, arguing that resilience is developed by the interaction of both the assets of the individual and the environment, influenced by context and culture (Ungar 2011).	Cope (2015); Foster et al. (2015a); Foster et al. (2018b) ; Lee, et al. (2015); Marie et al. (2016; 2017); McDonald et al. (2015). *(N = 7)*	Emergent findings mainly speciality fields of nursing (MH and Childrens ICU) that nurses can strengthen their own resilience, but organisational environmental factors play key role. Responsibility of employers and organisations to provide culturally sensitive strategies to promote resilience. Limited understanding of process-based measures that measure individual and environmental factors.

2.4: Wave one: Individual resilience characteristics

The 16 studies in this section broadly relate to understandings of individual characteristics that serve as protective factors to help protect nurses against occupational stress. The studies came from eight different countries predominantly America (*N*=8). An equivalent number of studies fell between two sub-themes: 1.) Individual resilience characteristics and 2.) Links between resilience and job satisfaction.

2.4.1: Resilience characteristics

The eight studies (Table 4) that explored characteristics of nurses associated with resilience consisted equally of quantitative (Gillespie et al. 2007; Gito et al. 2013; Mealer et al. 2012b; Rushton et al. 2015) and qualitative methodologies (Ablett and Jones 2007; Edward 2005; Imani et al. 2018; Tubbert 2016). The characteristics of hope and optimism featured prominently, such as two early Australian studies (Gillespie et al. 2007; Edward 2005). Gillespie et al. (2007) conducted a correlational survey of theatre nurses[24] (*N*=735) utilising various psychometrically validated scales. Hope, self-efficacy, coping, control, and competence explained 60% of the variance in resilience. Hope was the strongest unique contributor.

Whilst Edward (2005) in a phenomenological study explored Mental Health (MH) crisis care clinicians' management of stress and their resilience. From the analysis of the six participants (four nurses) semi-structured interviews, hope, faith, sense of self, insight, and looking after self were the key themes identified. Similarly, CC American researchers (Rushton, et al. 2015; Mealer et al. 2012b) identified hope and optimism. Rushton et al. (2015) conducted a correlation survey to determine demographics of nurses in CC (*N*=114) and the relationships to moral distress, stress, resilience meaning, and hope. They established associations between increased hope, resilience, and reduced stress. Mealer et al. (2012b) conducted a qualitative study to identify mechanisms employed by highly resilient ICU nurses to develop preventative therapies to obviate the development of PTSD. The sample included 27 nurses that had been psychometrically tested (*N*=13 highly resilient and *N*=14 PTSD). The themes

[24] Operating Room (OR) is the Australian term used in the research.

identified from analysis of the semi-structured interviews were optimism, spirituality, supportive social networks, and having resilient role models.

Linked to optimism, positivity has also been identified by others such as Tubbert (2016) in a phenomenological study that explored the resilience characteristics of nurses in an American A&E[25] setting. Analysis of the telephone interviews determined optimism, flexible creative thinking, decisive action, tenacity, interpersonal connectedness, honesty, self-control, and resetting. Similarly, Gito et al. (2013) identified positivity, interpersonal skills, and adaptability from a correlational survey of 313 MH nurses in Japan. Likewise, Ablett and Jones (2007) described interpersonal skills, adaptability, and flexibility in the first UK study, utilising phenomenology to explore ten hospice nurses' resilience. Whilst Imani et al. (2018) also adopted a phenomenological approach and found in ten Iranian acute hospital nurses that key resilience characteristics were self-control during stressful situations, patience, wisdom, reverence, and religiosity.

Further favourable characteristics have been uncovered in subsequent waves of enquiry. Personal efficacy related characteristics such as confidence (Matos 2010); empowerment (Larabee at al. 2001; Simoni et al. 2004), hardiness (Jackson et al. 2007), self-insight (Edward 2005; Jackson et al. 2007; Prosser et al. 2017; Shimoinabla et al. 2015), self-discipline (Lankshear et al. 2016), self-esteem, coping, self-control (Matos 2010), and self-motivation (McDonald et al. 2015). Personal values and beliefs also featured including personal moral compass, world view, honesty, altruism (Mealer 2012b; Cope et al. 2015) and individual resilience conceptualisation (Zander et al. 2013; Prosser et al. 2017). Other characteristics included commitment, tenacity, a sense of purpose, having a voice and humour (Ablett and Jones 2007; Cope 2015). Although less evident some specific professional characteristics have been uncovered: competence (Cameron and Brownie 2010) reflexivity (Jackson et al. 2007) specific commitment to quality and satisfaction/pride yet realistic care provision expectations (Gillman et al. 2015; Cope et al. 2015). Personal strategies to protect these characteristics such as self-care are discussed in subsequent waves.

[25] Emergency Department (ED) is the American term used in the research.

2.4.2: Links between resilience characteristics and job satisfaction

High attrition and intention to leave levels in nursing are growing global workforce concerns, as such researchers have sought to determine links between resilience and job satisfaction. The eight studies in this section are all quantitative studies and mainly American (5/8), which will be reported first.

Larrabee et al. (2010) evaluated the influence of stress resiliency and job satisfaction in a mixed sample from five hospitals (*N*=464), they concluded un-alarmingly that high levels of stress increase nurses' "*intent to leave"*. Likewise, Pannel et al. (2017) found similar stress resiliency results related to job satisfaction in a small group of neonatal nurses (*N*=48) following multiple workplace changes. Furthermore, Matos et al. (2010) established correlations between resilience and job satisfaction and positive correlations between professional status, pride and job satisfaction in a small group of MH nurses (*N*=32). Hudgins (2015) established statistically significant relationships between job satisfaction and resilience in nurse leaders (*N*=89) and Brown et al. (2018) established associations in acute care nurses (*N*=521). Comparably, in Singapore Zhimin et al. (2017), established positive relationships between job satisfaction and resilience in MH nurses (*N*=748). Wei and Taormina (2014) established positive statistical associations between career success and resilience in a mixed sample (*N*=244) from two Chinese hospitals. While in Turkey, Oksuz et al. (2018) found associations between resilience, job satisfaction and social support, moreover nurses with greater perceived family support had higher resilience levels.

A recurring acknowledgment by the researchers however was that external environmental factors inevitably influence job satisfaction, and it cannot be assumed that adversity always develops resilience (Zhimin et al. 2017). Brown et al. (2018) suggested Magnet Status as a significant predictor of job satisfaction similarly Larrabee et al. (2010) recommended training and environmental changes based upon Magnet principles. Likewise, Ablett and Jones' (2007) (described earlier) uncovered key job satisfaction factors linked to resilience as supportive colleagues, manageable workloads, time for patients, and pleasant work environments.

2.4.3: Summary wave one

Nurses' resilience associated characteristics were found to be of global interest nevertheless only one UK study was sourced. The findings of the studies suggest

various characteristics based upon a belief that stress can be strengthening, this effect of “steeling” is supported in the literature (Rutter 2013). Many of these characteristics are desired of nurses, studies related to specific professional characteristics were however sparse, and an agreed taxonomy is unavailable. Links between resilience and job satisfaction were also evident. The environment that these characteristics can be experienced and contribute to job satisfaction has however received little attention, which reinforces nurses’ individual responsibility. This characteristic lens can be helpful but herein lies the danger of reinforcing the associated resilience stigma highlighted, that is: you either “have it or not” and its static nature. Nurses by the very nature of their work can be considered at risk; moreover, these risks will differ dependent upon workplace factors not solely individual characteristics. A recurring suggestion was that workplaces could do more to support resilience. For instance, socialisation, supportive colleagues, and training were recommended, which is consistent with evidence that resilience is an interactive process. This now leads us onto the next wave of enquiry – nurses resilience strategies.

2.5: Wave two: Resilience as protective processes and strategies

Discussed next will be the research that broadly relates to protective processes and strategies nurses develop from exposure to adversity to build resilience. This section is underpinned by three subthemes: 1.) Protection from stressors. 2.) Adversities. 3.) Resilience strategies and mechanisms. There are a total of 28 studies (Table 4).

2.5.1: Protection from stressors

A consensus exists that resilience can moderate stress. 14 quantitative studies have explored this consensus to inform intervention development, utilising validated scales such as the CD-RISC (Connor and Davidson 2003). The studies came from nine countries in various settings, with a group in CC. Nine studies investigated links between resilience and the moderation of nurses’ stress. Four studies investigated levels of nurses’ resilience as their primary aim.

Interpretation of perceived adversity is considered to serve as a key protection from stressors. An early American study (Simoni et al. 2004) found that nurses from various settings (*N*=142) who respected their own nursing ability demonstrated more resilience than deficit focused nurses. Garcia and Calvo (2011) found in a sample of

200 Spanish nurses, that resilience protected against emotional exhaustion while professional efficacy protected against burnout. Likewise, Gito et al. (2013) found modest positive correlations between resilience, depression, burnout, and self-esteem in 313 MH nurses in Japan in addition to the characteristics previously outlined. Comparably, Garcia-Izquierdo et al. (2017) found a positive correlation between emotional exhaustion burnout and resilience in Spanish hospital nurses (*N*=537). In China, Zou et al. (2016) found that resilience negatively corelated to psychological distress and burnout in over 300 nurses. Ang et al. (2018) in the first cross-nation mixed cohort study concluded that resilience exerted a significant negative direct impact on Secondary Traumatic Stress (STS), Compassion Fatigue (CF) and burnout (Canada: *N*=303; Singapore: *N*=1338).

High risks of burnout and PTSD have been established in CC nurses (Mealer et al. 2007). Mealer et al. (2012a) sought to determine if resilience was associated with enhancing a sample of CC American nurses' mental health (*N*=744). They found that nurses who had higher resilience had lower psychological disorders, PTSD and burnout scores. Secondary analysis (Mealer et al. 2017) suggested nurses differing educational levels and workplace environments might make nurses more susceptible to PTSD. In another American sample (*N*=114) Rushton et al. (2015) also established strong associations between resilience and burnout in addition to high levels of moral distress and positive correlations with finding personal meaning in patient care. Also, the significance of hope as already outlined. Similarly, Arrogante and Aparicio-Zaldivar (2017) established strong associations between burnout and resilience of Spanish CC professionals (58% nurses) but a smaller sample (*N*=52).

Despite high burnout levels reported (e.g., 85% Zou et al. 2016) the reduction of stressors however has seldom been investigated, rather that stress is inevitable and necessary for personal growth (Traynor 2017). Like the previous wave of enquiry, stress management and resilience training were frequently recommended (Mealer et al. 2012a) to enable nurses to "thrive" and to identify nurses who require support.

Levels of resilience has also been a focus of enquiry. The evidence suggests that nurses' levels of resilience vary. Early research from Australia (Gillespie et al. (2009) reported relatively high levels in a sample of operating theatre nurses (*N*=735). While Guo et al. (2016) reported moderate levels in nurses (*N*=1061) from mixed settings in

China and that self-efficacy, positive coping styles, and education predicted nurses' resilience. However, Koen (2011) reported mixed levels in a group of south African nurses (*N*=312). Similarly, links between resilience levels and demographics are inconclusive. Gillespie et al. (2009) found modestly statistically significant associations between ages and years of experience, whereas previously they were found to be inconclusive (Gillespie et al. 2007). Conversely, Guo, et al. (2016) and Brown et al. (2018) found education to be significant but not age, supporting others who found no association with age (Rushton et al. 2015; Arrogante and Aparicio-Zaldivar 2017, Öksüz et al. 2018). Relatedly, Carpio (2018) found that experience related to the overall resilience at work score among 77 American nurse managers. Differences exist between varying groups of nurses' moderate to high levels in clinical nurses (e.g., Itzhaki et al. 2015), which may be slightly less than nurse leaders (Gillespie et al. 2009; Carpio 2018; Hudgins 2016). A recurring message in these studies was that despite lack of measurement, environmental influences should not be ignored (Gillespie et al. 2009).

Despite this evidence establishing links between resilience and occupational stress they must be interpreted with caution due to the recognised limitations of measuring resilience as a fixed trait or concept, and the scales rarely consider environmental factors. We have little understanding how nurse's resilience levels may vary overtime and in differing contexts.

2.5.2: Adversities

Nurses can be exposed simultaneously to acute and chronic adversities from providing care to vulnerable others and secondary workplace stressors, evidence associated with these two types of adversities will be discussed next. Eight studies were reviewed from six countries, which fell equally between the two types of adversities (Table 4) five quantitative and three qualitative studies.

Multiple adversities from providing care to vulnerable others were reported but most often as the identified problem rather than the primary research focus. One exception however was occupational violence, an increasingly recognised problem not solely in MH and A&E settings, explored in four studies (Cameron and Brownie 2010; Itzhaki et al. (2015); Hsieh et al. 2015; Rees et al. 2018) from three countries.

The Australian phenomenological study (Cameron and Brownie 2010) explored the adversities experienced by nine dementia care nurses. They specifically described aggressive, violent confused patients. A strong sense of purpose and a feeling of making a difference to patients however engendered resilience. Nurses described feeling isolated, limited opportunities to network and support each other and access to peer support and opportunities to debrief with colleagues increased demands and challenge to maintain compassion. Similarly, team support and training has been attributed to enhanced resilience and PTG in over 100 Israelian MH nurses exposed to violence in a quantitative study by Itzhaki et al. (2015). Likewise, Hsieh et al. (2015) in Taiwan investigated A&E nurses (*N*=187) who had suffered physical/verbal abuse from patients/families. They concluded that greater resilience was associated with increased peer support and extraversion. Nurses from varied settings (*N*=2397) participated in a large Australian cross-sectional survey (Rees et al. 2018) that explored experiences of occupational violence. The nurses who had experienced occupational violence in the past three months (53%) had significantly higher rates of burnout and lowered resilience and rated their practice environment lower than their counterparts who had not experienced violence.

Multiple workplace adversities have been documented (Cope 2015; Zander et al. 2013; Ablett and Jones 2007; Grafton et al. 2010; Hodges 2008; Koen et al. 2011; Gillman 2015; Gillespie et al. 2009) but reported as the problem rather than the research focus. More recently five studies from four countries have explored particular workplace adversities. Two quantitative studies examined: interpersonal conflict and workload (Lanz and Bruk-Lee 2017) and bullying (Tabakakis et al. 2019). Two grounded theory studies (Jackson et al. 2018; Lankshear et al. 2016) examined adversities of different but known stressful nursing roles with associated recruitment and retention issues: CC and Executive Nurse Directors (END).

Lanz and Bruk-Lee (2017) in a mixed cohort (*N*=97) from one American hospital, statistically demonstrated that low resilience magnified the indirect effects of interpersonal conflict and that attention to social conditions and job characteristics were recommended. Similarly, in New Zealand Tabakakis et al. (2019) identified in a sample of nurses from mixed settings (*N*=586) that practice environments and perceived exposure to bullying can significantly shape nurses' resilience. Jackson et al. (2018) conducted a grounded theory study to better understand nurse burnout and

resilience in response to workplace adversity in one American CC unit. Three multi-level categories of adversities were uncovered: micro (interpersonal) meso (staffing) and macro (systems). The researchers concluded that awareness of workplace adversity is key to recognising the impact, organisational policies and leader interventions were recommended. Lankshear et al. (2016) explored the stressors experienced by ENDs and their strategies employed to maintain resilience. The ENDs (*N*=40) from the UK (England and Wales) participated in telephone interviews, two types of adversities were identified – chronic and acute. Chronic (workload) and superimposed on these were episodic or acute adversities (dealing with complaints and major incidents). Similar to Jackson et al. (2018), the researchers concluded that structural stressors appear unbalanced by support mechanisms. Resilience strategies nurses reported in both studies will be discussed below.

There is no doubt that nurses are at high risk of burnout due to exposure of adversity from not solely caring for others but also the workplace, thereby endorsing the professional context of this thesis. Further insights into multivariate/level adversities and the environment that they are experienced are important areas of exploration.

2.5.3: Coping and resilience strategies

How an individual interprets and responds to adversity is considered key to resilience. Hence exploration of nurses' strategies has been a pervasive form of enquiry in seven studies from five countries (Table 4). All save two quantitative studies that have investigated coping strategies (McGarry et al. 2013; Russo et al. 2018) the five qualitative studies have explored resilience associated strategies (Zander et al. 2013; Lankshear et al. 2016; Jackson et al. 2018; Hodges et al. 2008; Shimoinabla et al. 2015) and two Australian reviews (Zander 2010; Gillman et al. 2015). A prominent theme was that resilience requires supportive relationships, but this was the focus of only one study (Manomenidis et al. 2018).

McGarry et al. (2013) investigated the impact of exposure to paediatric medical trauma in a small sample of Australian healthcare professionals (nurses *N*=23) and found that non-productive coping strategies positively correlated with all adverse psychological outcomes and negatively associated with resilience. Like McGarry et al. (2013), Russo et al. (2018) established positive correlations between positive coping strategies and higher levels of resilience in over 300 American nurses, following major organisational

change. The researchers suggested that workplace change can foster resilience if nurses receive support.

As to resilience associated strategies numerous ones have been uncovered and distinctions between different types have been attempted, such as personal and team/collaborative (Tubbert 2016; Zander et al. 2010). Whilst Gilman et al. (2015 pg.164) categorised strategies as: controlling, unburdening and letting go, preventative, growing and thriving strategies, founded upon systematic review evidence of Australian oncology nurses' (20 quantitative and qualitative studies). When nurses are exposed to adversities intense generation of emotions can occur in response nurses adopt strategies to gain control of their feelings (Gillman et al. 2015), including positive reappraisal, affective regulation, experiences, insight, cognitive reframing and importantly unburdening to gain immediate relief by talking to others. Seeking others has been frequently found (Tubbert 2016; Mealer 2012a) and other strategies including cognitive flexibility [creative thinking; decisive action, resetting] (Mealer 2012b); respect for patients and colleagues (Jackson et al. 2018), distancing from stressful patients (Jackson et al. 2018; Imani et al. 2018), displacing staff that cause stress, space, quietness, and spirituality (Imani et al. 2018).

The need for support was found central to paediatric oncology nurses' resilience by Zander et al. (2013) importantly determining which support was most effective. Zander and colleagues undertook a qualitative case study to better understand the process of resilience that underpinned five oncology nurses work to implement interventions. From analysis of the semi-structured interviews the major aspects to the process of forming resilience included individual conceptualisation of resilience, facing challenges, and finding meaning, including a diverse range of individual strategies (e.g., talking, problem solving, self-care, and emotional management) of which health and energy were deemed necessary. Also, personal insight overtime and life generally influenced heavily by reflection to learn from experience.

Similarly, Hodges et al. (2008) in an American qualitative study explored eleven newly registered nurses' and whether resilience strategies helped the recognised challenges of transition to registration. Supportive colleagues and positive practice environments were found to be critical. From analysis of focus groups and interviews strategies identified included learning the milieu, skill sets, reconciliation, reflection, and the

ability to “move through” and look forward. Shimoinabla et al. (2015) also found that support from others was essential for 13 Japanese palliative care nurses in their grounded theory study that explored the nature of resilience and how it is developed. From analysis of the interviews self-nurturing (protection) was also found to be central to developing resilience.

Echoing Shimoinabla et al. (2015), Prosser et al. (2017) conducted a phenomenological study to understand how four Canadian MH nurses develop resilience to sustain their practice they concluded that it was a matter of self-development underpinned by maintaining a vast perspective, becoming an expert of self, clarifying belief systems, and being present with others. Lankshear et al. (2016) also found that the resilience of top nurse leaders in the UK required the support of fellow executives, peers, family and mentors, which could be enhanced by self-discipline, good preparation for the post and coaching. Zander et al. (2010) suggested in their review of paediatric oncology nurses coping and resilience factors that there is a decreased need for home support when informal team support mechanisms exist.

Linked to relationships, a cross-sectional survey by Manomenidis et al. (2018) found a positive association between resilience and nurses that made an increased effort to prepare for the upcoming shift, socialising with colleagues was a key strategy in the cohort of 1000 Greek nurses, leadership to enable such socialising was recommended. Similarly, Gillman et al. (2015) asserted that organisations could foster cultures that promote growth, without stigma of “not coping”. Other strategies reported included, fostering social connections/networks/ peer support, team working, staffing (Mealer 2012; Gillman et al. 2015; Cope et al. 2015; Tubbert 2016) ability to access support, mentorship and nurturing professional relationships (Jackson et al. 2007; Zander 2013), Tubbert 2016), role modelling (Tubbert 2016; Mealer 2012a), and humour (Edward 2005).

Nurses undertake strategies to prevent the inherent stress of nursing and or enhance recovery (Gilman et al. 2015). Work-life balance has been consistently found as a resilience promoting strategy (e.g., Hodges 2008; Cameron and Brownie 2010; Lankshear et al. 2016) and was the prominent preventative strategy concluded by Gillman et al. (2015). Furthermore, McCann et al. (2013) reviewed the literature from five health professions to determine both individual and contextual qualities associated

with resilience. Some factors were found to relate to more than one profession, but apart from gender, work-life balance was the only factor to consistently relate across all professions. Various work-life balance and well-being activities have also been identified including exercise and healthy lifestyles (Rushton 2015; Guo et al. 2017; Tubbert 2016; Carpio 2018) respite and recharging (Zander et al. 2013; Kornhaber and Wilson 2011) self-care and boundary setting (Edward 2005; Mealer 2012; Tubbert 2016; Shimoinabla et al. 2015). Lankshear et al. (2016) found that nurses in top leadership roles undertake a combination of personal routine behaviours "*resilience aids*" and neglect of which can reduce their capacity to cope. Other growing and thriving strategies (Gilman et al. 2015) are discussed in the next wave.

Jackson et al. (2018:28) proposed a detailed process of how CC nurses respond to workplace adversity named: "Managing Exposure". This process comprises four stages and various techniques: Protecting (building emotional and cognitive barriers), Processing (individual and shared often informally following a crisis), Decontamination (moving past the experience e.g., work-life balance activities and strong relationships), and Distancing (time away from the adversity). Processing was the central strategy. Indicators of the process were thriving, resilience, survival, and burnout, but not always on a continuum that resilience and burnout are connected. Similarly, Lankshear et al. (2016) also found in their cohort of top nurse leaders that co-existence of resilience and professional vulnerability could be experienced daily.

The findings from these studies can be situated within the broader psychological literature (Wolin 2010; Rutter 2013). Nurses can adapt to adversity and draw upon diverse developed strategies, from knowing oneself and experience from development of such strategies. No one strategy appears more effective than others, although certain ones appear critical (coping with exposure to adversity, supportive relationships, reflection and work-life balance) it is potentially more of a combination of strategies, dependent upon several factors and the adversity itself. Important insights that suggest differing workplace interventions that could help nurses deal with adversity, leadership appears important but there is a disparity between research that has explored workplace influences and nurses' personal strategies.

2.5.4: Summary wave two

Resilience serving as protective processes and strategies of nurses was found to be of global interest but again only one UK study has been undertaken. It was found that resilience can protect against burnout and that the incidence of nurses' resilience is broadly evident, but results are mixed. Nurses can develop a range of strategies from exposure to adversity overtime through learning to recognise and manage stressors and self-insight. Considering the high workforce stress levels however this could indicate that the impact of adversities is greater than the growth of resilience, for some. The resilience toll, indicators of lowered resilience and risks to protective strategies we have little understanding. Nurses as professionals take responsibility for such strategies but so many ones identified rely on workplace resources especially supportive relationships which are not a surprise given the theoretical importance between relationships and resilience but are underexplored. Also, emotional balance is theoretically considered core to resilience, which was mentioned. However, "work-life balance" appeared more evident.

2.6: Wave three: Building assets of individuals and communities to maintain and develop resilience.

The premise of this next wave is that increasing the resilience of individual nurses will affect the organisational level from enhanced collective capacity, culture and generally workplace environments. Moreover, that resilience is viewed as a motivating life force that enables nurses to cope and learn from adversity. A total of 17 studies from three countries. There are two underpinning themes 1.) Individual interventions: two Australian qualitative studies explored how nurses-built resilience. 2.) Organisational interventions, the largest theme (Table 4) 12 intervention studies that investigated resilience programmes, plus two follow up exploratory studies. Also, one qualitative study that explored leadership strategies and two reviews that summarised other potential interventions.

2.6.1: Individual level interventions

To maintain well-being and career longevity nurses take responsibility for building expertise to cope with adversity according to (Gillman et al. 2015)- growing and thriving strategies. The notion that resilience can be learnt underpins two Australian qualitative studies that explore how nurses-built resilience. From analysis of semi-

structured interview data, Kornhaber and Wilson (2011) found that seven burns nurses-built resilience from repeated exposure to clinical situations. Also, other factors recognised as valuable included- toughening up, natural selection, coping, emotional detachment, regrouping, recharging, and time out (*in the tearoom*). The team were viewed as their greatest asset, for support direction and assistance with care, reinforcing findings from the previous wave. Cameron and Brownie (2010) formerly outlined, found that clinical experience and increasing professional competence were also found to build resilience of nine elderly care nurses[26]. Their analysis of the semi-structured interviews also found the importance of the team to debrief, validate experiences, camaraderie, and humour. Motivation to face adversities was fostered by the nurses' sense of making a difference and strong patient relationships, their "love of nursing". Motivation to face adversity is rarely mentioned in the literature, personal responsibility for motivation is perhaps assumed but that organisations also have a responsibility warrants consideration (Grafton et al. 2010). We now turn to organisational interventions.

2.6.2: Organisational level interventions

The increasing interest in resilient employees has seen a surge of resilience training programmes as a brief organisational intervention to help employee stress reduction and enhance resilience (mainly cognitive and relaxation approaches), often prompted by local issues (Robertson et al. 2015). Stress management (Gillman et al. 2015) and resilience training (Mealer et al. 2016) have been frequently recommended. The benefits of such programmes have been examined in other practitioners (Sood et al. 2011) and service professions (Shochet et al. 2011).

In nursing, the type of programme (content, sample, delivery, length, cost) and the level of impact upon resilience and research design varied considerably. The types can be broadly categorised according to a systematic review by Joyce et al. (2018) as: Mixed Mindfulness and CBT (Craigie et al. 2016; Mealer 2014; Magtibay et al. 2017; Slatyer et al. 2018ab), mindfulness and meditation (Fourier 2013, Steinberg et al. 2017, Tarantino et al. 2013), resilience and stress management based (Babanataj et al. 2018; Chesak et al. 2015; McDonald et al. 2013; Pipe et al. 2012; Potter 2013), and two included six-month mentoring programmes (McDonald et al. 2013; Tarantino

[26] "Aged care" Australian equivalent

et al. 2013*).* All programmes were “in person” except one blended learning (Magtibay et al. 2017). Group format appeared important, indeed Pipe et al. (2012) concluded that their major lesson learned was that the intervention was more effective when participants completed the programme with people, they worked closely with to sustain the intervention, community, and culture.

Content and length varied from one day (Foureur et al. 2013) to eight-weeks (Tarantino et al. 2013) similarly evaluation and measurement points differed; often at the end and several weeks following the programme, only one included a 12-month follow up (Tarantino et al. 2013) and no or limited qualitative data (McDonald et al. 2013); Slatyer et al. 2018b). Resilience impact varied whilst others did not measure it (Pipe et al. 2012). The groups ranged in size from 13-82, mixed groups including cancer/oncology (Pipe et al. 2012; Potter 2013), newly registered (Chesak et al. 2015) CC (Mealer et al. 2014; Babanataj et al. 2018) and nurses and midwives (McDonald et al. 2013). Mainly quantitative studies (two RCTs, Mealer et al. 2014; Chesak et al. et al. 2015) except two mixed methods (Fourier 2013; Slatyer et al. 2018b) and one qualitative (McDonald et al. 2013) most were pilots except four (Mealer et al. 2014, Magtibay et al. 2017; Craigie et al. 2016; Babanataj et al. 2018).

Such programmes could be helpful to build resilience, but consideration of motivation/stigma to complete a programme, social effects, costs and resources, broader longer-term effects, environmental influences and in combination with other interventions have been largely overlooked (Joyce et al. 2018) in addition to professional performance measures. Local programme adaptions also appear important (Cleary et al. 2018; Mealer 2017). Measures of resilience also were limited to the scales formally discussed. Accepting the limitations these insights could be however relevant for one possible intervention. Other organisational interventions however have been recommended (Gillman et al. 2015) as opportunities to share experiences (debriefs) and to reflect (clinical supervision) but not been thoroughly investigated. Two literature reviews helped summarise various interventions including: team reflection, role modelling, pre-registration education (McAllister and McKinnon 2009) and psychological empowerment programmes alongside positive practice environments (Hart et al. 2014).

Nurse leadership is recognised as key to positive practice environments and recently associated with building nurses' resilience (Kester and Wei 2018) but studies investigating management/leadership strategies are rare. One exception is a phenomenological study by Wei et al. (2018) that sought to identify 20 nurse leaders' strategies to cultivate nurses' resilience in one American hospital. From analysis of the interviews strategies largely based on positive psychology were suggested: facilitating social connections, promoting positivity, capitalising on nurses' strengths, nurturing growth, self-care, mindfulness, and conveying altruism. The researchers concluded that nurse leaders have an obligation to foster nurses' resilience, but it is an ongoing effort. They did suggest that the strategies are simple and can be easily implemented in any setting. If, however workplace resources are depleted such as nurses, time, and break facilities it may not be that simple.

2.6.3: Summary wave three

The few studies that have investigated the building of nurses' individual resilience assets suggest the key ones include clinical competence, teams, and positive practice environments. The motivation to face adversity and build resilience were found to be driven by whether nurses were making a difference and building strong relationships. These themes reiterate understandings previously discussed but how the workplace can support such factors, which appears largely overlooked, in contrast to the considerable attention given to one-off resilience programmes. Acknowledging the limitations discussed however the programmes may be one possible intervention, but greater understanding is required of other organisational interventions within local contexts particularly leadership strategies. A nurse's professional efficacy is fundamental to their functioning interestingly. However, professional functioning as an asset of resilience appears largely overlooked in the literature.

2.7: Wave four: Social-ecological approach

Consistent with social-ecological enquiry (Ungar 2011) this last theme advances the understanding of resilience being built by interaction of individuals and the assets of the environment and the relationships between those assets. This is important as no UK understanding exists. There were seven emergent studies from three countries four qualitative studies (McDonald et al. 2015; Cope et al. 2015; Foster et al. 2018b;

Marie et al. 2017; 2018) and two quantitative (Foster et al. 2015; Lee et al. 2015) and one review (Foster et al. 2018c).

McDonald et al. (2015) conducted a qualitative case study in a women and child' unit to investigate personal resilience of 16 Australian nurses and midwives (mixed settings) who perceived themselves as resilient prior to a work-based intervention (McDonald et al. 2013 [wave three]). From analysis of the interviews, it was found that despite often chaotic workplaces participants attributed their resilience to support networks, personal practices (self-care, motivation), and the ability to organise work for resilience. Taking of routine breaks was not however a chosen activity to promote self-care. Greater understanding of self-care, peer mentoring, and work options to increase autonomy early on were lessons recommended for management. These findings largely reflect earlier waves, but the environmental challenges and the necessity for a combined approach to resilience were illuminated.

Cope et al. (2015) taking a social-ecological stance also explored why nine Australian nurses (mixed settings) had overcome adversity and remained in nursing by building resilience. Utilising a qualitative portraiture approach eight themes were found: managing self, staying positive, social support (to help decision making and a "*like understanding"* of nursing) acts of kindness, professional passion/satisfaction, capacity to take on challenges, and not be overwhelmed. Experiencing adversity growing through personal insight and leadership to bear the mantle of responsibility. These *"hallmarks"* of resilience are consistent with previous evidence, but they differ in that they are described as negotiating, challenging and overcoming "*bad times*" from combined individual and workplace resources. The study draws attention importantly to the successes and potential of nurses' belief in nursing, social support and leaders who treated staff with respect as crucial to creating "*hopeful*" working environments.

Linked to workplace resources, Lee et al. (2015) conducted a descriptive study to describe the availability, usage and helpfulness of resilience promoting resources in 20 paediatric ICUs in America. Separate surveys were completed by 20 leadership teams (*N*=25) and other staff (*N*=1066 [*N*=893 nurses]). Qualitative analysis was conducted on the open-ended survey responses. The two most used and impactful resources found were one-to-one discussions with colleagues and informal colleague interactions out of work. Other resources (such as breaks from stressful patients,

Swartz centre rounds) were highly impactful but underused. Utilisation and impact of resources differed between those with higher and lower resilience and unit's teamwork climate scores. Three leadership level themes emerged from the qualitative data: institution (consistent service provision), unit (respectful staffing, organised discussions [debriefing] and emotional, intellectual closure opportunities), and individual level (self-care, communication, teamwork, one-to-one discussions, and social activities). Unmet needs went beyond the leadership themes discussed and were related to the necessity of breaks and chronic stress. Barriers to meeting unmet needs related to lack of problem recognition, time and finances. Lee et al. (2015) concluded that organisations could facilitate social interactions to promote resilience. Highly impactful resources with low utilisation also could be targets for improvements. Furthermore, that interventions targeted to local contexts may have more impact than one intervention. These findings broaden understandings highlighting the value of exploring resilience promoting resources contextualised at multiple levels.

More recently, two groups of researchers have sought to advance social-ecological enquiry within MH nursing, Marie et al. (2016; 2017) and Foster et. al. (2018ab). Marie et al. (2016) conducted an exploratory study of 15 CMHNs in two settings in war torn Palestine to observe and describe the environment, challenges, and sources of resilience. From analysis of observation, policy documents and interviews four themes emerged. The relevance of understanding resilience as embedded within specific cultural contexts. The concept of Samud (steadfastness) was presented as an ecological source of resilience. Supportive relationships and making use of available resources and personal capacity. What commonly emerged was the lack of workplace resources leading to depletion of the nurses' coping reserves and risks of burnout, indiscriminate of nurses' experience. This social-ecological stance enabled previous understandings (such as relationships) to be contextualised, illustrating the value of understanding resilience associated with context and culture.

Foster et al. (2018a) conducted a quantitative study to explore the feasibility of a workplace resilience programme (Promoting Adult Resilience [PAR]) with 24 Australian MHN from high acuity settings. Workplace factors (Workplace Resilience inventory (WRI 2015) were examined in addition to individual factors. Significant positive effects of PAR on MH well-being and resilience were found. By including workplace factors insights were broadened building upon the studies previously

reported (wave three). The researchers also conducted qualitative enquiry to gain the nurses perspectives (Foster et al. 2018ab). The data from the open-ended survey questions, focus groups and semi-structured interviews were thematically analysed into four themes: *being confronted by adversity*, *reinforcing understandings of resilience*; *strengthening resilience, and applying resilience skills*. Foster et al. 2018b applied social-ecological theory to their findings by outlining multi-level resources that can be promoted to strengthen nurses' well-being and resilience. Concluding that the wider risks to nurses' well-being need to be addressed in addition to resilience programmes. Similarly, Foster et al. (2018c) utilised a social-ecological framework to synthesise their review which examined understandings of resilience in MH nursing.

2.7.1: Summary wave four

This emergent international evidence broadens our understandings highlighting the value of exploring workplace resources contextualised at multi-levels despite the complexity. Context needs to be better understood if workplace resources are not available. Therefore, it is the workplace that can lack resilience not the nurse.

2.7.2: Literature review conclusion

This chapter has offered an overview of the core evidence base of the resilience of nurses applied to the broader waves of resilience enquiry to inform the study aims and design. Despite the growing recognition of the importance of context to understand resilience and that supportive environments are linked to resilience the predominant enquiry in nursing has focused upon individual factors of nurses. Such an approach can limit the understanding of the multi-variate/level factors and their interaction within the workplace and how they can shape resilience of individuals and teams.

The complexity of resilience and the limited discipline conceptualisation of the concept, and specifically through a social-ecological lens was found. Hence indicating a need to further determine nurses' perspectives of resilience, and the meaning for their work to enable greater discipline sensitive understanding. The utility of understanding resilience as a variable of the environment was recognised and that the interface between nurses' and their workplaces warranted further consideration. Understanding resilience in this way that is both a process and provision of resources, is of salience within the current resource constrained workplaces that many nurses in Wales work.

Further complicated by the fact that there is a global shortage of nurses, despite being a critical resource of the healthcare workplace. Moreover, from a social-ecological perspective, understanding adversities precedes interventions (Ungar 2012). There is no doubt that nurses are exposed to adversities, but they have not been fully investigated. Ungar's (2008: pg. 225) conceptualisation (Appendix 2, Table 6) offered a working definition for this research:

> *"In the context of exposure to significant adversity, whether psychological, environmental, or both, resilience is both the capacity for the individuals to* ***navigate***[27] *their way to health–sustaining resources, including opportunities to experience feelings of well-being, and a condition of the individual's family, community and culture to provide these health resources and experiences in culturally meaningful ways".*

Exploring such workplaces factors may help to guide practice that supports individuals and groups and may indicate policy and regulatory change (Bottrell 2009), which could help to address the climbing workforce stress levels. Nursing is a relationship-based profession and primarily nurses work in teams in organisations in varied environments within a multi-level workforce context, governed by policy and regulation, suggesting the utility of the social-ecological perspective, which is merely emergent in nursing. This research therefore addresses this gap. These understandings influenced the overall theoretical framework, questionnaire design, lens and direction of analysis. The respondents' responses were explored in relation to their environment, context and their interaction with available resources and their responses when resources were available/unavailable.

Not only was the learning about wave four invaluable to the study design, but also appraising the waves as a whole. It was found from appraising wave one that nurses can naturally have personal resilience characteristics and that the very nature of nursing can enable these in addition to discipline specific ones, which we have less understanding. These understandings influenced the initial theoretical framework; particularly the individual level emphasising that the nurse is core to this study versus patients, other healthcare professionals or the organisation. The nurse brings personal assets to the workplace that require protection and nurturing. Also, they influenced the

[27] Emphasis in the original.

overall questionnaire design, particularly the first and third sections and the iterative data analysis.

As a result of appraising the second wave it was confirmed that nurses are exposed to adversity and can develop protective strategies from their detrimental effects to potentiate growth in themselves and others. The nature of adversities and how the workplace can influence such processes we have less understanding. In addition, how the response to adversity translates to professional functioning, and the "price" of striving for resilience under often chronic stress and long-term health effects. These understandings shaped the inclusion of factors within the theoretical framework that nurses can interact with at varying levels and section two of the questionnaire. The extensively critisised resilience scales were prevalent in the enquiry hence measuring resilience was discounted as an objective of this study. However, components of the scales were found to be helpful to inform section one of the questionnaire.

Appraising wave three, it was found that nurses have personal resilience resources that they can be motivated to build and share with others alongside support from their organisation. What this support looks like we have little understanding except one-off resilience training programmes, this influenced the theoretical framework; to explore nurses – built resilience and their motivation despite continuous exposure to adversity and available support, which informed sections three and four of the questionnaire, including the direction of the analysis. We now turn to the iterative theoretical framework.

2.8: Theoretical framework

This section outlines the rationale for the social-ecological framework (SEF) that provided structure to the research. The framework served as a bridge to the literature review, guided data collection and was iteratively developed from the data. The figure overleaf represents a modified SEF that also includes associated theory for the purpose of this thesis, to help understand the multiple influences that could shape nurses' resilience. Please see a visual depiction of this iterative process at the beginning of the discussion (Figure 16). The adapted framework (Bronfenbrenner 1979) shall be outlined in addition to key evidence that underpins such a framework.

Figure 4: Social-ecological theoretical framework

6. Political, Social, Economic and Public

- Increasing health and social care demands
- Fiscal constraints and political factors
- Public declining care concerns
- Population and social factors
- Resilience and wellbeing healthcare policy
- Global workforce crisis

5. Workforce

- Workforce rising stress levels, and adverse effects
- Recruitment and retention challenges
- Workforce planning issues
- Diversification of roles
- Increased regulation

4. Organisational Systems

- Care provision systems
- Staff patient ratio systems
- Workforce turnover systems
- Management and leadership structures
- Communication systems

3. Organisational Relationships

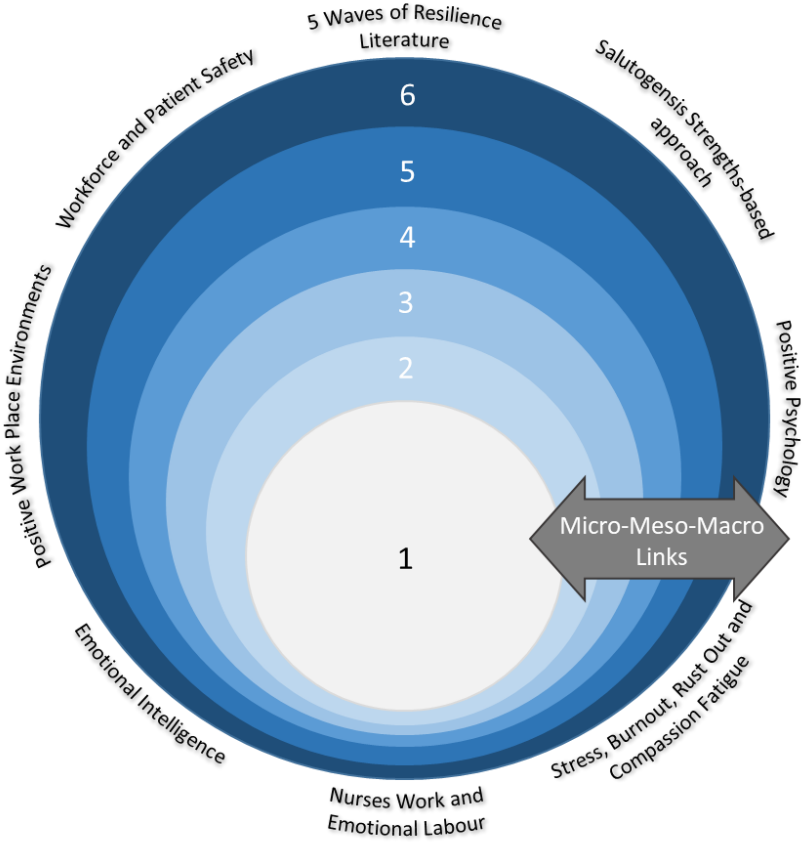
- Nurse management relationships
- Cross team relationships
- Cross organisational relationships
- Cross sector relationships

2. Nurse Patient Co-Worker Relationships

- Nurse patient relationships
- Co-worker relationships

1. Individual Nurse

- Nurse-personal biological psychosocial response to stress within personal and work context.



Social-ecological approaches have been used in varying sectors in recognition that no single factor can explain or predict complex phenomenon (Bronfenbrenner 1979; Baron et al. 2013). Resilience of nurses within the complexities of real-life practice is one such multi-factorial/level phenomenon. A social-ecological framework (SEF) can show interaction and interdependence of complex factors and how they can work together (Bronfenbrenner 1979). The approach is based on the premise that individual behaviours both influence and are influenced by multilevel factors and shape and are shaped by the social environment surrounding them (McLeroy et al.1988). That it is necessary to see within, beyond and "across" how these systems interact (Bronfenbrenner 1979). A multi-layered framework arranged as different levels of systems within a nested structure (individual [intra-personal], relationships [interpersonal], community [organisation], and society), commonly expressed as micro, meso, macro levels; if the broader influences support the individual level a more coherent outcome can be anticipated (Baron et al. 2013).

The many multi-level challenges faced by the workforce and the links to the real and potential detrimental effects to the delivery of healthcare have been formally exposed. The imperative to address the health and well-being of the workforce, and the potential of resilience to help this, has been established. The gap in the literature related to exploring resilience through a multi-level social-ecological lens was revealed. The influencing factors that can impact resilience range from the individual level within the organisational context where nurses learn resilience and can have the most effect to shape their own resilience and others (Davidson et al. 2017) to the wider professional and healthcare context. If the broader influences support the individual nurse a more collective support of resilience can be anticipated. The aim of this study is to determine intrinsic and extrinsic influences that shape nurses' resilience to grow an understanding of potential workplace interventions to better support nurses to help address the endemic attrition in nursing. Adopting this multi-level lens could lead to more integrated interventions at different levels not solely the individual nurse level.

Social-ecological approaches have emerged in various fields, ethical practice for instance in nursing (Davidson et al. 2017) and of relevance in mixed methods research (Ivankova and Plano Clark 2018). The figure represents a modified SEF that also includes associated theory for the purpose of this thesis to help understand the

multiple influences that could shape nurses' resilience. The core of the framework is the nested structure (Davidson et al. 2017) that includes the six levels of influence considered congruent with the research aims, and the associated factors discussed within the context chapter. Circulating the nested structure is the theory underpinning the thesis, developed from the resilience enquiry outside and within nursing, in addition to other influencing theories and concepts. The theory is depicted in order of anticipated relevance moving clockwise from the top, that is the five waves of resilience – literature first then well-being, stress and other theory.

Put together these aspects offered a chance to explore whether the social-ecological perspective can provide a relevant framework to examine nurses' resilience and specifically given the context of this study to explore and better understand how nurses "do" resilience within contemporary workplaces in Wales. Next, the methods chapter will explain how the study aims utilising this framework were realised.

Chapter 3: Methodology

3.1: Introduction

The purpose of this chapter is to present the convergent mixed methods study design (Creswell and Plano Clark 2017) and the methods adopted to explore the intrinsic and extrinsic influences that shape the resilience of nurses in Wales. The aims, objectives, and questions underpinning the research (below) as well as the justification for the chosen approach, philosophical underpinnings, merits and challenges will be discussed. In addition to the rationale for the survey design, incorporating the questionnaire development, data collection methods, analysis and the stakeholders' consultation event. The ethical considerations applied to the study will be discussed in the last section.

Table 5: Research aims, objectives and questions.

Aims of the research	
To provide novel insights into the intrinsic and extrinsic influences, that shape the resilience of registered nurses in Wales. To situate and apply the findings to the available evidence base to inform practice, education, policy, and research about what works well and what could work better to help develop the resilience of nurses.	
Research Objectives	Research Questions
Describe the relevance of the concept of resilience to nurses.	What is the perceived relevance of resilience to nurses in Wales?
Describe the key workplace adversities facing nurses.	What are the key workplace adversities facing nurses in Wales?
Describe the range of resilience strategies nurses adopt to cope with workplace adversities.	What is the range of resilience strategies that nurses adopt to cope with their workplace adversities?
Describe the nature of support available and the perceived helpfulness of the support to nurses and their resilience.	What is the nature of the support available to enable nurses' resilience?
	What support do nurses find helpful to enable their resilience?
Describe the environment of care in contrasting settings, and how it shapes nurses' resilience.	What is the perceived environment of care?
Describe how the combined findings help to better understand the resilience of nurses in Wales.	What do nurses find helps/hinders their resilience within their environment of care?

3.2: Justification for a mixed methods research design

Mixed methods research has been variously debated and defined with differing philosophy, emphasis, objectives, and methods. This thesis adopted the broad view by the leading methodologist Creswell (2009 pg. 4).

> *"Mixed methods research is an approach to inquiry that combines and associates both qualitative and quantitative forms. It involves philosophical assumptions, the use of qualitative and quantitative approaches, and the mixing of both approaches in a study. Thus, it is more than simply collecting and analysing both kinds of data it also involves the use of both approaches in tandem so that the overall strengths of a study is greater than either qualitative or quantitative research".*

This description outlines the justification for this study's convergent[28] mixed methods design consisting of a purposively designed questionnaire (closed and open questions). The combining of both forms of data explored nurses' understanding of resilience, workplace adversities, and how intrinsic and extrinsic influences shape resilience. The design was selected because of the multifactorial/level nature of resilience, as outlined in the previous chapters. Mixed methods can integrate a range of theoretical perspectives, specifically social ecology (Ivankova and Plano Clarke 2018). A consensus exists that it is not about justifying either method but about fitting methods to different topics as well as fitting different research problems; with the underlying assumption that mixed methods could be useful (Tashakkori and Teddlie 2010; Bryman 2016). Mixed methods has received much praise, an intuitive form of research that can reflect everyday lives increasingly accepted in healthcare to inform evermore complex research problems (Johnson and Onwuegbuzie 2004; Creswell and Plano Clark 2017).

Several justifications for choosing mixed methods exist (Creswell et al. 2011), which includes when one data source may be insufficient, limitations of one approach can be offset by the strengths of another, the understanding of an aspect of a study can be enriched by a second method, and understandings built to meet overarching objectives in research programmes. A number of these justifications applied to this study.

[28] Can be simultaneously referred to as concurrent/parallel triangulated designs, here in it will be referred to as convergent.

A need existed because one data source (quantitative) may have been insufficient alone and would not have answered the research questions. By offsetting the limitations of the closed questions, the free text comments generated a more comprehensive understanding of the research problem, including experiences of resilience, adversities, hidden resilience processes and how combined workplace as well as personal influences shape resilience. Previous numerous cross-sectional survey studies related to nurses' resilience had recommended further qualitative enquiry. For instance, Koen (2011) sought to obtain nurses' views of their profession and level of resilience. Likewise, qualitative studies had recommended further larger samples to validate findings, such as Cameron and Brownie's (2010) phenomenological study that explored what impacted nurses' resilience.

A need also existed to explain the quantitative results to offset the limitations of one approach by the strengths of another: *complementarity*, this has been the overriding argument since the inception of mixed methods (Johnson et al. 2007; Tashakkori and Teddlie 2013; Bryman 2016). The questionnaire developed for the study was based primarily upon the current evidence base, hence the findings could not be predicted. For example, in one of the few mixed methods studies reviewed, Potter et al. (2014) evaluated a resilience programme using quantitative pre-and post-survey qualitative evaluations that enhanced confidence in the quantitative findings.

Given the complexity of resilience, the secondary free text comments could help to clarify and explain data or raise information that had not been previously researched. Thereby building understanding and general explanations of relationships between variables or may confound some of the quantitative results: *incrementality.* For example, in the quantitative study by Wei and Taormina (2014) further qualitative data could have helped to explain the statistical results.

Likewise, the understanding of a study can be enriched by a second method. This justification could be applied to any of the mono-method studies reviewed. Leading with qualitative enquiry then followed by quantitative. For example, when the questions to be asked are unknown, due to limited research or under researched populations (Bryman 2016). This could have been a justification for any of the exploratory studies reviewed (e.g., Zander et al. 2013). The merits of leading with qualitative enquiry in this study were considered as the discourse in nursing is young and UK nurses have

been under researched. The reviewed literature and the context however revealed discrete bodies of evidence on resilience, stress, workforce, and workplace environments that needed to be honoured. However, what appeared underexplored was the potential intersecting nature of the evidence. Hence descriptive open and closed questions based upon selected evidence from the overlapping fields underpinned the questionnaire.

The concurrent use of a secondary approach is very common (Creswell and Plano Clark 2017). The open questions helped to better understand the meaning of resilience to nurses of varying fields, roles, dissimilar settings, and contexts, hence both methods enriched each other. Alternatively, a core and supplemental component can be undertaken (Morse and Niehaus 2009). Given the descriptive nature of this study, it was not the intention to favour one data form over the other. However, the qualitative data unfolded as a substantial component. Furthermore, the merits of understanding a research objective through multiple research phases is recognised. Mealer et al. (2014) completed several studies prior to introducing a resilience programme. This study although it stands alone, was driven by the research portfolios of the Schools of Healthcare Science and Psychology, in addition to the funder's objectives.

Finally, a theoretical framework may guide the need for both methods to be undertaken (Mertens 2015). The study's social-ecological framework that provided a structure to the research was influenced by the resilience enquiry outside and within nursing, in addition to other influencing theories and concepts. Mixed methods have been progressively recognised as helpful to understand complex phenomena, such as resilience consistent with social-ecological enquiries (Ivankova and Plano Clark 2018). Hence a better understanding of nurses' resilience, workplace adversities and how nurses in Wales cope, which could illuminate potential interventions. It was expected that the independent variables- intrinsic and extrinsic influences could help to explain nurses' resilience because evidence suggests that some nurses have more resilience than others dependent upon such influences. No prior mixed methods studies have explored such influences of nurses' resilience, yet mixed methods have been advocated and notably utilised in the broader literature (Ungar et al. 2012).

To sum up, multiple overlapping needs have been identified to justify a mixed methods approach, based on the potential study outcomes.

3.2.1: Ontological (worldview) and philosophical foundations of the study

Mixed methods researchers often make explicit diverse dialectal stances that bridge world views (Creswell et al. 2011), which have not escaped extensive debate and criticism. The key world views: post-positivism, social constructivism, pragmatism, and transformative will be outlined.

Post-positivism reflects the challenge to positivism and absolute truth, characterised by determination, reductionism, empirical observation, and theory verification. It accepts that absolute truths cannot be ascertained, and contextual factors are important to understand relationships between variables (Polit and Beck 2014). This worldview is sometimes called the scientific empirical method and characterises quantitative research. Quantitative researchers aim to understand relationships between variables or determine if one group differs to another (Bryman 2016). Quantitative researchers investigate many individuals' perspectives resulting in a broad view. Success depends on the strict control of these factors and the ability to generalise the findings from the sample to the population in question (Polit and Beck 2014). Objectivity and standards of reliability and validity are important: reliability reflects the replicability of findings and hence whether the same results would be found by others undertaking a similar project. Whereas validity is the degree to which inferences in a study are well founded (Bryman 2016). The numerous quantitative studies reviewed associated with the resilience of nurses has helped to develop and test hypotheses, establish relationships between variables (especially burnout and resilience) and compare a few interventions. Criticisms of quantitative research centre upon the minimisation of individual experience and differing perceptions in addition to limitations of quantification methods, measurement, and control of variables (Bryman 2016), broader resilience research has not escaped these criticisms.

In contrast, social constructivism (often combined with interpretivism) characterises qualitative enquiry. Qualitative research seeks to understand social worlds from the insiders' subjective perspectives (Cresswell et al. 2011). Unlike the earlier dominant quantitative enquiry, qualitative does not view truth as objective, but as subjective realities experienced by individuals (Silverman 2013). The qualitative world view is not to generalise from data but to explore individual experiences, feelings, attitudes, and behaviours (Bryman 2016). Small relevant samples are favoured to gather "thick" or

rich data using words as opposed to numbers (Guba and Lincoln 1994). Inductive reasoning and hypothesis generation is undertaken rather than deductive hypothesis testing (Bryman 2016). Diverse approaches and data collection methods can be deployed (Silverman 2011). For instance, the lived experiences of participants were explored via in depth interviews in the phenomenological studies reviewed (e.g., Cameron and Brownie 2010). Unlike quantitative enquiry the researcher is central to the process and reflexivity is required, that is, the researcher is explicit about their methods and biases (Bryman 2016). Criticisms of qualitative research centre upon subjectivity and limited reproducibility. To offset the criticisms transparency and trustworthiness as to how findings have been derived and critical evaluation is paramount (Silverman 2013). Various criteria exist such as seminal work by Guba and Lincoln (1994) discussed further during data analysis.

Alternatively, pragmatist researchers consider that the research questions drive the enquiry not the methods (Tashakkori and Teddlie 2010). They focus on what works and identify solutions to problems, with a rationale for mixing (Cherryholmes 1992; Creswell et al. 2011). Pragmatism has been suggested as the paradigm of choice, but it has also been questioned as a vague justification for mixed methods and that each paradigm still has to be honoured and made explicit (Creswell et al. 2011). Finally, transformative (participatory) is concerned with political empowerment and collaborative change. For instance, in the broader literature Mertens (2015) suggests utilising a transformative framework to encourage social justice resilience outcomes.

Mixed methods researchers can choose different ontological positions, multiple paradigms can be adopted, or one “best view” can lead the study (Creswell et al. 2011; Bryman 2016). Both the post positivist and social constructivist worldviews informed this study. The design that was chosen to best fit the research objectives, theoretical framework, and real-life practice. The design enabled not only broad but rich knowledge generation about the problem of nurses coping with occupational stressors as well as how resilience can help and potential solutions. The many benefits of mixed methods have been highlighted but challenges exist. These are largely centred on the paradigm debates discussed and that quantitative approaches still dominate (Creswell et al. 2017). Mixed methods designs can also be practically challenging costly and

time-consuming requiring more skills to layer data compared to mono methods (Bryman 2016), such challenges will be revisited in subsequent sections.

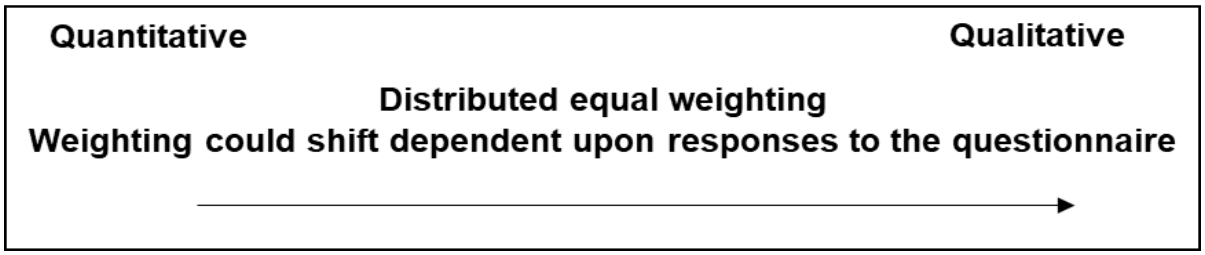
3.2.2: Rationale for a convergent mixed methods design

A convergent[29] design means that the quantitative and qualitative strands are implemented at the same time, both have equal emphasis, and the results of the separate strands are converged or compared (Creswell and Plano Clark 2017). To obtain different but complimentary data on the same topic for a complete understanding of the research problem (Morse and Niehaus 2009). The strengths and weaknesses of quantitative and qualitative approaches are brought together. A purposely designed questionnaire and analysis of free text responses exploring perceptions of resilience and work environments was employed in a pan Wales survey to address the study's aims and research questions. The quantitative strand enabled points of agreement, trends and patterns to be established regarding how nurses in Wales cope with occupational stress and the relevance of resilience. This was important as the resilience of nurses in Wales has been under researched. The qualitative strand helped to confirm, explain, interpret, and importantly extend the quantitative results to obtain a more complete understanding.

At the initial study design stage an *explanatory sequential* design was thought could best achieve the research aims. This means collection and analysis of quantitative data followed by qualitative (Creswell and Plano Clark 2017). Planning and favourable ethical approval (discussed later) was granted for a sequential design encompassing a survey followed by three case studies. However, once the analysis of the wealth of the questionnaire datasets commenced it was apparent that the research aims could be met by the iterative building of the two different forms of questionnaire data obtained. Hence, to pursue further data was considered unethical, and importantly knowing the pressures of nurses and their workplaces not appropriate. From a researcher's perspective a single data collection phase offered the opportunity to analyse in depth the unanticipated volume of responses obtained. These factors were discussed with the supervisory and steering team, and it was agreed that a second phase of data collection be halted.

[29] Previous design names: concurrent, parallel, triangulated (Creswell and Plano Clark 2017).

Figure 5: Convergent research design (adapted from Creswell and Plano Clark 2017)



Initially, both components were given equal weighting (depicted above) this means the emphasis or importance of the strands (Creswell and Plano Clark 2017). It was anticipated however that the quantitative strand might have more emphasis as qualitative items in questionnaires are often viewed as add-on to the quantitative items (Creswell and Plano Clark 2017; Bryman 2016). Nevertheless, it unfolded that the substantial qualitative data offered an in-depth context-based dataset, that gave voice to the respondents. The free text responses were a "bonus" rather than a "bane" (O' Cathain and Thomas 2004). Throughout the mixed methods process it is considered necessary to combine/integrate the quantitative and qualitative approaches (Creswell and Plano Clark 2017). Combination occurred at all stages of data collection analysis and interpretation. The datasets were collected at the same time by linking and separating questionnaire items, then independently analysing the datasets in separate databases. To avoid risking diminishing any meaning (Bryman 2016) the data was not merged or transformed (e.g., qualitative to quantitative). The data analysis was then triangulated and *mixed* during interpretation and synthesis*: the point of interface* (Creswell and Plano Clark 2017) presented in the narrative thesis discussion.

To sum up, the convergent design enabled a more complete understanding than that provided by quantitative or the qualitative findings alone.

3.3: Rationale for a survey design

> ***"****Survey research provides a quantitative or numeric description of trends, attitudes or opinions of a population by studying a sample of that population. From sample results the researcher makes claims or generalises about the population" (Creswell 2009 pg.145).*

The chosen survey design enabled a substantial geographically distributed all Wales dataset to be obtained of nurses (*N*=1459) (all fields, pay bands, job roles and

settings). A cross sectional survey[30] obtains quantifiable information at one point in time via direct questioning from a large number of representatives from a chosen population (Polit and Beck 2014). With the intent to determine trends, patterns and relationships between variables to discover new knowledge or confirm a situation (Bryman 2016). This approach enabled the exploration of varying and similar views in addition to the experiences of these range of geographically distributed nurses associated with occupational stress, coping and relevance of resilience. Also, exploration of links between variables. Achievement of this substantial dataset was enabled by the recognised standardised, systematic, efficient, economic, strengths of the survey approach (Kelly et al. 2003; Rea and Parker 2014; Bryman 2016).

Limitations of surveys are associated with poor response rates, respondent self-report issues, different interpretation of the questions, it only represents one point in time and the difficulties of designing a tool (Bryman 2016). Various strategies (Rea and Parker 2014) to overcome questionnaire limitations, include ensuring that the tool suits the research questions and sample. Piloting of the tool and or and or checking previously available tools. To encourage high response rates, incentives and a staged administration strategy can help. All of these strategies and more were employed, which are discussed in this chapter.

3.3.1: Sampling and recruitment strategy

The convenience sample (*N*=1459) consisted of a designated geographical nation of nurses. To increase the potential relevance of the findings (Polit and Beck 2014), the intent was to attempt to recruit as many nurses as possible across all fields participating or contributing to patient care in Wales (approximately 28,000 including health visitors and midwives). The exact size of the population was indeterminable. The RCN membership for instance relied to a degree on members ensuring accuracy of their records and the data base software to enable direct email invitation. Randomisation was not considered appropriate hence a sample formula was not utilised, meaning that response bias was indeterminable. The descriptive questionnaire results will not be generalisable.

[30] Often the words survey and questionnaire are used interchangeably from here in survey refers to the encompassing research design while questionnaire refers to the data collection tool.

Recruitment for the study involved various strategies and routes from study design to completion of data collection (Appendix 5). A multi-pronged collaborative pan Wales communication strategy in all sectors: Public, Independent and Third, prior to and during data collection was undertaken. Throughout the design stage various communication networks across Wales were boosted and developed at both micro and meso levels in practice, education and policy. Prior to data collection various direct strategic communication (in person, phone calls, and emails) occurred to raise awareness of the forthcoming Research and Development (R&D) applications and study launch. This communication included all NHS lead Nurses via the Chief Nurse's office, Independent Sector Lead Nurses Forum, Heads of the Schools of Nursing, RCN Wales Board and other private/third sector organisations. In addition to different professional networks. Favourable support was received by all.

Once data collection commenced, nurses were invited via RCN Wales and Cardiff university websites and NHS healthcare organisations R&D approval processes and other approval processes within independent/third sector organisations. For instance, one organisation did a report on their website to launch the study then included updates in their weekly staff newsletter. Most organisations put the study information on their staff webpage. RCN members received a personal email invitation. Snowballing from any or all of these sources also occurred. Often personal invitations were offered and accepted to explain and inform about the study, including hand delivering and collecting requested paper questionnaires, workshops, presentations, forums, teaching sessions, team meetings and meetings with both existing and new professional networks, "walk abouts" and evolvement of study "Champions" (e.g., Welsh Language).

The executive/senior nurses in each organisation unfolded to be key enablers to recruitment. For instance, both organisations where R&D approval was not secured in sufficient time the executive nurses had not replied to any personal communication made. At this time both organisations were undergoing major organisational change this is likely to have impacted on their response rather than a reluctance to engage with the study. Communication received from nurses in these locations however suggested that participation occurred via other routes (snowballing, RCN). The merits of being known within different professional networks across Wales helped with

recruitment. However, it is difficult to determine the effect on participation of any one communication approach, as lack of coercion was ethically upheld, yet the response rates suggested that they did. For example, following an invitation to visit a rural area of Wales the number of nurses from rural regions rose the following week.

3.4: Development of the questionnaire

This section covers the development of the questionnaire to help ensure validity and reliability including local intelligence gathering, the overall structure of the tool, type of questions, content, ecological validity, and the piloting process.

A tool describing nurses' views about resilience, their work and work environments was unavailable to be replicated. The tools in the many previous correlational designs have predominantly measured nurses' resilience in comparison to various independent variables (e.g., Mealer et al. 2016). Hence a decision was made to develop a tool. To ensure face and content validity also reliability of the tool various measures were undertaken. Validity means whether meaningful and useful inferences can be drawn from the results of the tool and reliability means repeatability (Polit and Beck 2014). Content and face validity was enabled thorough the theoretical framework and literature review, to meet the study aims and research questions. Testing and critiquing of the tool by the supervisory and steering teams, as well as critical friends particularly ones with experience in developing questionnaires and or knowledge of resilience, such as Cardiff School of Psychology and Cardiff University's Centre for Trials Research. Further validity and reliability of the tool was achieved through the piloting process (see Appendix 6 for questionnaire).

Local intelligence gathering of different kinds were undertaken to inform the questionnaire and overall study. In January 2015, for instance, during a personal lecture to final year undergraduate nursing students (*N*=180 three fields) they were asked: *What do you think are the sources of stress for nurses?* Their responses were categorised (Table 6 overleaf). Interestingly, the direct care work of nurses was seldom mentioned. However, the emphasis was more on organisational stressors. This exercise was repeated approximately twice per year, (pre COVID-19 pandemic) and little variation in reporting occurred. Local policy advisors (WG and RCN Wales) and discussions within the steering group have broadly reflected such factors, in

addition to other challenges namely workforce planning, career structures and leadership.

Table 6: Local intelligence gathering

What do you think are the sources of stress for nurses?		
Micro: Individual level nurses work factors	Meso: Team level Organisational factors	Macro: Organisational level Social demographic factors
Changing role of the nurse	Staffing levels and skills of staff	Increase in elderly population, more sicker patents in the community and lack of social services and support at home
Move to a profession has added pressure	High nurse patient ratios	Priorities of the GP having an impact on acute services
Nurses don't always help themselves: they do everyone else's work	Workload: complex and heavy	Pressure on bed management to meet increasing demand
	Lack of funding	Public perception and unrealistic expectations
	Lack of understanding what the NHS requires	Demands on the nurse
	Lack of education training and support for staff: e.g., mandatory training often cancelled, staff complete in their own time	Education of the public regarding use of services

To achieve the aims of the study, a strengths approach was taken rather than a deficits-based approach. It was not the intention to paint a "rosy picture" or produce a self-fulfilling prophecy, however extant evidence exists regarding negative aspects of nurses' work, coping and workplaces. The focus of this work was to better understand the strengths of nurses and their workplaces, which is important because this type of understanding had not been explored previously. Ecological validity was considered important thus nurses were asked about their own experiences rather than hypothetical situations or vignettes. To be consistent with the dynamic phenomenon of resilience and that nurses are skilled reflective practitioners, a reflective style of questioning was adopted. This was considered to a degree could offset the "snapshot" limitations of the cross-sectional survey design.

The tool was structured into two main parts aligned to the research questions (see overleaf). First, questions regarding resilience and secondly demographics. The first part on resilience was divided into four sections. In developing the questions, guiding principles, included participant friendly presentation, non-threatening, concise, simple vocabulary and phrasing with non-leading questions, and a completion time of approximately 10-15 minutes (Bryman 2016). The structure of the specific questions was guided by a synthesis of recommended practice (Rea and Parker 2014; Bryman 2016) encompassing various types of questions, inviting a range of four-point Likert scaled responses. The two main scales were strongly agree to disagree and very often to never. Consistent with the mixed methods approach (Creswell and Plano Clark 2017) closed questions to quantify trends, patterns and links between variables. Parallel open/closed questions so that responses could be compared (e.g., question 1b) and independent closed (e.g., question 9) and independent open (e.g., question 10) to obtain a more complete understanding (Table 7) (O'Cathain and Thomas 2004; Garcia et al. 2004). Importantly the independent open questions yielded the highest and most in-depth responses.

Table 7: Research questions, subsections, and questions within questionnaire

Research Questions	Questionnaire Questions
Section 1 Perceptions of colleagues' resilience	
1. What is the relevance of resilience to nurses in Wales?	1, 2 and all others
Section 2: Workplace adversities	
2. What are the key workplace adversities facing nurses in Wales?	3
Section 3: Intrinsic influences	
3. What is the range of resilience strategies that nurses adopt to cope with their workplace adversities?	4, 5, 6, 7, and 8
Section 4: Extrinsic workplace influences	
4. What is the nature of the support available to enable nurses' resilience? 5. What support do nurses find helpful to enable their resilience?	8 and 9
6. What is the perceived environment of care? 7. What do nurses find helps/hinders their resilience within their environment of care?	8, 9 and 10.

The content of the questions was constructed largely to reflect the waves of resilience research, as described earlier for instance Question 1 was adapted from Smith et al's. (2008) resilience scale. Evidence on workplace stressors in addition to key positive practice work environment evidence (Questions 8 and 9). Question 8 related to sources of support for nurses was inspired by Lee et al. (2015) adapted and developed further from personal knowledge/experience (e.g., social networking). Question 9, concerning workplace environments largely reflected application of Hart et al.'s (2016) social justice resilience framework; of which there are five components: core self-motivation/morale/ confidence (core reasons for being a nurse), belonging (team working) learning, (opportunities to expand knowledge and skills) coping (positively handling difficulties) basics (health and well-being). Elements of these components were interwoven in other questions (e.g., Question 7: "recharging") with other evidence.

Extensive attention was given to drafting and redrafting the tool. Ecological validity was considered particularly important, but a percentage of nurses however can be unaccustomed to being asked questions about their well-being. At worse, they could find it to be threatening whether personally or professionally, which is associated with mental health stigma. Considerable diligence was given to this, initially, the tool was developed with a direct personal tone and was explicit about the topic of resilience (e.g., What sources of support do you access?). Then two further tools were tested. First a proxy style (e.g., Consider what sources of support are available for a new colleague?). A second version where resilience was more implicit was also drafted. The first two introductory questions were considered especially important. In addition, it was also intended to capture attention to inform in a simple manner and to focus the nurses' thoughts on the complex concept of resilience. The three differing versions (in Microsoft word) were reflected upon, revisited and reformulated following feedback resulting in a version that made resilience explicit beginning with two proxy questions followed by personally orientated ones.

The demographic questions were guided by previous RCN questionnaires, workforce data (Welsh Government 2015) and professional knowledge. The introductory note and guidelines were framed by best practice, standard RCN and University procedures and supervisory guidance with additional information such as details of my role, and

the names of supervisors' and the goal and approximate length of time to complete the questionnaire. An online electronic version of the tool was then built-in readiness for the ethics committee submission.

3.5: Piloting process

A two-stage piloting process was undertaken, the first stage was a pilot study following favourable ethical approval from the School of HCARE Research Governance and Ethics Screening committee to proceed to piloting internally within the School. Then minor amends were completed to the tool followed by re-piloting with a smaller group, once more internally.

3.5.1: Piloting stage one: Pilot study

A pilot study was undertaken at the beginning of June 2016 involving a convenience sample of 18 post graduate students. The purpose of the pilot was to conduct a smaller type of the actual study, to collect some preliminary data, test the questionnaire for scientific rigour, appropriateness of the questions, readability, and importantly whether the tool fulfilled the aims of the study (Rea and Parker 2014). In addition to ethical considerations such as the sensitivity of the questions. Pilot studies are important features of reliability and validity (Bryman 2016) piloting is important when the tool to be used is not a validated one (Rea and Parker 2014) as in this study. Pilots also can save money, time, and identify issues to reduce risks of unreliable results in the real study.

The students were on their last module of a full-time one-year programme of study. They were targeted because they were all RNs (predominantly salary Bands 5 and 6) from a range of fields, with professional and contextual knowledge of nursing in Wales. This was important as it allowed the tool to be tested by nurses that were comparable to the target sample. These nurses also would not contaminate the targeted sample as shortly they were due to be recorded on a different part of the NMC register that this study would not be exploring.

Access to the sample was via the Programme Manager. I had previously been invited to facilitate a morning of teaching on resilience. The relevance of resilience for these nurses has been recognised (Petit and Stephen 2015). It was discussed and agreed that the activity could be utilised as part of the session. The students were informed

beforehand of the voluntary nature of the activity and invited to participate. A tool to evaluate the questionnaire was devised based upon various research texts, but published practical advice seemed scarce. van Teijlingen et al's (2001) work was found to be helpful in the process (see Appendix 7 for evaluation).

The pilot commenced the morning's session; then the remaining session was built upon it. The task took one hour to complete. Initially group rapport and ground rules were established, emphasising the voluntary nature of the exercise gaining consent and the purpose of the pilot. Making it clear that the purpose was not to analyse their results, but their opinions of the questionnaire. All students consented to participate. They were instructed to complete the questionnaire from start to finish, to avoid talking to each other, and to make a note of the completion time and any queries they had, which could be discussed afterwards (van Teijlingen et al. 2001). Then time was spent distributing the tablet computers and links to the online questionnaire. It took approximately 20 minutes for everyone to complete the questionnaire and 10 minutes for the evaluation tool. Personal time was spent observing the group to see if or when they hesitated, by answering any questions, and keeping them on track with the task. Then the evaluation, first overall impressions were discussed then each question in turn, using the sub-categories of the evaluation tool. A prompt sheet was helpful for the discussion and as a personal aide memoir (Appendix 7).

Overall, the questionnaire was found to be easy to follow, understandable and was not too long to complete. The phrasing content and questions asked were reported as relevant and motivating, and there were no uncomfortable questions "how dare you's". It was pleasing to see that the tool was easily accessed on mobile devices. The students acknowledged that resilience was a new topic for them, but they all felt it was enlightening and highly relevant. Also, that the tool was a useful reflective exercise in itself that could be utilised for NMC revalidation and or team reflection. Of importance in response to this the NMC re-validation suggestion was included in the introduction to the questionnaire as a participation incentive.

The presentation of the questionnaire was well received especially that "zooming in and out" was unnecessary on a mobile phone. Three individuals completed the task on a tablet, all others completed it on their phones. On a tablet a list of all the options to the questions could be seen whereas on a phone only one option was visible. One

individual commented that when she saw the list of resources (Question 8) she did check the completion bar to see how long she had left. In response this question was sub-divided and to encourage earlier psychological investment (the completion bar) the shorter questions on demographics were brought to the front. The tool was spilt into three sections (rather than two) leaving the optional equality and diversity questions to last. Other guidance was also included, such as in the opening of each section, headings were inserted at the top of the page and signposts at the end of each section for example: "*Thank you for completing section 1. You will now be moving onto section 2 and you will be asked questions related to your work and the idea of resilience".* The core (10) questions were made mandatory (that is the questionnaire would not move on if any core questions were skipped) but still allowing individuals to skip optional open questions. The Likert scales in the second question appeared to have been misinterpreted by two individuals, taking cognisance of this the response options in the second question were condensed, and the specific construct indicators were lifted to a higher construct level.

Following the pilot, meticulous amends to the questionnaire were undertaken. No problems were suggested reading the overall sequencing of the questionnaire, the content of the resilience questions or the order of questions, so they remained unchanged. Attention was given to brevity, clarity, and consistency to enhance readability and presentation and additional guidance on completion of the tool. Various mechanisms to offset response bias were also added, such as red herrings in the first two questions (positive and negatively phrased options with reverse coding). Amends to the overall Likert scales, including for example the neutral option and quantifying the variable frequency scale (Question 2). Some minor amendments were made to labelling specific questions (Question 8). The wording in Question 9 was reworked (environment versus culture seemed more applicable to practice). Some further response options were added to certain demographic questions (job roles).

The pilot results were exported to SPSS version 23 (SPSS Inc., Chicago, IL, USA) and various exporting options from the survey software were trialled some unsuccessfully. The responses for instance, were being read as variables, the software company advised another option, unfortunately this did not work either, so the tool had to be rebuilt and coded at every level including the response options.

Further analysis of results in SPSS were then completed (see Appendix 8) and statistical analysis options were investigated and planned in close contact with the School of Psychology statistical support, the College's data clinic and in liaison with supervisors. To ensure an audit trial and evidence of changes, version control measures and maintenance of all version links were agreed.

3.5.2: Phase two: Re-piloting

The amended tool was repiloted with a small group (*N*=9) of undergraduate nursing students in the last week of their programme (23rd June 2016). All had secured jobs in England, so contamination of the sample was avoided. Again, this was an important group to retest the tool who were like the target sample. No major suggestions were made to change the tool. Minor amends were made to the wording of question 9. The tool was resubmitted to the School's ethics committee and received favourable opinion. Further clarification was requested regarding communication of the study in practice if a potential second phase should occur, this feedback was completed, ethical approval was given then the questionnaire was launched at the end of September 2016. A Welsh language version was kindly developed by the school's lead for Welsh Language and the university's Welsh Language team.

The limitations and lessons learned from conducting pilot studies are underreported (van Teijlingen et al. (2001). The potential respondent bias issues of these small, engaged groups and me in the position as lecturer are recognised limitations. Contamination of data is a common risk of pilot studies (van Teijlingen et al. 2001) this risk was avoided by inviting individuals that would not be eligible to participate in the real study and not using the data. Considerable invaluable learning for the real study was gained. The pilots were relatively straightforward to undertake, probably due to the extensive preparation and engaged groups. The evaluation tool proved easy to use and useful to capture views. The discussions enabled clarification of their overall views and suggestions for the questionnaire. The conversations with the groups about resilience and application to practice were reassuring and motivating. Crucial personal understanding was built about the research process including ethics, tool design and testing, as well as practical research skills (such as coding frames, software and databases). However , the exporting software issues could not have been anticipated. In addition to, facilitation skills and confidence related to the project aims in addition to

project management (time management, coordination, relationship building, cross organisational negotiation skills and marshalling help when needed). These pilots were invaluable motivating experiences to see the tool in action, after all the preparation, as well as the validating feedback received.

The aim of piloting was to determine whether conducting a larger study was feasible and to test the questionnaire. Accepting the limitations, the aims were achieved, and the study proceeded with caution, knowing that these small pilots could not guarantee the success of the full-scale study.

3.6: Data collection

The data collection commenced September 27th 2016 for six weeks till 13th November 2016, following favourable ethical approval (Appendix 9). Whilst the questionnaire was live, it was a personally intense period of activity in the field simultaneously securing the seven R&D approvals, communicating across Wales about the study and managing the process. Management included daily monitoring of the online completion of the questionnaire and solving any technical problems with the survey administrator. In week two, for instance an audit was personally performed to evaluate completion rates, patterns and troubleshoot any issues and minor amends were made to the tool (see Appendix 10). Once R&D organisational approval had been secured close contact with the designated person was established and remained throughout data collection and following completion. Despite the questionnaire being online and the recruitment strategy in place (outlined formally) communicating and responding to the evolving interest about the study and other data collection activities were undertaken such as hand delivering and collecting requested paper questionnaires.

3.7: Data analysis

In a convergent mixed methods design the different datasets are analysed separately then merged (Creswell and Plano Clark 2017). The data analysis will be discussed including the separate quantitative and qualitative processes related to data preparation and analysis followed by the data merging strategies. The purpose of integrating data in this convergent design was to develop findings that expanded understanding were comprehensive and were validated and confirmed (Creswell and Plano Clark 2017).

3.7.1: Stage one: Data preparation

First, various tasks were performed to establish the total sample. The paper questionnaires (*N*=170) were inputted manually to the survey software, which were then randomly checked by a critical friend. Next all the partially completed questionnaires were scrutinised (*N*=1109) to see if they could be converted, of these 33 were valid (that is the 10 core questions were completed). Then all completions were checked (*N*=1475) to ensure that they met the sample criteria only 16 were excluded (non-RNs). Once the total sample was determined, all the data was exported to various software data/statistical packages (Microsoft EXCEL (Microsoft Cooperation, Redmond WA, USA), SPSS, version 23 (SPSS Inc., Chicago, IL, USA) and Microsoft Word to enable greater flexibility of working with the data, presentation purposes and undertake further statistical and content analysis). The functionality, strengths and weaknesses of the software were compared during piloting and potential usages of either/or considered dependent on the nature of the task required. The cross-tabulation function in Smart Survey for instance was less sophisticated than SPSS for quantitative data. Yet the Smart Survey and Excel charts/tables were superior compared to SPSS. The Smart Survey word text searches for the qualitative data analysis were more advanced than Microsoft Word.

Data preparation can take longer than the analysis (Brace et al. 2015). The quantitative data was scrupulously cleaned, reduced and the initial SPSS coding frame compiled for descriptive non-parametric tests and report generation, the CVS file (*N*= 224 variables) was then uploaded to SPSS. Codes to deal with any missing demographic data were determined. It became apparent that re-coding and categorising numerous demographic data was needed. Many respondents had chosen “other” in the demographic questions (e.g., 312 [22%]) for “Place of work”). On inspection, some responses fitted existing options and some new areas needed to be added (e.g., organisation wide). This was a manual time consuming four step process to ensure data protection procedures were upheld. First, identification of the respondents’ ID numbers. Identifying the appropriate change required. Then compiling the spreadsheets per question. Finally negotiating with an authorised survey administrator and their workload permitting, to manually change the individual questionnaires. The pilot sample (all postgraduate students) had not exposed this problem. This was unforeseen and did delay initial running of any cross-tabulation

demographic inferences, the delay however was necessary to establish accurate responses according to WG Nursing workforce categories. The data preparation was cross checked and discussed with key individuals and expert users of SPSS within the School of Psychology.

3.7.2: Stage two: Data analysis

The study's organising social-ecological theoretical framework influenced the questionnaire design. This framework was iteratively developed during data analysis by using the priori analytical framework (Dixon-Woods et al. 2005) (Appendix 11) to achieve the aim of the study. This was done to better understand how intrinsic and extrinsic influences shape nurses' resilience in Wales.

3.7.2.1: Quantitative analysis

This is an exploratory study, so analysis and reporting were limited to descriptive reporting and analysis to explore trends and any patterns of nurse resilience, intrinsic and extrinsic influences to help nurse cope with their work. First, the survey software quantitative dataset reports were interrogated, including overall and individual responses to all questions. This was followed by utilising descriptive statistics and graphs. SPSS reports were then generated to calculate the frequency and distribution (totals, means, modes, standard deviations, and ranges of scores) for the items to summarise the dataset. Categorical or nominal data were produced. Once the re-categorisation of the demographic data was completed, under expert statistical guidance, both univariate and bivariate analysis of multiple components were undertaken in cross tabulation reports, to explore responses to specific questions and the differences between demographic variables (age, years qualified, field e.g., Question nine). The data were scrutinised and described to include how the results answered the research questions, the possible explanation for any unexpected results (e.g., Question 8: mixed responses to availability and helpfulness of organisational resources) in relation to the available evidence and dialectical reasoning.

The two statistical tests used were Chi-square and Cramer's V. Chi-square is a non-parametric robust test that tests statistical significance and confirms that the frequency of each category within the contingency table was different and did not occur by chance thus rejecting the null hypothesis (Bryman 2016). The test can also make inferences about the relationships between two categorical or nominal variable cross

tabulated in a contingency table. The test works out the difference between the observed frequencies and expected frequencies in each cell of a contingency table (Bryman 2016). Limitations of the test are that it cannot establish causal relationship between two variables, and it is sensitive to sample size and should be followed by a strength statistic (McHugh 2013). The Cramer's V test used in this study is the most common strength test used to test the data when a significant Chi-square result has been obtained (McHugh 2013).

Detailed research diary notes (including tables, mind maps and figures) were made throughout the quantitative data analysis to aid the analytical process and to help at the data integration stage (Plano Clark and Ivankova and 2017).

3.7.2.2: Qualitative analysis

The first step was to export and scrutinise every type of available online software report (Word/Excel) to get a feel for the dataset. An intense process followed due to the wealth of data (for instance, one summary report was 369 pages/10,712 words). The in-depth reports were read over and over (paper and electronic versions) to look for similarities, differences, surprises, or conflicting results, in the overall responses and individual responses. Exploring emergent themes from the volume of data to build upon the priori analytical framework, such as related to risks and adversities. The survey textual analysis tool had the capacity to generate word clouds, lists, searches, frequencies, and categorisations. Prior to use, the functionality of the tool compared to Word and Nvivo 11, was discussed at supervision. It was suggested that the tool in conjunction with Microsoft Word appeared most appropriate for both utility and ease of use. The tool proved to be helpful for content and thematic analysis (discussed further later). Extensive research diary notes were also made throughout the analysis of the qualitative data to aid the analytical process, to identify key themes within the wealth of data and to help at the data integration stage (Plano Clark and Ivankova 2017).

3.7.3: Framework analysis

Framework analysis was utilised as an overarching approach to help analyse the qualitative data. The method will be outlined. To illustrate the approach taken some examples largely from Question 1 will be offered.

Framework analysis, whereby data are coded thematically and then charted into a framework matrix (Gale et al. 2013) was suggested during supervision to manage the large qualitative dataset. In addition, to help obtain a holistic, descriptive overview of the entire data. Framework analysis has become an increasingly popular approach in healthcare research (Smith and Firth (2011), consisting of both a deductive (theory testing) and inductive (theory building) process that can assist novice researchers to undertake robust qualitative data analysis (Spencer et al. 2004). The iterative stages of the systematic management of data (Table 8 below) results in a matrix that provides an intuitively structured overview of summarised data and a transparent audit trial that enhances rigour and credibility of findings (Richie et al. 2013).

Table 8: Framework analysis

Stages	**Framework Analysis (Richie et al. 2013)**
1.	Immersion/familiarisation of the raw data
2.	Identifying a thematic framework: to include all key issues/concepts from the data and priori questions derived from the research questions.
3.	Data coding matrix- applying the thematic framework to all the data: "Staying true to the data".
4.	Overarching categories: forming charts of key subject areas.
5.	Summarising synthesising the whole
6.	Explanatory accounts and wider application of concepts and themes.

In this study, although a combined (deductive and inductive) approach was taken, an inductive approach utilising content and thematic analysis was mainly taken to reconceptualise the resilience of nurses. Thematic analysis is a method of identifying and analysing patterns in qualitative data (Braun and Clarke 2006). Thematic analysis enables analysis and synthesis of current arguments, reworking of theoretical concepts and the surfacing of nuanced complex interpretation of the data (Clarke and Braun 2013) which has various steps that compliment framework analysis (Familiarisation with the data, Coding, Searching for themes, Reviewing themes, Defining and Naming themes and Writing up).

To capture the scale and volume of data both an overall matrix and one for each question were devised. The summaries enabled comparisons and links between the multiple respondents in addition to within respondent and between respondent analysis and within and between question analysis (Gale et al. 2013). The systematic categorisation of the analysis helped to reduce the vast volume of qualitative data, but importantly ensured that key issues were not lost and were easily retrievable (Gale et al. 2013).

The potential pitfalls to this approach include the temptation to use the matrix to quantify qualitative data (e.g., “13 out of 20 respondents”), the time-consuming nature of this approach which is also resource intensive and requires training (Gale et al. (2013). To offset these pitfalls continued supervisory scrutiny and reflexivity was undertaken to ensure that the analysis met the study aims underpinned by the priori questionnaire and analytical framework. No previous studies examining nurses’ resilience or free text analysis utilising framework approach had been identified, but this approach provided a good fit with the study aims and dataset. However, one recently published framework study has been identified which evaluated a mentoring programme within a UK work-based resilience intervention (Davey et al. 2020).

3.7.3.1: Framework analysis: drawing upon examples from Question One

The iterative process was messy and the difficulty of articulating some of the steps undertaken is endorsed in the literature (Parkinson et al. 2015). Broadly, the approach adopted will be outlined stages 1-4 below, drawing upon some examples from Question One. The process was not specifically followed in the order as described.

3.7.3.2:Stage one: Immersion familiarisation of the raw data

The aim during the familiarisation stage was to gain both an extensive overall and detailed feel of the data relevant to the study aims. Although it is not always considered necessary to review all data at this stage as there is opportunity later (Ritchie et al. 2003), in this study it was considered crucial to review the entire dataset to get “into it”. First, the routine survey software reports (Word/Excel) were exported and interrogated. This was an intense process due to the scale of data (for instance, one summary report was 369 pages/10,712 words) and the first question generated 365 responses. The reports were repeatedly read (paper and electronic versions) to identify similarities, differences, surprises, or conflicting results, in overall and

individual responses for possible emergent themes. As well as attempting to get an overall feel for the data, the individual questions were reviewed in a linear fashion.

However, the software had an advanced textual analysis tool that could generate word clouds, lists, searches, frequencies and categorisations (Venn diagrams and pie charts). The functionality of the tool compared to Word and Nvivo 11, was discussed at supervision, and it was suggested that the tool in conjunction with Word appeared most appropriate for both utility and ease of use. The advanced features of the tool were learnt and then maximised to analyse the responses to each question and as a result detailed reports were generated and exported (see examples for Question One Appendix 12 Figure 1). These reports were scrutinised in conjunction with the routine Word/Excel reports to form initial codes and categories aligned to the research aims. Extensive memos were made on the reports, including impressions, areas of possible importance and ideas (Parkinson et al. 2015) as well as research diary entries (Appendix 13). This note taking was vital at this and subsequent stages to support the matrix formation, aid the analytical process, identify key themes and to help at the data integration stage (Plano Clark and Ivankova 2017).

A preliminary ideas table was then developed per question including quotes, codes (numbering hundreds), categories together with early thoughts and links to other questions, (see Appendix 12 Figure 4). Throughout this early immersion with the raw data discussion with supervisors was critical. Also, early ideas were presented at an international resilience conference, which enabled the process and the data to be considered within an international context (Appendix 17: 4/International).

3.7.3.3: Stage two: Identifying a thematic framework

During this stage the coding, themes and subtheme ideas from the first stage were refined and organised in a meaningful way to form an analytical framework (Parkinson et al. 2016). The responses to each question and then inference across questions were examined for content associated with the deductive themes. The inductive open coding (Braun and Clarke 2006) involved studying anything that might be relevant or unexpected from as many different perspectives as possible (Gale et al. 2013). In the first question a priori content could be easily identified such as resilience characteristics. In addition, other content was identified that did not exclusively fit (exceptions, deviant, negative cases) for example nurses perceived as resilient but

simultaneously described with lowered resilience. This led to the generation of early insights (risks to resilience), see also the research diary entry in Appendix 13.

The repeated use of the textual analysis tool helped to identify emergent categories and themes. As a result, seven categories' themes and sub-themes were generated for Question One. These categorises were exported to Excel to form the question's framework. The columns represent the respondents and the rows the categories (see Appendix 12 Figure 5).

3.7.3.4: Stage three: Data coding matrix

The purpose of this stage is to apply the thematic framework to all the data. This involves charting and summarising it so that it is more manageable but "staying true" to it (Richie et al. 2013). The need to summarise the text was not an issue related to most of the free text data but the necessity to identify and collapse the number of similar responses was important. The coding process was repeated for every question to form the individual question's framework and the overarching framework (Appendix 12 Figure 6).

3.7.3.5: Stage four: Overarching categories; forming charts of key subject areas.

The aim of this stage is to move beyond data management toward understanding the data (Richie et al. 2013) to look for commonalities and differences. The word lists/clouds and categorisations were revisited in an iterative way to review, define, and name themes (Clarke and Braun 2013). All the responses were re-read repeatedly and printed, followed by highlighting, and making notes to search for themes (Clarke and Braun 2013). This helped to identify the potential importance, frequency, and inferences particularly between longer, shorter or similar responses enabling data derived codes to emerge (Clarke and Braun 2013). Responses were analysed for repeated themes using three reference points (Rea and Parker 2014) recurrence and repetition of ideas also forcefulness with which ideas were expressed. Examples of forcefulness in the data included the way the response was written (bold font, capital letters) and the use of punctuation (such as exclamation marks).

PowerPoint software was found to be of particular value to develop mind maps to build themes and subthemes (Appendix 12 Figure 7). The mind maps were printed and displayed to "breath the data in". The frequency of words/phrases guided early

understanding until meanings developed from my frequently returning to the data over an extended period of time.

Some data were double coded , particularly in the early stages, and some was found later to be unnecessary. However, double coding was important and started to show connections between different parts of the data, such as links between workload and resource adversities. As codes developed some themes were collapsed, some became overarching themes dependent upon importance. For instance, in Question One Emotional Efficacy began as a subtheme of professional efficacy, but then it became an independent theme. This approach was developed and applied to all the questions to further build conceptual abstraction and answer the research questions.

The overarching framework enabled individual respondents, cross respondent and cross question comparisons to be done with ease. Also, meta themes were more easily identified, for example sub-optimal resources. Some questions appeared to lend themselves to a more deductive approach than others. For instance, within the adversities question data the a priori categories were easily visible. However, the thematic analysis was not limited to the questionnaire questions only, many of the themes were beyond the questions (Clarke and Braun 2013).

A relatively linear process to the analysis might have been anticipated because of the a priori framework. Initially, analysing the first two questions as subsets did help momentum and management of the large dataset. However, it was only a component of the whole analytical process. It was necessary to go back and forth between the varying questions returning iteratively, continually overlaying and building on the preliminary “linear” insights were found essential. For instance, the tests to resilience question was a particular analytical challenge due to the nature and volume of the responses, so it was agreed at supervision to leave and return to this later. The data analysis was scrutinised by the supervisory team, on regular occasions, to ensure rigour and monitor competence.

To sum up, the iterative process was messy and labour intensive. Nevertheless, despite the challenges encountered with framework analysis the data summaries helped to organise the data, which initially was daunting, so that inductive and deductive derived themes could be determined to answer the research aims. Also, the

repeated handling of the data in differing ways helped to intimately understand the data, retrieve it and gave confidence that data had not been missed.

3.7.4:Data integration/merging

In a convergent design the data merging process has been called simultaneous integration (Morse and Niehaus 2009). In this study integration mainly occurred when the independent analysis of the separate datasets was complete, and the data analysis was then triangulated for further analysis, interpretation and synthesis. Triangulation refers to the use of multiple “sightings” of data to improve validity (Bryman 2016). A three-stage process of integration is now outlined, including an overview of the merits and challenges.

First a table was developed incorporating a joint display (side by side columns) of the separate findings to represent and aid integration. The table was particularly useful to search for common concepts, compare the findings and identify converging, complementary or contradictory findings, which were noted in one of the table’s columns (Creswell and Plano Clark 2017; Bazeley 2018). The table helped to condense and visualise the key triangulation points but was found to be unwieldy to use. So, building upon this, a further document was developed which included the important quantitative results followed by the related qualitative key triangulation points, (added in green font); this was done for each question.

The next stage involved systematically going through each identified triangulation point and going back and forth to explore the separate databases using varying strategies in combination (O’Cathain et al. 2010). For example, this iterative process could include following a thread, using a PowerPoint mind map to build concepts (see Appendix 12 Figure 7) as well as the framework matrix and or SPSS to confirm or refute a finding and or explore individual or across respondents. This approach also helped simultaneous synthesis, writing up and deepened understanding of the data (Bazeley 2018).

The final integration stage involved the synthesis of the data analysis and the partial integration of the findings into the study’s theoretical framework (Figure 16) to help convey the narrative discussion via the research questions rather than the methods (Bazeley 2018).

The merits of methodological and data triangulation offered by the use of open and closed questions, yielded different information in the form of numbers and words that complimented and verified each other, and which helped to validate the results. Furthermore, the proxy and self-questions allowed the respondents to view the same concept- resilience from different perspectives. The richness and depth of the words provided a more balanced comprehensive and insightful picture that explained not just the intrinsic influences shaping nurses' resilience but the complex mixed extrinsic influences in workplace environments in addition to the two-way interaction between factors. The open text responses allowed for the exploration of nurses' diverse workplaces and factors that are often difficult to separate. Helpful also to explain real life practice that potentially was too challenging to include within closed questions (e.g., Question 3c links between workload and resources). Many of the thematic areas were beyond the questions. The numbers helped the visibility of the meta theme of suboptimal resources. In addition, any differences in the data and links between variables and statistical significance (e.g., debriefs and perceived well-being) and conclusions to be drawn (Creswell and Plano Clark 2017; Bryman 2016; Ivankova and Plano Clark 2018).

Challenges of merging the data however were also encountered, which is to be expected with triangulation (Thurmond 2001). Overall, analytically, and systematically working back and forth between the two substantial datasets was challenging until key patterns emerged. Constantly comparing the different data, not dismissing single responses, alongside consistent yet flexible coding. Keeping a log of the datasets was found essential to establish main patterns and exceptions. Triangulation of certain questions was more challenging than others such as Question 3 that focused upon adversities and tests of resilience (952 responses). These findings however unfolded to have magnitude within our understanding of nurses' occupational stressors.

Creative presentation of mixed methods within wordage constraints is also a known challenge for researchers (Creswell and Plano Clark 2017). A specific challenge of this study were the decisions that needed to be made to include or exclude qualitative responses that gave voice to the respondents. Also, different data presentation options were trialled, such as initially the quantitative dataset was presented in bar charts

(Appendix 14). Different figures have been chosen to present the mixed data in the discussion.

In summary, despite the afore mentioned challenges, triangulation proved to be a powerful technique; it helped to describe and build layers of dense twine and fewer holes in the data (Denscombe 2001) than if solely one data source had been used. Thereby assisting our understanding of the intrinsic and extrinsic influences that shape resilience of nurses.

3.8: Stakeholders' consultation event

A stakeholders' consultation event was held on 14th March 2018 at RCN Wales Headquarters Cardiff. The purpose, attendees, planning, and evaluation of the stakeholders' event will be discussed briefly. A consultation event seeks varied views to identify the relevance of the study findings and involves a qualitative open discussion (Bryman 2016). The purpose of the event was to engage with relevant stakeholders to inform and receive feedback, concerning the study's main findings to potentially inform the latter stages of the study. The perceived potential benefits of the two-way open communication were to recognise and value the vital contribution of the stakeholders, including to test the validity and relevance of the findings. Enhanced transparency and robustness of the study also engagement of the stakeholders at the event may positively influence engagement at subsequent stages (see Appendix 15).

Based upon best practice it was agreed that approximately 20/25 stakeholders (including steering members) would be the optimum number to manage the discussion within the time frame. Stakeholders were selected based upon their prior engagement with the study, their role and potential contribution. A mixed group of stakeholders that could speak to specifics but also across the findings were ideal. The attendees (*N*=23) exceeded these expectations. Stakeholders were from all fields, bands and settings ranging from final module student nurses to organisational lead nurses, academics and policy advisors who were able to give a strategic perspective in both Wales and the rest of the UK and speak to the findings not just on practice but education and policy too (see Appendix 15). The Independent sector representative was unable to attend on the day.

An afternoon in Spring was agreed to give attendees time to travel/return on the same day, avoid extreme weather conditions, holiday periods and fit within the studentship budget constraints. RCN Wales kindly offered their headquarter facilities in Cardiff. The process and questions to be asked were adapted from a similar event that a steering member and Lead supervisor (DK) had recently attended concerning a large NIHR study. Extensive planning commenced seven months previously namely: checking need for ethical permission, invites, pre-papers (content-depth/breadth to prepare stakeholders) agenda, process, timing on the day (roles and responsibilities), certificates, equipment, and resources. Costs to be covered by the studentship included cold and hot refreshments, Welsh cakes, “thank you” chocolates, table decorations (daffodils) and attendee travel expenses. Despite forward planning the original date was brought forward a month (due to unforeseen circumstances) this did however involve duplication of the organisational work, also some stakeholders could not then attend the new date so different stakeholders had to be secured within a short time frame. Also, the “window” for data analysis was reduced. Afterwards all attendees were personally thanked and reiterated that their anonymity and confidentiality would be upheld, reporting back will occur once the thesis was completed and there may be further opportunities of engagement with the study. Analysis of the contributions: the scribes’ hand-written notes, flip charts and personal field notes were transcribed promptly to inform the initial analysis and were discussed with the steering group.

To summarise, this event achieved its aim and more, reference to the key contributions made are in the discussion of the thesis (see also Appendix 15). This event confirmed that stakeholder collaboration in workforce research is not necessarily easy but essential for potential impact and that this study is fortunate to have had such engagement throughout and must be maximised in the future for the recommendations to be realised. Reflecting the technique’s key contribution towards answering the study’s research questions.

3.9: Validity of the convergent mixed methods design

Validity of qualitative and qualitative approaches differ but both need to be demonstrated (Plano Clark and Creswell 2017) the differing strategies in this study will be outlined.

From a quantitative perspective to ensure face and content validity and reliability of the questionnaire various measures were undertaken. Validity means whether meaningful and useful inferences can be drawn from the results of the tool and reliability means repeatability (Polit and Beck 2014). Content and face validity was enabled thorough the theoretical framework and literature review, to meet the study aims and research questions. Testing and critiquing of the tool by the experienced supervisory team and the external steering team, critical friends particularly ones experienced in developing questionnaires and or knowledge of resilience such as in the School of Psychology and Cardiff University's Centre for Trials Research. Further validity and reliability of the tool was achieved through the piloting process. Scrupulous cleaning of the quantitative data aided the reliability of the results. The data analysis and statistical tests utilised were reviewed and cross checked by experienced quantitative data analysts. The sampling strategy with the intent to recruit as many nurses in Wales as possible enabled a substantial sample where trends and patterns could be more easily visible and could be applicable to other nurses.

In qualitative research there is more emphasis upon validity than reliability, which comes from standards based upon researchers, participants, and reviewers (Creswell and Plano Clark 2017). The main standards relate to the extent that the findings are *credible, dependable, confirmable,* and *transferable* (Guba and Lincoln 1994).

Credibility refers to the truth of the findings, credibility was ensured by reporting every stage of the research process and each stage being critically reviewed by the supervisory team and further reviewed by the project steering team (see example of meeting notes Appendix 16). Methodological and data triangulation was a key strategy to enhance the findings credibility. The stakeholder consultation event also enhanced the findings credibility. A proportion of the stakeholders had also participated in the study, so they had an opportunity to reflect and share their views of the findings. Peer validation at various local national and international forums has also added to the credibility of the findings (see Appendix 17). A personal critical reflexive approach was adopted throughout the study. Reflexivity is the critical self-reflection about one's own biases, preferences, and pre-conceptions (Polit and Beck 2014). My role as a nurse researcher and academic were made transparent (see reflection examples Appendices 1, 13 and 25).

Dependability refers to the stability of the data. The dependability of the data was enhanced by the supervisory team critically reviewing every stage of the analytical process. Further dependability was achieved through the piloting process. Confirmability refers to the data representing the information that the respondents provided, triangulation enhanced the confirmability of the findings as did the stakeholders consultation event. A thorough audit trail supported by a diligent comprehensive research diary enhanced the confirmability of the findings. All decisions were discussed with the supervisory team and further discussed with the steering group (see Appendix 16) and monitored by the university's interim and annual monitoring process.

Transferability is the extent to which the findings could be transferred to another setting or group. The aim of this study was to better understand nurses' resilience, how intrinsic and extrinsic influences shape each other and contribute to the way nurses cope. How individuals negotiate and navigate the resources within their multi-level context towards shaping their resilience, underpins this study's social-ecological perspective. The context of these respondents is their workplace, Ungar and Liebenberg (2009) affirm that the solutions to resilience are usually local, that challenges cannot be glossed over they must be acknowledged, to understand then act. Each immediate individual workplace context is unique and diverse, yet similarities and differences can be drawn. These nurses are authorities on their own resilience within their environments within the multi-level context. As the respondents' demographics unfolded to reveal all fields and all bands across comprehensive settings this suggested a considerable evidence base to build contextual understandings upon. Understanding resilience across contexts is complicated by homogeneity (sameness) and heterogeneity (difference) and individual perceptions of sameness and difference (Ungar, 2008). The iterative research process proposed and unfolded to discern patterns of the routes to resilience that were shared or that had relevance to a group (e.g., similar demographics, experience, clinical field) for instance the tests of resilience data.

The depth and range of the rich contextual qualitative findings based upon the views of nurses from all fields, pay bands, job roles and settings grounded within practice other similar nurses may find that the findings are transferable to their practice and

context. Predominantly nurses in Wales and the UK work for the same organisation as this sample the NHS and are registered with the NMC, which suggests the transferability of the findings.

3.10: Ethics and research governance

The School of HCARE Research Governance and Ethics Screening committee, Cardiff University gave ethical approval for the study on 22nd September 2016 and the data collection commenced on the 27th September 2016. The study was undertaken with integrity, quality, and transparency (Health Research Authority 2017) with adherence to research ethical guidance (NMC 2018; DH 2003; WG 2009; RCN 2005, 2009; ESRC 2015; Health Research Authority 2017; Cardiff University Research Governance Framework 2015; 2019).

The study proposal was submitted to the committee prior to piloting then re-submitted following piloting. The amended tool received favourable opinion, but further clarification was requested regarding communication of the study in clinical areas, if a potential second phase should occur. This feedback was completed, and ethical approval to proceed was then given. The proposal was approved by the R&D departments in seven out of nine NHS healthcare organisations in Wales (during the six weeks of data collection). Positive feedback was received, and no further clarification was requested as the study was deemed to be of low ethical risk. The fact that this was a survey, with no patient involvement and that the aims of the research exploring the intrinsic and extrinsic influences that shape nurses' resilience in Wales was not considered to be ethically challenging. Strict adherence to each individual organisation's survey communication procedures and guidance was upheld (e.g., some disseminated the details of the study via their intranets others suggested posters in clinical areas and or by invitation to staff forums).

3.10.1: Consent and data protection.

By completing the questionnaire consent was implied as well as the details of the study and my role and the names of my supervisors were included in the introductory questionnaire guidance. There was no coercion of individuals to participate despite some nurses knowing myself through professional networks and my past and current roles as researcher and nurse academic. The method of data collection was

proportionate to the intrusion of privacy and the processes were fair; ensuring data collected was relevant, not excessive, held securely in addition to respondents being given fair notice of time frames (ESRC 2017). Scrupulous attention to all data occurred. All respondents were anonymised during analysis of the findings, transcription and writing of the thesis. All respondents were allocated codes. The anonymised spreadsheets and transcripts will be kept as per Cardiff University (2021) guidelines for 15 years. Meticulous recoding and retention of data will be ensured in addition to protection from accidental damage loss or theft. Hard copy material will be kept in a locked office electronic material was safely backed up daily by the university server. Only INSRV supported software was utilised.

It was anticipated that the skills required of the respondents, fit with the skills required in their work. Nurses are required to be reflective and discuss their practice (NMC 2018) and most nurses use emails, electronic links, and surveys in their professional or personal lives. Paper copies in research packs were provided on request (with a self-addressed envelope or hand delivered and collected in addition to Welsh Language versions). From the onset, service users (practising nurses) (RCN Wales Board member; Lead Nurse, Nurse Manager and Lead for Education) contributed to the steering committee and various project discussions. The discussions included: research questions, design, method, and validating the relevance of the study in addition to early data analysis.

The justification for the mixed method approach has been offered the next chapter will present the quantitative results.

Chapter 4: Quantitative results

4.1: Introduction

This chapter will report the quantitative results from the returned questionnaires that explored the resilience of contemporary nursing roles in Wales to begin to answer the research questions in their entirety. These results will help to broaden our understanding of the relevance of resilience to these nurses' and identify potential ways that support could be enhanced.

The response rate and demographic results will be presented first. To put the demographic results into context they were compared to the available UK/Wales population statistics of nurses, mainly from (three) Freedom of Information requests, in 2017 (NMC and the WG) their websites, in addition to publicly available statistics (e.g. Office For National Statistics website). To offset known differences in categorisation and reporting processes, the current WG workforce characterisations[31] were utilised. The results for each section in turn aligned to the research questions (below) will follow with the statistical tests that were used to explore links between key results and respondent demographics. As this is an exploratory study, a decision was made to present the results in the ordering within the original questions rather than in descending order so as not to potentially alter any meaning.

Table 9: Research questions, subsections, and closed questions within questionnaire

Research Questions	Closed Questions
Section 1 Perceptions of colleagues' resilience	
1. What is the relevance of resilience to nurses in Wales?	1, 2 and all other questions
Section 2: Workplace adversities	
2. What are the key workplace adversities facing nurses in Wales?	3
Section 3: Intrinsic influences	
3. What is the range of resilience strategies that nurses adopt to cope with their workplace adversities?	4, 5, 6, 7, and 8
Section 4: Extrinsic workplace influences	
4. What is the nature of the support available to enable nurses' resilience? 5. What support do nurses find helpful to enable their resilience?	8
6. What is the perceived environment of care? 7. What do nurses find helps/hinders their resilience within their environment of care?	9

[31] Acute, Community, and Independent/Third sector

4.1.1: Response and completion rate

Table 10: Response and completion rate[32]

Total Participation	Partially completed	Completed	Percentage of total participation
2535	1076	1459	57.6%
Communication Source		Number of responses	Percentage of total
RCN membership email:14,995 504 bounced back		653	44.7%
QR code		21	1.4%
Online link (e.g., university)		592	40%
Paper invitations		170	11%
Welsh language		1	Less than 1%
Estimated Completion Time			
Minimum 20 minutes 20 x 1459 = 60 days (based on 8-hour day)			

The ballpark target figure of 1000 nurses were achieved at week four. A total of 53% (*N*=964) of the respondents came from sources other than the RCN, some of whom may not be RCN members. However, the typical RCN survey response rate (approximately 1%) was exceeded (4% *N*=653). Only one respondent completed the Welsh language version. However, personal feedback received indicated that Welsh language speaking nurses appreciated the bilingual format, reading it in Welsh and then completing it in English. The university Welsh Language team had anticipated this. The responses to the optional demographic questions were generally high. The highest response was 98% only 5.9% (*N*=87) declined to share their salary band and 5.3% (*N*=78) chose not to share their age. The research texts (e.g. Bryman 2016) warn that the known sensitivity of such questions can deter participation. Therefore, these responses were possibly higher than expected. Similarily, 95% (*N*=1324) of the sample chose to respond to the optional equality and diversity questions. However, 9.5% (*N*=38) chose to skip some of the questions: ethnicity and UK national identity (*N*=140 9.7%) religion (*N*=146 10%) and disability (*N*=169 11.5%). The completion of the core items of the questionnaire was overall, accurate, and appropriate, (only 16 were invalid). Online respondents could skip back and forth but would need to

[32] All percentages are rounded to 1 decimal point.

complete in sequential order. The pattern of completion was unable to be determined of the paper questionnaires, they may have read all the questions first, which may have altered their responses.

4.1.2: Respondent demographics

The profiles of the respondents will be outlined with support from the demographic table (Table 11 overleaf). Most respondents were aged between 41-60 years (67.42% *N*=931), the mean age was 46 years, which is comparable to the mature workforce in nursing across Wales and the UK. Nurses' ages ranged from 21 to 72 years (21-40 years 28.08%, *N*=406 41-60 years 67.42% *N*=931 and 61-72 years, *N*=4.49%) a few (*N*=24) exceeded the expected UK retirement age of 65 years. Female respondents predominated, which was expected and proportional to the number of women in nursing generally in Wales, UK and globally. Most nurses as expected were registered as Adult nurses. However, all categories of registration (MH, CYP and LD) were represented and are largely proportionate to the distribution in both Wales and the UK. Some nurses reported additional registerable qualifications (3.35% *N*=49) for example Specialist Community Nurses (SCN). To further clarify, 6.90% (*N*=101) nurses reported dual registration status (e.g., RGN/RMN) for the purpose of this analysis the respondents' work settings and job roles were also cross checked then the respondents were categorised as follows:

- RGN/MH 1.30% (*N*=19) categorised as MH
- RGN/ CYP 2.5% (*N*=30) categorised as CYP
- MH/LD and LD/CYP 0.20% (*N*=3) categorised as LD

The length of time nurses had been registered was fairly evenly spread. Mean registered years=19.92, *N*=1408. The highest being 31-35 years registered (15.1% *N*=220) whilst one had been qualified for 52 years. The nurses as expected were predominantly UK registered (94.7%). Almost 50% (42.4% *N*=791) of the respondents had obtained a Bachelor's degree qualification. This is likely due to the move in 2002 to a graduate workforce training in Wales compared to England in 2013. A proportion had obtained Master's Degrees (12% *N*=224) and were either working towards and/or had other qualifications. The sample was mainly white (95.0% *N*=1390) mirroring the population of Wales (96.0%), which is higher than the UK (81.9%). Nearly all nurses

stated their first language was English, then Welsh (5.0% *N*=67), which is comparative to the number of individuals aged over three years who reported Welsh as their first language in the WG census (WG 2018b). Most of the respondents were at "Agenda for Change" Salary Band 5 (34.7% *N*=506) slightly less than the rest of Wales (43.0%). However, there was almost equal representation across Bands 6 (26.9% *N*=393) and 7 (24.9% *N*=363) and as might be expected fewer at Band 8 (7.6% *N*=110).

Table 11: Respondent demographics

The mean age of the sample was 46.1 years (*SD*=10.3).

	N	**%**
Gender		
Female	1285	88.1%
Male	123	8.4%
Others	2	0.1%
Prefer not to say	8	0.5%
Missing	41	2.8%
Registration Status		
Registered adult nurse	1145*	71.1%
Registered mental health nurse	167	10.4%
Registered sick children's nurse/children and young people	105	6.5%
Registered learning disabilities nurse	42	2.6%
Years Registered		
0 - 5 years	175	12.0%
6 - 10 years	179	12.3%
11 - 15 years	159	10.9%
15 - 20 years	158	10.8%
21 - 25 years	155	10.6%
26 - 30 years	198	13.6%
31 - 35 years	220	15.1%
36+	164	11.2%
Prefer not to say	51	3.5%
Country Registered		
UK	1382	94.7%
Non-UK	40	2.7%
Prefer not to say	37	2.5%
Degree Level (Dual)		
Certificate	274	14.7%
Diploma	568	30.5%
Bachelor's degree	791	42.4%
Masters	224	12.0%
PhD	1	0.1%
Education Level Other	7	0.4%
Language		
English	1316	90.2%
Wales	72	4.9%
Others	40	2.7%
Prefer not to say	31	2.1%

Note: *Dual registration included.

	N	%
Band		
5	506	34.7%
6	393	26.9%
7	363	24.9%
8	12	0.8%
8a	68	4.7%
8b	30	2.1%
Prefer not to say	87	6.0%
Job		
ANP	58	4.0%
Other first level	1142	78.3%
Consultant nurse	5	0.3%
Mental health	80	5.5%
Nurse manager	132	9.0%
Learning disability	3	0.2%
Missing	39	2.7%
Setting		
Acute	904	62.0%
CYP	53	3.6%
Mental Health	131	9.0%
Learning Disability	33	2.3%
Community	274	18.8%
Independent Sector	16	1.1%
Third Sector	4	0.3%
Missing	44	3.0%
Urban/Rural		
Urban	844	57.8%
Rural	252	17.3%
Both	304	20.8%
Prefer not to say	59	4.0%
Employment Status		
Full time	1034	70.9%
Part time	368	25.2%
Prefer not to say	57	3.9%

The most frequent job role reported was “other first level” (inclusive of staff nurse) (78.3% *N*=1142) in addition to charge nurse/sister (11.4% *N*=162) and clinical specialist roles (11.8% *N*=167). These figures are largely comparable to nurses who work across Wales and the UK and represent the increasing trend of specialist nursing roles. Most of the sample as expected reported working in the public sector (95.7% *N*=1395) in diverse settings. However not surprisingly acute settings such as medicine (10.4% *N*=147), surgery (8.5% *N*=121), and community (18.8% *N*=274) were evident which largely reflects Wales and the UK. For analysis purposes, the settings were collapsed into the three WG workforce categorisations: Acute, Community, and Independent/Third sector.

Then the reported length of time the respondents had been working in their current setting showed that the highest proportion was over 15 years (20.0% *N*=300). There was little distribution difference between the remaining categories with the majority being 10-15 years. Principally the respondents worked in urban regions (57.8% *N*=844). There was little difference between the number of nurses working in rural and urban regions and nurses working in only rural regions. Indeed, this is comparable to the one third of the rural population of Wales. Almost three quarters of the nurses work full time (70.9% *N*=1034). There was little difference between nurses who worked Monday to Friday (52.5% *N*=664) and those who worked shifts covering seven days per week/24-hour clock (47.5% *N*=735). This may represent that over half of the sample were Band 6 who more frequently work Monday to Friday.

Almost 20.0% (*N*=267) and 10.0% (*N*=129) respectively, reported working for a healthcare bank or agency in addition to their main job, which is comparable to RCN data (RCN 2018a). The settings that the nurses most often reported working in as agency or bank nurses were very similar to their own settings, acute medical being the highest (agency: 23.4% *N*=29) and healthcare bank (29.0% *N*=50). Most (90.5% *N*=1321) respondents answered the six-optional equality and diversity questions. Nearly 11.0% (*N*=145) reported having a disability, of these 4.3% (*N*=55) had a disability that could not be seen. The highest reported national identity was Welsh (50.3%, *N*=663) then British. Just over half stated that they were Christian. The responses suggest overall engagement with these sensitive topics. Of these items the question concerning disability yielded the highest number of nurses who declined to answer (11.6% *N*=169).

To sum up, the sample matches the existing nursing workforce and provides some reassurance against over-representation of one group of respondents skewing the data.

4.2: Results

4.3: Research question 1: What is the relevance of resilience to nurses in Wales?

4.3.1: Questionnaire first section: perceptions of colleagues' resilience

To better understand what resilience means to these nurses' they were asked two questions about their perceptions of colleagues with high and least resilience.

4.3.1.1: Perceptions of a colleague described as resilient (Question 1a)

Table 12: Perceptions of a resilient colleague

	Agree	Undecided	Disagree
Perceptions of a resilient colleague			
Bounce back quickly after challenging times in work	78.5%	9.0%	12.5%
Copes with stressful events in work	87.0%	4.5%	8.5%

First, the respondents were asked to think of a colleague that they would describe as resilient and agree with four descriptive statements (two reverse coded options) on a five-point scale (condensed to three options) from strongly agree to disagree. The table above illustrates that 87% (*N*=1269) of the nurses most frequently agreed that their colleague coped with stressful events in work and 78.4% (*N*=1145) agreed that their colleague bounces back quickly after challenging times in work. Less than 10% of nurses were undecided and less than 12.5% disagreed with the description of their colleague's resilience. The responses to the two reverse coded options reinforced the results.

4.3.1.2: Perceptions of a colleague with least resilience (Question 2a)

Table 13: Perceptions of a least resilient colleague

	Agree	Undecided	Disagree
Perceptions of a least resilient colleague			
Finds being flexible in work challenging	71.8%	7.8%	20.4%
Struggles with motivation	59.9%	12.6%	27.5%
Appreciates the fun side of work	34.2%	16.9%	48.9%
Finds it hard to have their voice heard	48.1%	14.9%	36.9%
Struggles with confidence	60.0%	11.4%	28.6%
Finds team working difficult	45.5%	13.2%	41.3%
Gets their concerns heard	42.1%	22.5%	35.4%
Gets overwhelmed	74.6%	8.8%	16.6%

The respondents were then asked to think of a colleague that they would describe who had least resilience and agree with eight descriptive statements, on a five-point scale (condensed to three options) ranging from strongly agree to disagree. The above table illustrates that a colleague who gets overwhelmed (74.6% *N*=1089) and finds being flexible in work challenging (71.8% *N*=1047) were the most frequently agreed statements. While 60% (*N*=876) of the respondents agreed that their colleague struggled with confidence and motivation (59.9% *N*=874). 45.6% (*N*=664) agreed that their colleague finds team working difficult. Whereas 48.9% (*N*=713*)* disagreed that their colleagues appreciated the fun side of work. The most mixed responses obtained referred to their colleague's ability to get their concerns heard 22.5% (*N*=328) were undecided and 35% (*N*=517) disagreed. However, 36.9% (*N*=539*)* disagreed that their colleague finds it hard to have their voice heard.

4.3.1.3: Summary section one

Most respondents agreed that their colleagues with resilience coped better with stressful events and bounced back quickly after challenging times in work than their colleagues with less resilience. Being overwhelmed, inflexible and struggling with confidence and motivation were the most frequently cited indicators of nurses perceived to have less resilience, suggesting that nurses considered professional functioning of others was broadly influenced by resilience or may influence resilience.

4.4: Research question 2: What are the key workplace adversities facing nurses in Wales?

4.4.1: Questionnaire second section: workplace adversities

The second section of the questionnaire focused upon the adversities experienced by the nurses in their everyday work. Two questions were asked related to different types of adversities and whether any of the adversities experienced had tested their resilience (Patient care: e.g., ethical dilemmas, patient crises, aggression, clinical expertise. Workload: e.g., time to complete work, type of work, unfamiliar work. Resources: e.g., appropriate staff, equipment, support to complete work, re-organisation of services, policies procedures. Interpersonal: e.g., team dynamics, communication, difficult conversations).

4.4.1.1: Perceptions of type/frequency of adversities experienced in their everyday work (Question 3a)

Table 14: Perceptions of type/frequency of adversities experienced

	Very often[a]	Often[b]	Sometimes[c]	Rarely[d]	Never
Perceptions of type/frequency of adversities experienced in their everyday work					
Patient care	35.8%	32.3%	19.9%	10.4%	1.6%
Workload	48.3%	30.1%	15.4%	5.4%	0.9%
Resource	42.8%	32.3%	16.5%	7.3%	1.0%
Interpersonal	23.0%	27.8%	28.7%	18.5%	2.0%

Note: [a] every shift or more often, [b] two to six times per rota/week, [c] once per rota/week, [d] less than once per rota/week

Question 3a. asked the nurses about adversities that they may experience in their everyday work and whether they experienced the differing adversities on a five-point scale, ranging from very often, often, sometimes, rarely, or never. The table above illustrates that the nurses reported experiencing all the adversities, with less than 2% of nurses reported never experiencing any. The adversity that 48.3% (*N*=704) of the nurses reported experiencing most often was workload challenges, 30% (*N*=439) often and sometimes 15.4% (*N*=224), collectively 93.8% *N*=1367**.** Similarly, 42.8% (*N*=625) reported experiencing resource challenges very often, 32.3% (*N*=471) often and sometimes 16.5% (*N*=241), collectively 90% (*N*=1317). Whereas 35% (*N*=522) reported experiencing patient care challenges very often, often 32% (*N*=471) and sometimes 19.8% (*N*=290), collectively 87.9 % (*N*=1283). While 22% (*N*=335) reported experiencing interpersonal challenges very often 27.8% often (*N*=406) and sometimes 28.7% (*N*=419), collectively 79.5% (*N*=1160).

4.4.1.2: Workload and how often the adversity was experienced.

Table 15: Workload and how often the adversity was experienced.

	Very often	Often	Sometimes	Rarely	Never
Workload and how often the adversity was experienced	48.3%	30.1%	15.4%	5.4%	0.9%

Workload adversities were found to be the most frequently experienced so further analyses were carried out to investigate the relationship between workload and how often the nurses experienced the adversity. From the 1459 respondents 48.3% reported that workload adversities were experienced very often. The table above highlights a breakdown of all other percentages. A chi-square goodness of fit test, χ^2 (4, *N*=1459) = 1093.86, *p* < .001 indicates significant statistical differences in workload and how often they experienced the adversity.

4.4.1.3: Examination of workload adversities and demographic characteristics

Pearson Chi-square tests of independence were performed to examine any differences in workload adversities and clinical settings; registration status; pay band and number of years registered, which are illustrated in the table below. All Pearson Chi-square tests of independence that were statistically significant, are presented below (Table 16). In addition, all but one of the Cramer's *V* effect size were strong (Cohen 1988) workload adversities and the number of years registered, which was a weak effect size (Cohen, 1988). These effect sizes provide additional confidences in the *p*-value set at 0.5.(Field 2016).

Table 16: Examination of workload adversities and demographic characteristics

			Workload Adversities			
Demographics	**Chi square**	**df**	**Sample Size**	**Value**	***P* Value**	**Cramer's V**
Clinical setting	X^2	2	686	513.33	< .001	0.87
Registration status	X^2	3	704	1133.50	< .001	0.90
Pay bands (5, 6, 7, or 8)	X^2	3	672	105.89	< .001	0.40
Number of years registered	X^2	7	688	15.56	< .029	0.06

4.4.2: Examination of resource challenges and demographic characteristics

Pearson Chi-square tests of independence were also performed to examine any difference in resource adversities and clinical settings; registration status; pay band and number of years registered, which are all illustrated in Table 17 below. These findings mirror those found above concerning workload adversities. In addition, all but one of the Cramer's *V* effect size were strong (Cohen 1988) resource adversities and the number of years registered, which had only a weak effect size (Cohen 1988). These effect size provide additional confidences in the *p*-value.

Table 17: Examination of resource challenges and demographic characteristics

			Resources Adversities			
Demographics	**Chi square**	**df**	**Sample Size**	**Value**	***P* Value**	**Cramer's V**
Clinical setting	X^2	2	607	478.13	< .001	0.89
Registration status	X^2	3	625	991.97	< .001	0.89
Pay bands (5, 6, 7, or 8)	X^2	3	593	91.62	< .001	0.28
Number of years registered	X^2	7	604	16.42	= .022	0.07

Finally, the nurses were asked to think about their previous answer, and to consider if any of the adversities experienced had tested their resilience. 82% (*N*=1033) stated YES that the named adversity had tested their resilience.

4.4.2.1: Summary section two

Daily exposure to adversities was commonplace for these nurses. Across the dataset, the adversities most frequently experienced that were found to be statistically significant with a moderate affect size (Cohen 1988) were workload and resources, irrespective of years registered. The majority agreed that an adversity had tested their resilience, suggesting that despite frequent exposure to adversities they do challenge these nurses' resilience capacity.

4.5: Research question 3: What is the range of resilience strategies that nurses adopt to cope with their workplace adversities?

4.5.1: Questionnaire third section: intrinsic influences

The third section focuses upon intrinsic influences that can shape nurses' resilience to better understand how nurses cope with their work.

4.5.2: Coping strategies, adopted over the last year, when handling difficult circumstances well (Question 4a). Personal motivators drawn upon during unsettled insecure times (Question 6a)

In the fourth question, respondents were asked to reflect on difficult circumstances they had experienced over the past year, which they considered they had handled well, and their coping strategies employed, from a list of eight choices, on a five-point scale ranging from strongly agree to strongly disagree (condensed to three options) illustrated in Table 18 overleaf. The nurses agreed that they utilised all the coping

strategies listed. There was a consensus (97% (*N*=1421) that the most frequently utilised strategy was working out the problem to find a solution. The next top strategy was getting support from the team (89.8%). There was little difference between the other strategies, except, the strategy: “looking after my own health and well-being”. 24% (*N*=355) of the respondents disagreed that they looked after their own health and well-being, as a strategy to deal with difficult circumstances with 17% (*N*=249) undecided, collectively 41% (*N*=604). This was the highest proportion of undecided responses yielded in the study. While 14.3% (*N*=209) of the respondents were also undecided upon coming to terms with the situation and moving on, as a strategy, and 9.7% (*N*=141) disagreed.

In the sixth question the respondents were asked to consider what motivates them to get out of bed in the morning when they were experiencing unsettled/insecure times in work, from a list of 10 choices, on a five-point scale, from strongly agree to strongly disagree (condensed to three response options), illustrated in Table 18 (overleaf). There was little difference between the three motivators: 1.) Wanting to do a good job (97.65% *N*=1425); 2.) Their work ethic (95.2% *N*=1390) and 3.) Responsibility to patients/families in their care (95% *N*=1387). Whereas the most mixed responses referred to the motivator: responsibility to my employer, 11.1% (*N*=162) disagreed and 15% (*N*=219) were undecided. Similarly, responsibility to earn money, 9.3% (*N*=136) disagreed and 10.6% (*N*=154) were undecided.

Table 18: Coping strategies, adopted over the last year, when handling difficult circumstances well and personal motivators drawn upon during unsettled insecure times

	Agree	Undecided	Disagree
Coping strategies, adopted over the last year, when handling difficult circumstances well			
Work out the problem to find a solution	97.4%	2.0%	0.6%
Get support from my team	89.8%	5.7%	4.5%
Use positive thinking skills to turn things around	84.8%	10.2%	5.0%
Look after my own health and well-being	58.6%	17.1%	24.3%
Use reflection	85.4%	8.8%	5.8%
Come to terms with the situation and move on	76.0%	14.3%	9.7%
Weigh up all sides of the argument before making a judgement	87.5%	9.7%	2.8%

Personal motivators drawn upon during unsettled insecure times			
Responsibility to colleagues	94.1%	3.3%	2.6%
Responsibility to patients/families in my care	95.1%	3.4%	1.6%
Work ethic	95.3%	3.4%	1.3%
Responsibility to my family/friends	83.1%	9.3%	7.6%
Responsibility to the profession	87.8%	7.4%	4.8%
Wanting to do a good job	97.7%	1.7%	0.6%
Responsibility as a role model to others	87.7%	8.4%	4.0%
Wanting to make a difference	90.8%	6.5%	2.7%
Responsibility to my employer	73.9%	15.0%	11.1%
Responsibility to earn money	80.1%	10.6%	9.3%

4.5.3: Personal strengths drawn upon, over the last year, to handle difficult circumstances (Question 5a) and importance of relaxing and recharging activities (Question 7a)

In the fifth question the respondents were asked how important personal strengths were to them when handling difficult circumstances at work, from a list of 10 choices, and on a five-point Likert scale from very important to unimportant (condensed to three response options) illustrated in Table 19 (overleaf). Generally, the respondents reported all the strengths as important. There was little difference between their three most important strengths reported. 1.) Clinical competence (99% *N*=1444), 2.) Compassion (98% *N*=1442) and 3.) Capacity to help others (97.9% *N*=1429). The highest reported strength as somewhat important/unimportant was personal faith (49.9% *N*=377).

In the seventh question the respondents were asked to consider how they normally relax and "recharge their batteries", and how important various activities were, from a list of nine choices on a five-point Likert scale ranging from very important to unimportant (reduced to three response options), illustrated in Table 19 overleaf. There was little difference between the three important activities that the nurses considered helped them to relax and recharge. 1.) Sleeping and resting (88.7% *N*=1293); 2.) Socialising with family and friends (88.6%% *N*=1292) and 3.) Enjoying a hobby/past time (85.2% *N*=1243). Whereas the option socialising with colleagues was more mixed, 54.5% (*N*=459) considered this as an activity of somewhat importance. Similarly, 54.2% (*N*=729) chose practising meditation (yoga/mindfulness) to be of

somewhat importance. While 25.8% (*N*=377) stated that yoga/mindfulness activities were unimportant.

Table 19: Personal strengths drawn upon, to handle difficult circumstances and importance of relaxing and recharging activities.

	Important	Somewhat important	Unimportant
Personal strengths drawn upon, over the last year, to handle difficult circumstances			
Self-awareness	96.6%	3.4%	0.0%
Clinical competence	99.0%	0.9%	0.1%
Compassion	98.8%	1.1%	0.1%
Personal perspective on life	89.3%	10.5%	0.2%
Pride	75.4%	23.2%	1.4%
Time management skills	94.6%	5.3%	0.1%
Sense of humour	93.6%	6.3%	0.1%
Flexibility	95.5%	4.5%	0.1%
Personal faith	50.2%	38.2%	11.7%
Capacity to help others through difficult times	97.9%	2.1%	0.0%
Importance of their relaxing and recharging activities			
I enjoy a hobby/past time e.g., walking the dog/reading	85.2%	14.0%	0.8%
I exercise	57.7%	39.4%	2.9%
I sleep/rest	88.6%	11.0%	0.4%
I try to have a break/go on holiday	78.5%	20.2%	1.2%
I practice meditation e.g., yoga/meditation/mindfulness	24.2%	50.0%	25.8%
I socialise with colleagues	34.3%	54.5%	11.2%
I treat myself to something that I fancy to eat or drink	56.4%	39.3%	4.2%
I try to have time to myself	77.9%	20.6%	1.6%
I socialise with family/friends	88.6%	10.9%	0.5%

4.5.3.1:Summary section three

Respondents consistently agreed that a range of learnt coping strategies had helped them to cope well with difficult circumstances experienced over the past year, particularly problem solving. Other strategies including accessing team support were also commonly chosen. There was less of a consensus amongst the sample however for looking after their own health and well-being. Consistently they agreed that intrinsic motivators (e.g., wanting to do a good job) helped them cope during unsettled insecure times. This motivation was consistently reported to be underpinned by important professional strengths (e.g., clinical competence). Various strategies to “relax and

recharge" to protect their coping reserves were considered important. These findings suggest a professionally motivated sample that can identify personal resources and strategies that they had built to help them when exposed to adversity. However, self-care may not be a primary coping strategy for some.

4.6: Research questions 4 and 5: What is the nature of the support available to enable nurses' resilience? What support do nurses find helpful to enable their resilience?

4.6.1: Questionnaire: fourth and final section extrinsic workplace influences

In the final section, the respondents were asked questions related to extrinsic influences within their workplace that can support their resilience, consistent with the study's social-ecological framework this is the largest section. Although there are only two questions the first question (8) comprises a series of five sub-questions about a range of resources (*N*=23), that maybe available within their workplace on a seven-point scale ranging from very helpful to not available (condensed to five response options). The resources were namely: 1.) Support from others; 2.) Support to others; 3.) Supervision and feedback; 4.) Organisational support and 5.) External organisational support. The choices within the questions ranged from two (Support to others) to seven choices (Support from others). The overall top ranked resource reported as helpful was a conversation with a trusted colleague (91.0% *N*=1327). The results are presented in Table 20 overleaf.

4.6.1: Helpfulness of the resource: support from others (Question 8.1)

When asked about the helpfulness of the resource-receiving support from others, 91.0% (*N*=1327) reported a conversation with a trusted colleague to be helpful. There was very little difference between the next three most frequently reported helpful support from others 1.) Compassionate colleagues (87.2% *N*=1272) 2.) Learning with and from others (82% *N*=1209) and appreciation from others (81.6% *N*=1,190). Whereas the support reported from closed professional networking groups (such as Facebook) were mixed: 17% (*N*=614) reported them to be helpful and 24.9% (*N*=364) somewhat helpful. While 20.1% (*N*=308) reported them to be unhelpful and 37% (*N*=537) reported them not available/not aware of.

Table 20: Helpfulness of workplace resources (Question 8a)

	Helpful	Somewhat helpful	Unhelpful	Not available	Not aware of
Helpfulness of the resource: support from others					
Conversation with a trusted colleague	91.0%	7.5%	0.4%	1.2%	0.0%
Compassionate colleagues	87.2%	10.6%	0.5%	1.5%	0.1%
Relationships with patients and families	66.6%	25.6%	2.6%	4.1%	1.1%
Being relieved of stressful duties	54.0%	21.5%	4.6%	17.2%	2.7%
Appreciation from others	81.6%	15.1%	0.5%	2.1%	0.7%
Closed professional networking group	17.1%	24.9%	21.1%	15.9%	20.9%
Learning with and from others	82.9%	15.1%	0.8%	1.0%	0.2%
Helpfulness of the resource: giving support to others					
Patients and families	84.2%	11.5%	1.4%	2.2%	0.8%
Colleagues (informal or formal)	83.8%	12.1%	1.1%	2.4%	0.6%
Helpfulness of the resource: supervision and feedback					
Conversation with your line manager	60.2%	26.9%	9.5%	2.9%	0.5%
Feedback on your performance	64.6%	23.6%	5.9%	4.9%	1.0%
Debriefs after a stressful event	61.0%	14.8%	2.1%	18.0%	4.1%
Clinical supervision	50.7%	18.8%	2.8%	22.6%	5.0%
Mentorship	45.3%	19.5%	2.5%	26.9%	5.8%
Coaching	39.2%	16.8%	1.8%	29.7%	12.5%
Helpfulness of the resource: organisational resources					
Reflective practice groups	25.1%	14.2%	3.4%	32.6%	24.7%
Multi–disciplinary forums	33.9%	19.5%	2.8%	24.4%	19.4%
In-service training	52.3%	24.8%	4.1%	10.5%	8.3%
Workshops	33.7%	21.9%	3.5%	20.1%	20.9%
Human resources (HR) services	20.5%	30.1%	13.7%	10.6%	25.2%
Occupational health services	33.4%	37.6%	10.6%	7.0%	11.4%
Helpfulness of the resource: external organisational resources					
Formal learning	53.0%	26.2%	3.6%	7.7%	9.6%
Professional organisational services	53.9%	26.2%	2.1%	7.0%	10.9%

4.6.2: Helpfulness of the resource: giving support to others (Question 8.2)

When asked about the helpfulness of the resource-giving support to others there was little difference reported between the two factors: giving support to patients and families (84.2% *N*=1228) and support to colleagues (83.7% *N*=1222). Less than 1.5% (*N*=36) found giving help to others unhelpful.

4.6.3: Helpfulness of the resource: supervision and feedback (Question 8.3)

When asked about the helpfulness of the resource receiving supervision and feedback all resources were reported as helpful. However, more mixed lower levels of helpfulness were reported. There was little difference between the three most frequently reported: 1.) Debriefs after a stressful event (61% *N*=890); 2.) Feedback on performance e.g., appraisal (64.6% *N*=943) and 3.) Conversation with their line manager (60.2% *N*=878). Of note, 50.7% (*N*=740) reported Clinical Supervision as helpful but 22.6% (*N*=330) reported it unavailable, likewise 18% (*N*=263) reported that debriefs after a stressful event were also not available. 9.5% (*N*=138) of nurses reported a conversation with their line manager to be unhelpful, and 5.9% (*N*=86) reported feedback on their performance as unhelpful. Overall, less than 3% of the nurses reported other forms of supervision and feedback as unhelpful. There was little difference reported in the two most frequently unavailable supervision and feedback resources:1.) Coaching (29.7% *N*=434) and 2.) Mentorship (26.9 % *N*=393). However, these could be expected to be lower as not all respondents may have had experience of each.

4.6.4: Helpfulness of the resource: organisational resources (Question 8.4)

When asked about the helpfulness of organisational resources, all were reported as helpful. However, mixed responses were more evident compared with the other resources in this section. 52.3% (*N*=763) most frequently reported that the organisational service to be helpful was in-service training. There was little difference between the next two most frequently reported helpful resources 1.) Multi-disciplinary forums (33.9% *N*=494) and in-service workshops (33.7% *N*=491). Also, 57% (*N*=836) most frequently reported the organisational resource that was unavailable/unaware of was reflective practice groups. But 25.1% (*N*=366) found them helpful, similarly multi-disciplinary forums (43.8% *N*=639) and workshops (41% *N*=598) were reported as unavailable/unaware. The most frequently reported unhelpful organisational resources

were Human Resources [HR] (13.7% *N*=200) and Occupational Health services (10.6% *N*=154). This could be lower as not all respondents may have had experience of requiring help from HR. Whilst less than 5% of the nurses reported other forms of organisational services as unhelpful.

4.6.5: Helpfulness of the resource external organisational resources (Question 8.5)

When asked about the helpfulness of external organisational resources there was little difference reported between the two factors. External organisational resources were reported as helpful: Formal learning: 53% (*N*=773) and Professional organisational services: 53.9% (*N*=786). 3.6% found them unhelpful (Formal learning: 3.6% *N*=52 and Professional Organisational services: 2.1% *N*=30). In addition, the reported external organisational resources reported as unavailable/unaware (Formal learning: 18.3% *N*=252 and Professional Organisational services:17.9% *N*=261).

4.6.6: How their work environments affect how they cope with adversity and build resilience (Question 9)

The workplace environment and how it can affect how nurses cope with work adversity and build resilience, was the focus of the last closed question. The sample were asked to agree with descriptive statements, regarding six components of resilience, on a five-point Likert scale ranging from strongly agree to strongly disagree (condensed to three response options). For example, 75.2% (*N*=1097) most frequently agreed that feeling part of a supportive team helped them cope with the emotional demands of their work. There was little difference between the next two most frequently reported components. The nurses agreed that they felt supported to deliver safe, high quality compassionate care (67.7% *N*=987) and supported to learn and develop in their job (65% *N*=949). While others were undecided regarding 3 components. 1.) Whether or not that their health and well-being is supported (26.7% *N*=389); 2.) That their concerns will be listened and responded to (23% *N*=335) or 3.) Supported to cope with the emotional demands of their job (23.4% *N*=342). Whilst 32.4% *N*=473) disagreed that they felt their health and well-being are supported. The results are presented in Table 21 overleaf.

Table 21: Perceptions of how work environments affect how these nurses cope with adversity and build resilience.

	Agree	Undecided	Disagree
How their work environments affect how they cope with adversity and build resilience			
I feel supported to deliver safe, high quality compassionate care	67.6%	16.7%	15.6%
I feel part of a supportive team	75.2%	13.2%	11.7%
I feel supported that my concerns will be listened and responded to	53.9%	23.0%	23.1%
I feel supported to learn and develop in my job	65.0%	16.3%	18.6%
I feel supported to cope with the emotional demands of my job	49.3%	23.4%	27.2%
I feel my health and well-being is supported	40.9%	26.7%	32.4%

4.6.6.1:Further analyses: Work environment support for nurses' health and well-being to cope with work adversity and build resilience (Question 9)

Further analyses were carried out to investigate links between clinical setting, registration status, pay band, number of years registered and work environment support for nurses' health and well-being to cope with work adversity and build resilience.

Table 22: Examination of clinical setting and support for health and well-being

	Clinical Setting			
I feel my health and well-being is supported	Acute	Community	Independent/ Third sector	Total
Agree	40.2	43.2	40.0	41.0
Undecided	28.1	23.5	30.0	26.9
Disagree	31.7	33.3	30.0	32.2
Total	100.0	100.0	100.0	100.0
(*N*)	1,008	387	20	1,415*

Note: 44 nurses did not state clinical setting.

A Pearson Chi-square test of independence was performed to examine the clinical setting (acute, community, or independent/third sector) and support for health and well-being (agree, undecided, or disagree). The relation between these variables was not significant, X^2 (4, N=1415) = 3.10, p = 542. These findings suggest that there is no relationship between a specific clinical setting and support for health and well-being, illustrated in Table 22 above, which seems to indicate that there is no difference between the settings.

The above analyses were repeated to include examination of 1. Registration status, 2. Pay band and 3. Number of years registered and support for health and well-being. No relationship between these variables was found to be significant, again suggesting there is no relationship between these and views about support for health and well-being. To sum up, these findings could suggest health and well-being support to be a useful workplace resource for nurses, across the board, to support how nurses cope with adversity and build resilience.

4.6.6.2: Further analyses linking workplace resources (question 8) and perceived support for health and well-being (Question 9)

Further analyses were then carried out to investigate the relationship between the available resources that were found to be helpful to support the respondents' resilience, (previous question (8) and support for health and well-being, (above question 9) then key demographic characteristics. The resources were namely: *conversation with a trusted colleague, conversation with a line manager, debriefs after a stressful event, clinical supervision, reflective practice groups and in-service training.*

4.6.6.3: Key workplace resources and perceived support for health and well-being

Table 23: Key workplace resources and perceived support for health and well-being

	I feel my health and well-being is supported					
Resources	**Chi square**	**df**	**Sample Size**	**Value**	***P* Value**	**Cramer's V**
Helpfulness and support from others						
Conversation with a trusted colleague	X^2	8	1,459	40.83	< .001	0.10
Helpfulness of receiving supervision and feedback						
Line manager conversation	X^4	8	1,459	375.18	< .001	0.36
Debriefs after a stressful event	X^5	8	1,459	279.28	< .001	0.31
Clinical supervision	X^6	8	1,459	173.72	< .001	0.24
Helpfulness of organisational resources						
Reflective practice groups	X^8	8	1,459	159.98	< .001	0.23
In-service training	X^9	8	1,459	150.77	< .001	0.23

N.B. see appendix 18 for separate calculations.

A Pearson Chi-square test of independence was performed to examine key reported resources and support for health and well-being. Statistical significance was found in all the resources and support for health and well-being as presented in the table above. Cramer's V was also carried out to examine the effect size, which were found to range

from weak to moderate (Cohen 1988) a line manager conversation and debriefs after a stressful event had a moderate effect size.

Table 24: Key demographic characteristics and perceived support for health and well-being

	I feel my health and well-being is supported					
Demographics	**Chi square**	**df**	**Sample Size**	**Value**	***P* Value**	**Cramer's V**
Clinical setting	X^2	4	1,415	3.10	= .542	Ns
Registration status	X^2	6	1,459	8.55	= .200	Ns
Pay band (band 5, band 6, and 7, or band 8)	X^2	6	1,372	2.14	= .906	Ns
Number of years registered	X^2	14	1,408	11.01	= .685	Ns

A Pearson Chi-square test of independence was then performed to examine key demographic characteristics and support for health and well-being. Pearson Chi-square statistical significance was not found in any of the key demographic characteristics and support for health and well-being. To sum up, these findings suggest the availability of workplace resources and nurses' perceived support for health and well-being are linked, across the whole sample. This suggests that attention to any or all of these resources could influence support for nurses' health and well-being and build resilience.

4.6.7: Summary section four

This final segment of the questionnaire prompted the most mixed responses especially the helpfulness of organisational resources and support for health and well-being. Further analyses carried out indicated key workplace resources reported that could influence nurse's health and well-being. Debriefs following a stressful event and a line manager conversation were found to be statistically significant with a moderate effect size (Cohen 1988). These results suggest potential intervention opportunities.

4.7: Chapter 4 conclusion

This chapter has reported the quantitative results from the questionnaire to begin to answer the research questions. The responses and the demographic nature of the sample means that the results incorporate all bands, fields, sectors, urban and rural regions of nurses in Wales represents an extensive and combined range of location

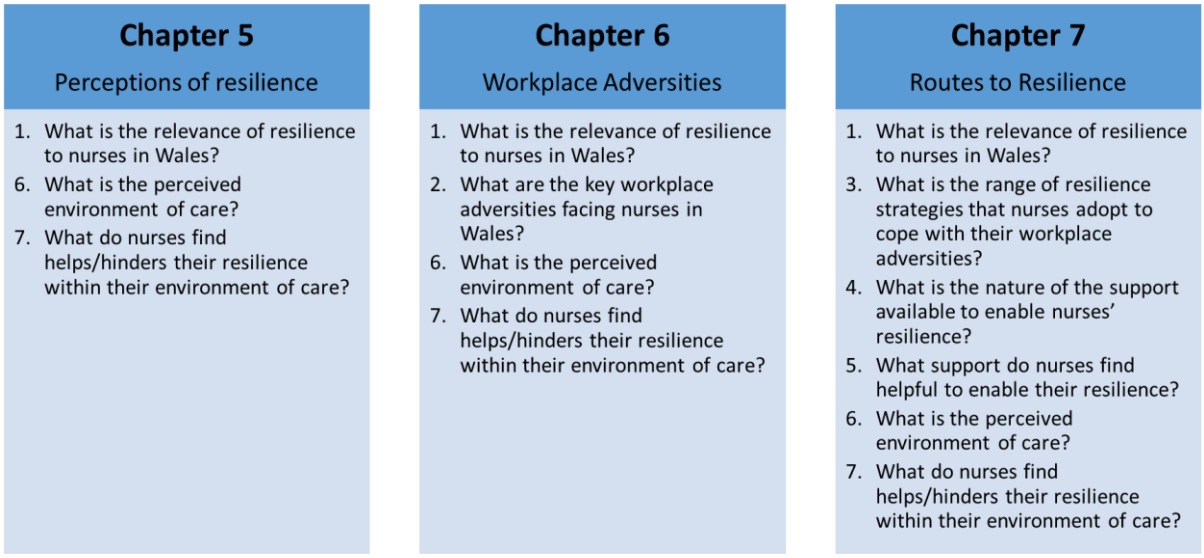
and experience. The results indicate the relevance of resilience to these nurses based upon the experience of their colleagues' resilience as well as their own. Results suggested that professional functioning of others was broadly influenced by resilience. Daily exposure to workplace adversities was commonplace, workload and resource related adversities were found to be statistically significant across the whole sample. Extensive personal coping strategies from drawing upon intrinsic resources were apparent but extrinsic resources were less clear due to the variation in availability between workplaces. Statistically significant links were found across the whole sample related to these nurses reports of well-being and specific workplace resources. The results could suggest that nurses' personal resources and strategies are relatively more consistent than external resources, suggesting potential intervention opportunities. A number of these findings will form the focus of the discussion. These results will be now explored further through the qualitative findings.

Chapter 5: Qualitative findings: Perceptions of resilience

5.1: Introduction: qualitative findings' chapters

The next three chapters will discuss the qualitative findings to answer the research questions. The optional free text responses to the open questions in the questionnaire about how these nurses experience and develop resilience in their workplaces will be presented. The main chapter themes and the research questions they address are outlined in Figure 6. The themes are both distinct and overlapping (particularly Perceptions of Resilience and Routes to resilience). The findings associated with the workplace environment, are dominant within the adversities theme but also embedded throughout. Hence some research questions more than others are addressed in all chapters. Each chapter has two sections encompassing interrelated themes and sub-themes. The relevant questions from the questionnaire (Appendix 6) will be stated in each section (see Boxes). First the overall responses will be outlined.

Figure 6: Overview of the three qualitative chapters aligned to the research questions



5.1.1: Outline of overall optional responses

The substantial number and range of the respondents' optional responses almost 8000 (7921) were analysed (subtotals, proportion word count and total), see also Appendix 19. The reflective responses had volume (88,501 words) depth, range, and negligible ambiguity. Differences can be seen between the responses; some questions

yielded a higher response rate than others for instance (Q3b) when asked regarding adversities that tested their resilience 65% (*N*=952) responded. Some responses were longer/shorter than others; no word limit had been set; one word could have impact (e.g., *environment*) whilst some wrote detailed clinical vignettes to explain what had tested their resilience (Q3c) (21,702 words). Similarly, the last question (Q10) that comprised three sub parts 63% (*N*=920) responded, which equated to 20,152 words. The number, relevance and consistency of responses gave a reassuring sense of the respondents' understanding and engagement with the study and the topic of resilience. In short, combined with the estimated completion time[33] these responses show that nurses in Wales think that the subject of their resilience is important.

5.2: Research question 1: What is the relevance of resilience to nurses in Wales?

5.3: Introduction qualitative findings 1: Perceptions of workplace resilience

This section addresses the above research question. Resilience was found to be relevant to help nurses cope with their work and performance, while lowered resilience was found could hamper nurses' performance. The two main sections are entitled: 1.) Perceptions of nurses who described their colleagues with resilience. 2.) Perceptions of nurses who described their colleagues with least resilience.

5.4: Section one: Perceptions of workplace resilience

5.4.1: Overview Perceptions of nurses who described their colleagues with resilience.

Based on question **1b** (below), the findings concerning the perceptions of nurses' colleagues **with** resilience will be presented below. A key finding was that resilience was perceived as a characteristic of their colleagues irrespective of role or experience, to help cope with stressful events and bounce back quickly after challenging times in work.

[33] Minimum 20 minutes 20 x 1459 = 60 days (based on 8-hour day).

Box 1

Question 1a. Think of a colleague that you would describe as resilient. From the list below indicate to what extent you agree (4 descriptive statements, on a 5-point scale from strongly agree to disagree with the following statements). Your colleague seems to…..

- Bounce back quickly after challenging times in work
- Copes with stressful events in work

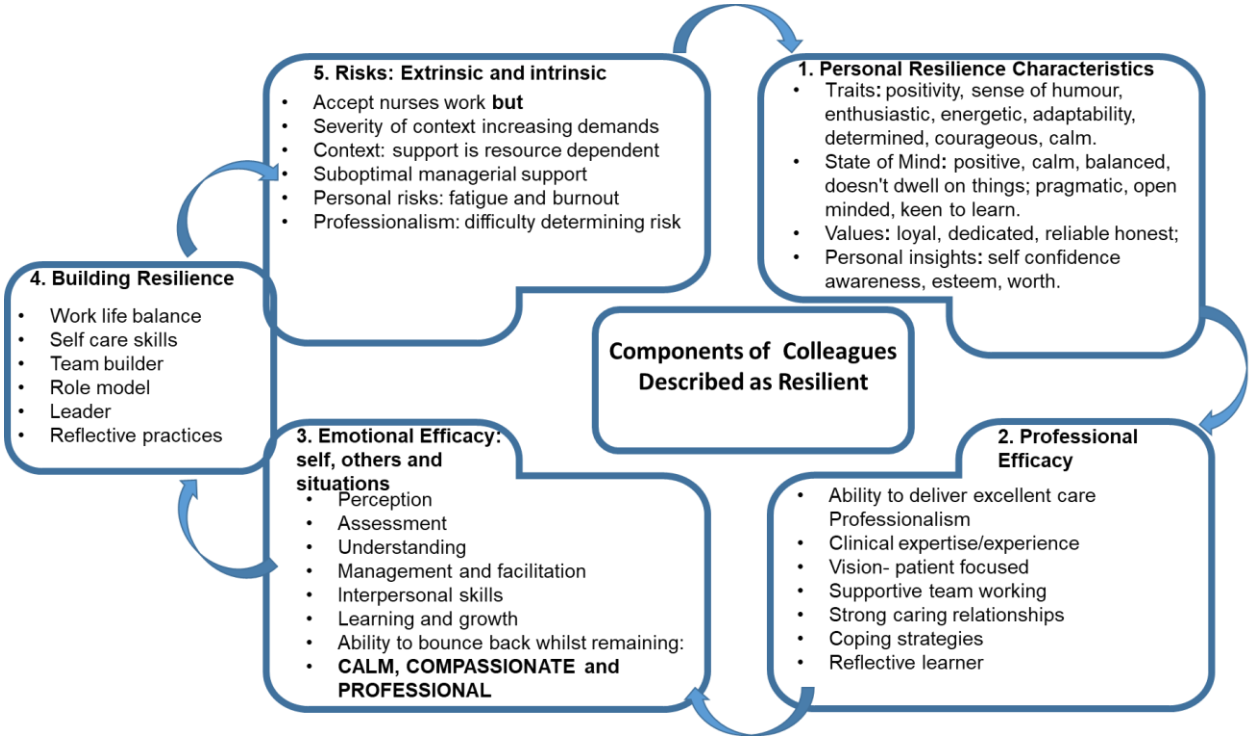
Question 1b: Are there any other ways you would describe your colleague not listed?

As the following sections will further explore, the focused responses[34] gave the distinct impression that respondents were keen to describe resilience, as they understood it, enacted within realities of practice[35]. Overall, it appeared that the complexities and the relevance of the concept were grasped, not merely repeating the popular received notion of resilience (such as "bouncing back"). Ambiguous responses (*N*=2) were negligible with misreading of the first question being the most likely explanation. There are five sub-themes listed below and further depicted in Figure 7 overleaf:

- Personal resilience characteristics: factors that protect nurses when exposed to adversity.
- Professional Efficacy: protective factors linked with performing effectively in accordance with NMC regulations, related to job satisfaction.
- Emotional Efficacy: protective factors that help emotional management to achieve professional efficacy.
- Building resilience: factors that help build resilience.
- Risks to resilience: factors that can threaten functioning and or development.

[34] Demographics of the respondents are depicted alongside the extracts **not** the colleagues described.
[35] Unless otherwise stated all responses refer to Question 1b

Figure 7: Overview: perceptions of colleagues described with resilience sub-themes



5.4.2: Personal resilience characteristics

This first sub-theme describes the respondents' perceptions of their colleagues' personal characteristics that serve as protection when exposed to adversity. The multitude of resilience characteristics were described within a professional context, . including personal traits (e.g., [36]*positive, cheerful, humorous, energetic, active, enthusiastic, resourceful, strong, intelligent, calm, and sensitive) and values* (e.g., *loyalty, commitment, determination reliability,* and *honesty*) in addition to personal awareness/insights (e.g., *self-confidence/belief*). While other characteristics were associated with a state of mind (e.g., *positivity, calmness, sense of perspective, sense of meaning, grounded, balanced, pragmatic, mature,* and *flexible*). Positivity/optimism motivation were most frequently recounted and calmness. Their colleagues' moods and attitudes were frequently described as contagious, could positively role model to others, including optimism, professionalism, strong connections, and work-life boundaries:

[36]Words within brackets in italic font depict the respondents' own words.

"Has positive relationships with peers and seeks support when needed. Glass half-full person! Does not take issues relating to work personally and can dust off issues when out of work" (45253288, RSCN, Band 7, DN, registered 31 years).

"Dedicated to patient care always professional discrete trustworthy loyal" (45308517, RGN, Band 7, ANP, Surgery[37], registered 25 years).

"Confident in her role and scope" (47837351, RGN, Band 7, CNS, Medicine, registered 28 years).

Grit determination and resistance were also often described, for instance to capture a colleague's resolve to enhance care provision despite barriers and another's simple portrayal of determination despite setbacks:

"She continually strives to raise standards and improve care despite the challenges of low staffing and opposition from others" (48063117, Adult, Band 7, CNS, rural community, registered 26 years).

"Calmly persistent in the face of disappointment" (47636581, LD, Band 7, CNS, across organisation, registered 32 years).

Others emphasised their colleagues' capacity to maintain perspective, to not ruminate, but being forward thinking, reflecting resilience as a dynamic process. Building on this, their colleagues' resilience in action were typically described such as their stability, composure, sharing of difficulties, protecting others and positivity:

"My colleague is grounded, able to move on – not dwell on things, forward looking" (45278026, RGN, Band 7, ANP, Medicine, registered 35 years).

"Balanced, talks openly when struggling and determined. Optimistic, Humorous, creative, calm and supportive..." (45253288, RMN, Band 7, Nurse Manager, Community, registered 24 years).

5.4.3: Professional efficacy

This second sub-theme describes the respondents' perceptions of their colleagues' professional efficacy that serves as protection when exposed to adversity, which attracted the most comments (almost one third of the total). A key finding irrespective of field, grade, post, or setting was that resilience was considered a professional outcome in keeping with NMC requirements. The typical extracts below emphasise

[37] Unless otherwise stated both "surgery" and "medicine " refer to surgical and medical wards respectively.

maintaining nursing values and optimum functioning when faced with workplace adversities:

> *"Able to hold a vision of why they do the job despite the challenges which impact their daily work" (47637605, RMN, Band 7, Charge Nurse, Community, registered 20 years').*
>
> *"Consistent and conscientious" (48045008, RGN, Band 6, Medicine, registered 10 years).*
>
> *"An amazing nurse!" (47970979, RGN, Band 7, CC, registered 18 years).*
>
> *"Exemplary" (47652243, RGN, Band 8a, Senior Nurse, across organisation, registered 30 years).*

Various factors underpinned this professional outcome. It emerged that the descriptions reflected the NMC Domains of Practice (2017). To help represent the volume of data, typical extracts are presented according to the NMC Domains below (Table 25).

Table 25: Professional efficacy extracts broadly presented according to the NMC Domains of Practice (2017)

1. Promoting professionalism and Trust
Professionalism and identity underpinned by professional vision often accompanied by knowledge and experience were frequently reported (e.g., *Patient focused; dedicated; driven; passionate; professional, experienced, knowledgeable*). Numerous examples of this professionalism in action performing or contributing to high quality care were shown.
2. Prioritising People:
The importance of prioritising others, in "*times of trouble*" particularly staff, to ensure delivery of care, was frequently described (e.g., *Patient is always their priority*; a*lways puts others before herself; supportive; approachable; understanding and sensitive*).
3. Practising effectively
The importance of effective practice was made explicit in various ways such as overall performance (e.g., *Expert; quality; fantastic; competent; highly skilled).* Also, reliability of performance *(e.g., Dependable; logical; organised; methodical* and *follows procedure*) particularly effective communication and working cooperatively (e.g*., Team player; communicates well)* whilst remaining compassionate *(e.g., Kind; caring; loveable*).
4. Preserving Safety
Maintaining safety and standards of care were clear indicators of resilience to the respondents. Various strategies to uphold safety were described despite challenges and contextual factors, for instance knowing limitations (e.g., *self-aware)* keeping up to date, ways of thinking/working (e.g*., solution focused, dynamic, considered, courageous, open),* in addition to managing resources *(e.g., prioritises important tasks, manages time well*) and own health and well-being resources (e.g., *Ensures work life balance*).

Reflective practice skills and self-awareness were often co-coded (e.g., *regularly reflects; self-aware, steps back,* and *reflects*). Moreover, able to reflect, address adversity and converts difficult situations into learning opportunities (e.g., *always finds a positive to hold onto*). In addition, the capacity to combine compassion, communication and developing resilience in others were identified as core skills of their colleagues:

> *"Positive and motivated individual to transform a challenging event into a learning opportunity. Encourages staff to discuss/reflect issues and support each other when work is stressful" (47645291, Adult, Band 6, Sister, rural Medicine, registered 15 years).*

> *"Hard working, willing to listen. Has empathy and understanding, knowledgeable, appreciates humour and able to communicate with patients their families and multidisciplinary teams" (48407995, RSCN, Band 5, Primary and Secondary care, registered 8 years).*

5.4.4: Emotional efficacy

This third sub-theme describes the perceptions of their colleagues' emotional efficacy that can serve as protection when exposed to adversity and stressful situations (e.g., *Conflict; crisis; difficult,* and *stressful*). A key finding was the confirmatory evidence of the stressful nature of nursing and the numerous enactments of resilience described (e.g., *cool; calm; collected; controlled; level-headed; even tempered; professional; patient; doesn't get flustered; no huffing,* and *puffing)*:

> *"She is adaptable, thrives with multiple demands and change and able to cope well in stressful situations" (476215031, RMN/RLD, Band 7, organisation wide, registered 26 years) [Q1b].*

These valued emotional management skills were described as a process seemingly mastered by their colleagues from exposure to adversities, as illustrated by the typical extract below:

> *"Experienced member of staff with years of nursing experience who has handled many stressful situations" (48065702, Adult, Band 5, Surgery, registered 2 years) [Q1b].*

Central to the resilience process being described were numerous skilled coping strategies (e.g., *problem solving; seeking help; talking; humour; dealing with issues; reflecting; timeout*) underscored by emotional efficacy (e.g., *expressing, sharing, compartmentalising,* and *rationalising emotions*). Skills ranged from accurately

perceiving emotions in oneself and others to effectively using emotions to function and maintain stability of functioning. These included understanding the complexities of emotions and complex situations, illustrated by numerous examples from differing fields, and grades:

> *"Good awareness of people and situations" (47619439, RMN, Band 6, Community, registered 15 years).*
>
> *"My colleague faces tasks practically, remains calm, compassionate and collected under pressure of work, able to communicate assertively and effectively with other team members to undertake and overcome difficult situations" (48208524, Adult, Band 5, Elderly Care, registered 4 years).*
>
> *"Remains focused and committed to work. Maintains emotional stability and sense of humour when under pressure" (45211034, Adult, Band 7, Surgery, registered 12 years).*

It was strongly conveyed the importance of coping, helping others, and simultaneously managing emotions of self and others whilst remaining compassionate, professional, and maintaining quality care. The typical examples below underscore these shared effects.

> *"She copes and is able to support others during stressful times" (48666752, Adult, Band 5, Surgery, registered 1 year).*
>
> *"Understanding - he has the ability to rationalise care decisions in challenging situations and helps to support those who can't. Enduring and proactive- he endeavours to promote change in the required areas and is persistent in his want to do so" (48169895, Adult, Band 5, CC, less than 1 year registered).*

Only a few isolated respondents referred to their colleagues as emotionally hardy (e.g., *tough, hard, thick skinned,* and *tends not to worry what colleagues think).* It would have been reasonable however to expect respondents to refer to their colleagues in this way as resilience can be portrayed as such. The importance of being able to combine these emotional stabilising strategies to enable professional efficacy were key findings throughout a large number and range of responses.

5.4.5: Building resilience

This next sub-theme refers to the respondents' perceptions of their colleagues' capacity to build resilience and personal growth overtime. A key finding was a sense

of acting as role models and respect for their colleagues, that building resilience was not easy involving a combination of varied strategies, including reflection and work-life balance.

> *"Takes time to step back and reflect after a challenging time to find a positive to hold on too" (48003562, MH, Band 5, Elderly Care, registered 5 years).*
>
> *"Balanced in terms of work-life, reflective. Ability to remain calm" (48960439, CYP/RGN, Band 5, Outpatients, registered 26 years).*

As previously touched upon, there was a powerful shared effect described of developing resilience in others.

> *"She is a level-headed person who is driven but wants to develop the team to their potential" (46532684, RGN, Band 8a, Senior Nurse, Primary Care, registered 28 years).*
>
> *"Professionally astute and grounded. Exudes a strong sense of purpose and leadership" (47903527, RGN, Band 8a, Secondary Care, registered 26 years).*
>
> *"Strong. Role model" (47623491, Adult, Band 5, School Nurse, registered 18 years)*
>
> *"Perceptive of others needs and supportive and able to share coping strategies" (47619439, MH, Band 6, Community, registered 15 years).*

Further factors perceived to build resilience are presented in Chapter 7.

5.4.6: Risks to resilience

This last sub-theme describes things that posed risks to their colleagues' resilience. A risk is a factor or feature that can threaten nurses' functioning and development. Key findings were the range of interrelated risks described that were particular to the healthcare context; and how lowered resilience can itself become a risk. Firstly, extrinsic then intrinsic risks will be presented.

From the volume of responses across all fields and settings, it was clear that nurses' work although potentially rewarding, is itself a risk and the workplaces where nurses experience resilience also are risks:

"Part of her role - we work in a stressful environment anyway so its par for the course" (46768111, Adult, Band 6, CC, registered 7 years).

"Freely accepts stressful challenging situations as routine part of her work" (45285930, MH, Band 7, ANP, Substance Misuse, registered 21 years).

"A professional under stress" (45936000, Adult, Band 5, Surgical Day Unit, registered 29 years).

Respondents across a range of settings frequently referred to demanding workplaces that were often outside nurses' control, including acute (unpredictable patient flow) and chronic demands:

"Challenging good and bad days and situations in the department. Especially with 4-hour target and patients not moving from the department- still in department more than 12 hours" (47323243, RGN, Band 6, rural Medicine, registered 32 years).

"My colleague has a demanding job with changing priorities. She is a coper on the outside but sometimes I worry that she has too much on her shoulders and looks ill so I am not sure if she bounces back. It is also not a matter of bouncing back after one stressful situation because the demand on her is continuous" (45197943, RGN, Band 7, CNS, registered 14 years).

"Demotivated by working short staffed on a daily basis" (47625911, Band 8a, Nurse Manager, organisation wide, registered 28 years).

Despite such chronic risks, many respondents described how their colleagues endeavoured to overcome them, with time constraints frequently cited:

"A supportive, caring, fantastic nurse who has to constantly juggle lack of time day after day" (47673181, RGN, Band 6, Private Nursing Home, registered 6 years).

Importantly, a key risk to their colleagues perceived as resilient was suboptimal support particularly from management. This was expressed consistently and emotively, across pay bands, including bullying:

"Supportive of other staff but does not seem to have a senior member of staff to support her. Her employees try to support her (45214067, Adult, Band 8a, NP, Primary Care, registered 36 years)

"The only time I've witnessed my colleague not to be resilient is when she felt unsupported by her senior nurse" (48084331, CYP, Band 7, ANP, registered 21 years).

> *"There is no support from managers anymore! We go to work ill as you feel guilty if you don't go in which makes you feel worse staff shortages and all the added stress of daily life on top management only worry about their staff numbers nothing else (47656289, Band 5, Surgery, registered 11 years)*

> *"Highly competent senior nurse. Bullied and undervalued by management to a point where they expect to fail" (4580490, Band 8b, Nurse Manager, registered 21 years).*

This sub-theme related to sub-optimal support will be discussed further in section 2.

Linked to these extrinsic risks were also intrinsic risks impacting the resilience of their colleagues were described. One aspect was the capacity to conceal emotions and to put on a brave face, to meet professional and workplace expectations, but two other associated issues emerged. That is the difficulty determining warning signs of stress and risks to their colleagues' resilience, due to this risk of self-deception. Furthermore, the ongoing chronic risks from concealing emotions, potential stress and detrimental impact on their colleagues' well-being, including their personal lives for instance:

> *"A coper on the outside" but "makes sure her colleagues are coping and tries to hide the fact that she is stressed herself ... struggling underneath" (45197943, Adult, Band 7, Specialist Screening Practitioner, registered 34 years).*

> *"My colleague can remain professional at challenging times. My colleague always shows strength to her team. However, this may not be the case out of work. Maybe all a front to stay strong…Does not let the effects show whilst in work. Outside of work, well that's another story (45136866, CYP, Band 6, registered 6 years).*

Linked to the above there were frequent descriptions of "resilient" colleagues' depletion of reserves from this burden of coping (e.g., *worn out; demoralised; disheartened; fed up; living on borrowed time; out of fuel; worn-out;* and *burnt-out*).

> *"Generally, copes very well with stress but at times has generally just had enough" (47635233, Band 6, Surgical CNS, registered 34 years).*

> *"A year ago, my answers would have been different, she would have bounced back quicker I am not sure she can now" (45767778, Band 8a, Adult, Lead Nurse, registered 33 years).*

Clear concerns were conveyed that their colleagues' resilience was threatened due to increasing workplace demands:

"I'm not sure she bounces back as she once did" (46871681, Band 7, Ward Manager, Surgery, registered 30 years)

"Depending upon the severity of the stressful event it can affect one at a deep level and destabilise confidence despite their resilience" (45273679, MH, Band 5, Agency, registered 39 years).

The above extracts suggests that despite a display of resilience the potentially traumatic nature of nursing can have profound destabilising effects on individuals. Of relevance, emotional stability is considered core to resilience of which confidence is key. The last extract, which is one of many examples suggests that resilience can fluctuate. An impression of resilience being a process, a finite resource, which can be eroded rather than acting as a static personal reserve. The potential accumulative effects of such risks to resilience were translated into detrimental career outcomes for some for example:

"She appears to cope but on discussion doesn't cope as well as thought, now has handed in her resignation" (4789285108, RGN, Band 5, Private Nursing Home, registered 39 years).

There were frequent descriptions of escalating risks and fluctuating capacity of some colleagues indicating a temporal trend of declining capacity and erosion of resilience more generally in the workforce:

"The colleague I am thinking of has been qualified for 24 years, only recently finding stressful situations occurring more frequently" (48029973, Band 7, CNS, Primary Care, registered 32 years).

"This colleague used to cope well but I see a deterioration due to increased pressure and workload" (47130219, Band 5, Medicine, registered 12 years).

The next chapter will present findings concerning adversities and risks to resilience.

5.4.7: Summary section one: Perceptions of colleagues with resilience

This opening section addressed the first research question to understand the relevance of resilience to nurses in Wales by presenting these nurses views of a colleague perceived to be resilient. The resilience dimensions generated from the data were presented, which broadly accorded to the NMC Domains of Practice (2017). Resilience was perceived as clearly recognisable in their colleagues as a positive capacity that was necessary to cope with nurses' stressful work. These nurses

considered professional functioning of others, and career sustainability were broadly influenced by resilience underpinned by emotional efficacy. Various dynamic resilience capacities built from exposure to stressors were described. These capacities were perceived as contagious and could be role modelled. Risks to resilience were however also described, suggesting a temporal trend concerning a declining capacity in their colleagues' resilience, related to known workplace stressors indiscriminate of nurses' experience. To note, these nurses were describing colleagues that they perceived possessed **resilience**.

5.5: Section two: Perceptions of colleagues with least resilience

5.5.1: Overview perceptions of colleagues with least resilience

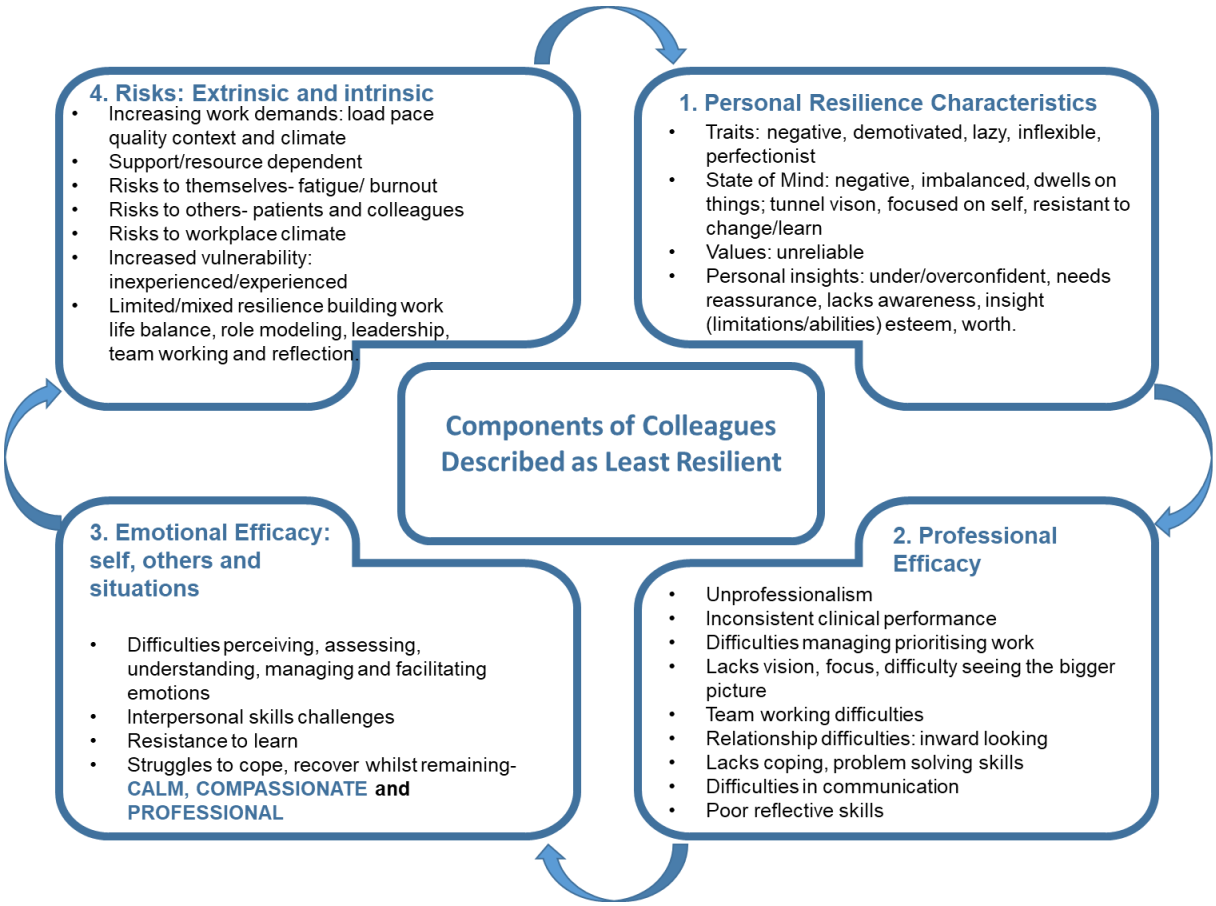
In the next section the findings concerning perceptions about the respondents' colleagues with least resilience will be presented based upon question **2b** below.

Box 2
Question 2a: Resilience can vary. Thinking of your previous answer, consider now a colleague who you think has least resilience. From the list below indicate to what extent you agree with the following 8 statements on a 5-point Likert scale ranging from strongly agree to disagree
Question 2b: Are there any other ways you would describe your colleague not listed?

Almost 300 examples of the respondents' perceptions of their colleagues with least resilience were described. From detailed analysis, synergy was apparent with the former emergent resilience dimensions describing colleagues with resilience. Here, however, the reverse was illustrated in colleagues who were described as often struggling to be resilient and the difficulties this evoked for themselves and others. The range of indicators presented are not intended to put any judgement upon these nurses but instead to understand the subtleties of resilience and support that nurses may require. Emotional efficacy difficulty was the largest sub-theme, whilst building resilience was rarely mentioned, so this was considered a risk hence this was encompassed into the risks sub-theme. Each of the four sub-themes will be presented consecutively: Personal Resilience Characteristics, Professional and Emotional

Efficacy then Risks to resilience. Figure 8 below depicts an overview of the findings in this section[38]

Figure 8: Overview: perceptions of colleagues described with least resilience sub-themes



5.5.2: Personal resilience characteristics

The juxtaposition of colleagues described as having resilience placed next to those with least resilience showed personal protective characteristic deficits. This was an important finding and includes traits (e.g., *negative, pessimistic, disinterested, lazy, demotivated, unstable, insensitive, unhappy; sad,* and *inflexible*), inflexibility in their approach to work (e.g., *rigid; stubborn; "by the book" tunnelled vision; one dimensional; no give and take; critical of others; perfectionist; high expectations of self and others*; *black and white- no grey*); lack of awareness of others (e.g., *self-centred*; *lacks insight; inward looking*) and attitudes to change (e.g., *resistant; struggles;*

[38] Unless otherwise stated all responses refer to Question 2b

dislikes change, stuck in their ways; difficulties handling change). Flexibility is a known resilience factor yet being overly flexible was also a concern, for example:

> *"Works really hard for the benefit of others. Takes on well over her workload, seldom goes home on time, incredibly flexible to meet others demands- to the point of self-destruction" (45215074, RGN, Band 6, CNS Community, registered 14 years).*

In contrast to previous positive perceptions of nurses possessing resilience, these nurses were often described negatively (e.g., *glass half-empty person; pessimistic; defeatist; complainer; moaner doesn't enjoy* work). Again, these nurses' moods and attitudes were described as contagious, but of concern here was the overall negative effect (e.g., *affects morale*; *unsettles the whole team*):

> *"Continuously complains about the job, the patients, her colleagues...I don't know why she is still nursing!" (46871681, RGN, Band 7, Surgery Manager, registered 30 years).*

Throughout it was shown that such colleagues were not perceived as calm but emotional (e.g., *unstable; emotional; anxious; agitated; angry and dwells on things* as well as *struggles to gain perspective*). Lack of motivation was frequently linked with negativity (e.g., *unmotivated doesn't enjoy work; fed up; demoralised; despondent; disillusioned; dismissive* and *disinterested)* and lacking energy (e.g., *drained; weak;* and *no stamina*). Similarly, personal values contrasted considerably with colleagues described as possessing resilience e.g., *demotivated and unreliable*. However, the perceived causes of demotivation, for some nurses was being at odds with contemporary healthcare:

> *"They hold an opinion about how patients should be treated which is at variance to the current direction the NHS is heading and struggles to meet the changes imposed on them" (47637605, RMN, Band 7, Community, registered 32 years).*

Personal difficulties were also frequently reported (e.g., *lack of insight, poor self-esteem; over critical of self* and *over/under confidence*). Confidence was a frequent concern; lack of confidence (e.g., *insecure; low self-esteem/morale; dithering; indecisive; unsure; uncertain; disempowered,* and *no say/control*) and low belief in their abilities (e.g., *needs constant reassurance* and *lacks assertiveness*):

> *"Constantly worrying that work is beyond their capabilities" (45201888, Adult, Band 5, Primary Care, registered 31 years).*

"Own worst enemy being overcritical of herself (48063117, LD, Band 7, Community CNS, registered 32 years).

"Fantastic colleague, supportive to myself and others. Needs to have confidence in herself and her actions" (47656553, Band 7, Surgical NP, registered 29 years).

Sometimes, where inexperience was noted with terms used such as *immature/young* these colleagues were described as both *under/overconfident.* Furthermore, blaming, being critical and lacking confidence in others was also mentioned but being willing to receive support to help build confidence was challenging for some.

"They have to oversee every area of the work environment and lack confidence in the abilities of others" (47619942, RMN, Band 5, Agency, registered 8 years).

"Always complains about others performance deflecting their own. Critical not constructive" (48960439, CYP/RGN, Band 5, Outpatients, 26 years registered).

"Looks to gain support and reassurance that the problems are not her fault. Feels belittled and bullied at times" (48036941, RGN, Band 6, CNS, Outpatients).

It was not surprising that the descriptions of low resilience were the reverse of colleagues with resilience (e.g., negative versus positive) and were not necessarily considered desirable in a colleague. However, complexity prevailed in that some features were "double sided" which reflected both high and lowered resilience including popular descriptions of nurses (e.g., *lovely; kind; caring; hardworking; busy; intelligent; tired*). Likewise, factors perceived to help, or hinder resilience could be the same (support) and again appeared dependent upon the co-existence of adversities and personal reserves. The extracts below suggest that explaining resilience is not straightforward due to its subjective nature:

"These 2 questions are difficult to answer "(48082873, Adult, Band 5, CC, registered 2 years).

"I think it depends on the nurse some may answer strongly disagree to all questions where others I would strongly agree with. I think all aspects of nurses' lives and experiences have an impact on how resilient they are on a daily basis and how often they deal with challenging situations" (46248773, MH, Band 5, registered 2 years).

"However, I may feel they aren't resilient but they may feel they are" (45136866, CYP, Band 6, Medicine, registered 6 years).

5.5.3: Professional efficacy

This second sub-theme illustrates professional performance associated concerns about their colleagues. The descriptions again broadly fell according to the NMC (2017) Domains of Practice[39]. However, these data are not presented in a table as previously (Table 25), because the responses were frequently more than one-word statements. Some perceptions of unprofessional behaviour of colleagues were also recounted, which could threaten upholding public and/or professional trust, for instance:

> *"Forgets to act in professional manner occasionally when out in public" (45133777, Band 5, CYP, Community, registered 9 years).*
>
> *"Very social divulges personal information" (47619428, Band 6, Deputy Sister Surgery, registered 10 years).*
>
> *"Frequent temper loss. Moody unsettles the whole team. Causes dignity at work issues. Difficult for people to respect her" (48082219, Band 6, Surgery, registered 5 years).*
>
> *"Sometimes appears rude. Undertrained for her role but has not taken this forward" (45283153, Band 6, Theatres, registered 16 years).*

Frequently colleagues were perceived to be indifferent to other people's issues whilst others prioritised other people and absorbed extra work but to the detriment of their own resilience:

> *"Self-absorbed. Only cares about their own immediate problems" (47425632, Band 7, Community, registered 15 years).*
>
> *"This colleague takes on more than necessary to be kind and a good team member. However, this can cause anxiousness and irritability" (45136866, CYP, Band 6, registered 6 years).*

The range of responses highlighted suboptimal professional functioning, particularly managing workload and prioritising (e.g., *scatty; disorganised [in work and her personal life*]; *multi-tasking; fixates on irrelevant tasks; delegating; letting go; decision making; time management; team working; knowledge; awareness of others,* and *situations*). These responses were not surprising perhaps given the aforementioned

[39] NMC (2017) Domains of Practice: Promoting Professionalism and Trust, Prioritising People, Practising Effectively and Preserving Safety

workload demands but unreliable performance was highlighted by some (*inconsistent; complacent*).

> *"Poor time management skills. Bad at prioritising workload" (46838805, Adult, Band 5, Surgery, registered 5 years).*
>
> *"Extremely overanxious and refuses to delegate tasks to anyone which means they are trying to do everything at once and becomes overwhelmed with stress. Time management then is a struggle (48557759, Adult, Band 5, CC, registered 1 year).*
>
> *"Lacking confidence, knowledge and skills in current role (48409661, RGN, 8b, Unscheduled Care, registered 32 years).*

The difficulties that colleagues experienced in communicating effectively and appropriately were described frequently. Ranging from the nature and overuse of voice (e.g., *vocal, loud, dominant, disruptive, opinionated, outspoken*, *talks at you not to you, complains a lot, moans to everyone,* and *escalates minor issues)* to a lack of voice (*e.g., misunderstood, quiet, timid,* and *afraid to speak out*):

> *"She constantly escalates minor issues to a Band 8 manager instead of discussing with colleagues" (47634962, RGN, Band 7, SPN, registered 32 years).*
>
> *"Often becomes angry, complains and moans about many things, to as many team members as possible which can escalate what should be minor problems" (47681116, Band 6, Operating Theatres, registered 14 years).*
>
> *"Very vocal - complains a lot and tries to engineer things like patient allocation to make own life easier. Her manager actually allocates some of her working hours to other tasks as can be quite problematic" (45679249, Adult, Band 7, ANP, registered 27 years).*

Connected to this lack of voice was an impression of futility in their colleagues (e.g., *energy low due to perception not being listened to; heard but not responded to; bullied; feels disempowered;* and *forthright but frustrated by the way things are managed*).

Un-collaborative working was also described, including team working (e.g., *aloof, distant, unapproachable, challenging, difficult,* and *negative*) and team morale (e.g., *dominates, drains, disrupts, demotivates, disheartens, unsettles, and stresses others*). Also, work responsibilities (e.g., *unwilling to take responsibility, lazy, avoidant, works to rule,* and *doesn't help when others struggling*), team relationships (e.g., *isolated; doesn't attend meetings, not liked, feels unsupported, intolerant and insensitive, not*

appreciative of others, critical, personalises everything, accusatory, as well as *causes conflict*), and being managed (e.g., *works best alone* and *ignores advice/criticism*):

> *"Very negative. Struggles to put a positive spin on anything. Sucks the life out of the workplace (47791470, Adult, Band 5, registered 22 years).*
>
> *"Aloof challenging. Finds fault with everything. Makes others in the team feel disheartened and causes conflict of opinion" (47670483, CYP, Band 6, registered 25 years).*
>
> *"Overconfident about their abilities- takes on too much work, then goes off sick, resents being managed - accuses managers of bullying" (47971315, MH, Band 7, registered 30 years).*

Preserving safety concerns included not maintaining knowledge and skills (e.g., *undertrained, nervous of new things, thinks things are brought in for the sake of it,* and *lacks reflective skills resists feedback*) and personal health (*self-care well-being issues*):

> *"Works outside role parameters despite support and guidance to the contrary" (45193100, Adult, Band 7, CNS, Medicine, registered 23 years).*
>
> *"Doesn't look for opportunities for self- development, is not self-aware of poor coping strategies" (45267750, Band 5, CC, registered 40 years).*
>
> *"Experienced in their role (been at it long time) but not kept abreast of the modern NHS; patient flow issues, and changes, no recent education (apart from re-validation which has been a motivator for many staff)" (46872334, Band 7, CC Sister, registered 32 years).*
>
> *"Poor well-being, reflective skills, stressed" (45412715, MH, Band 7, Professional Development Nurse, registered 4 years).*

Contrary to the consistent descriptions of nurses described as displaying resilience, these respondents described the professionalism or vision of their colleagues with least resilience only rarely.

5.5.4: Emotional efficacy

This third sub-theme covers the respondents' descriptions of their colleagues' emotional efficacy difficulties. Being *overwhelmed*, *stressed,* and *struggling to cope* were recurrently described with associated emotions (e.g., *on edge; brittle, nervous; manic; emotional; volatile, short fused; easily anxious; rude and unpredictable,* and

everything's a drama). It was clear that respondents perceived some colleagues struggling to combine calmness, compassion and professionalism whilst delivering/contributing to quality care:

> *"Gets in a flap everything is a crisis" (47981715, Band 7, SPN, registered 30 years).*
>
> *"Kind caring and knowledgeable but doesn't deal with stress well or positively" (46490665, Adult, Band 5, DN, registered 16 years).*
>
> *"Very caring and knowledgeable. But gets overwhelmed and subsequently either tearful or rude" (47621904, MH, Band 7, ANP, registered 23 years).*

Specific transitional risks for new registrants were also highlighted (e.g., *struggles to accept or ask for help* and *idealistic sensitive caring)*:

> *"Recently qualified team member a single parent hence flexibility problems adding to the stress already under" (48065702, Band 5, Surgery, registered 2 years).*
>
> *"She's just qualified and gets very worried before starting the shift, but once there with the team, getting handover she calms (48664021, Band 5, Medicine, registered 1 year).*

Struggling to manage feelings were variously described (e.g., *irate, angry, frustrated, sensitive, anxious,* and *vulnerable*), behaviours (e.g., *doesn't deal with stress, doesn't bounce back, panicky, busy, manic,* and *flustered*) and thoughts (e.g., *feels unsupported, takes everything to heart/personally, a very negative person that thinks the world is against them, often, it's a team issue- not personal, thinks they are the victim,* and *hard done by*). In addition, to difficulties understanding complexities between emotions and situations (e.g., *gets emotionally involved, petty,* and *moody*) for example:

> *"Not emotionally savvy about themselves and lacking emotional intelligence at work" (45246435, Band 7, SCN, registered 28 years).*
>
> *"Displays non-verbal signs when not showing resilience- agitated short tempered, frowns a lot" (40604060, Adult, Band 6, CC, registered 14 years).*

Respondents did not consider these nurses possessed the emotional agility of their colleagues with resilience (e.g., *closed/contained; not able to share, compartmentalise or rationalise emotions; bounces from one crisis to the next; doesn't bounce back from*

difficult scenarios), including difficulties recognising emotions in self/others and effectively using emotions to professionally function:

> *"Short fused, opinionated and insensitive to others" (46328572, MH, Band 6, Acute, registered 4 years).*

> *"Gets easily stressed at times of great emotion" (47881603, Adult, Emergency Admissions, registered 29 years).*

These descriptions from varying contexts indicated that colleagues perceived several coping difficulties. Often, strategies that their colleagues employed caused concern (e.g., *avoids dealing with issues*/others and *isolates themselves)* whilst others were *defensive* often *blaming others, and forthright/challenges/criticises but stressed by how things are managed.* In contrast, others were perceived as being too conscientious and home issues were also noted (e.g*., worrier, sensitive, hard worker, takes on too much work, feels they need to do it all, supporting others, unrealistic expectations,* and *home problems*). Going *off sick* also as a protective response to stress was recounted:

> *"Emotional, very anxious, frequently off sick tends to be unreliable at times, quality of work variable" (46784931, RGN, CC registered 32 years).*

> *"Work absence possibly above average" (47714018, RMN, Band 7).*

> *"Annual episode of sickness of one month for various reasons" (46271958, RGN, Band 7, Outpatients, registered 25 years).*

It was interesting that some of the Band 7 extracts above who probably manage sickness and resultant nursing shortfalls used the language of sickness monitoring. Building on this many of these colleagues were described as requiring considerable support but unable to support others (e.g., *needy* and *constantly needs reassurance*) a key message was that they "*stressed other staff"*. The opposite to their colleagues with resilience who were supportive of others and reduced workplace stress:

> *"Stress beads stress persona – affects others if they are struggling especially as in a leadership role" (40606396, Adult, Band 6, CC).*

> *"Takes a long time to build trust and rapport and then becomes dependent to the point where they have gone off with stress when a colleague, they rely on has been on long-term sick leave" (47624994, RGN Operational Lead Nurse, across organisation, registered 24 years).*

A deterioration in their colleagues' emotional state was linked to how well they were perceived to cope with demands, and the detrimental effects on themselves, and others as well as the care context. Despite the perceived difficulties described there was a consistent message that resilience was perceived as a positive professional requisite that nurses strive to master to help cope with their work, for instance:

> *"I don't work with anyone who has little resilience. Most nurses seem to develop resilience" (45144192, Adult Band 6, Practice Nurse, registered 2 years).*

5.5.5: Risks to resilience

In this final sub-theme, the interplay between extrinsic and intrinsic risks to resilience are covered. Extrinsic risks were widely described as the perceived reasons for their colleague's lowered resilience: workload and lack of resources rather than nursing care per se:

> *"Leads the team but without enough staff and resources. Struggles to maintain control. Takes work home and works extra hours. Does not bounce back after a challenge" (45144192, Adult, Band 5, Practice Nurse, registered 2 years).*

> *"Very caring. Always goes that extra mile- worries when things are difficult for patients and staff" (46012082, RGN, Band 7, CNS, Community, registered 26 years).*

Community support issues were additional risks further described (e.g., *feeling unsupported, ignored, lack of appreciation/respect, concerns heard but no one is listening, organisation doesn't listen, unsupported due to scarce resources,* and *management systems*). Bullying was once again described in some cases:

> *"They try their best but morale is low and the ward seems to constantly face criticism which makes it hard to stay motivated" (45212098, Adult, Band 6 Surgery, registered 5 years).*

> *"She does not appreciate/or show her appreciation of her staff" (48045573, Adult, Band 5, Nursing Home, registered 32 years).*

> *"Has health issues, management not always sympathetic" (45852347, RGN, Band 5, Theatres, registered 30 years).*

> *"As I work in a nursing home, I find some carers have no motivation at all. Some are very resistant to work over and above and lack motivation. The manager is aware of this, but reluctant to deal with*

the situation" (45191412, Band 5, Rural Nursing Home, registered 12 years).

"Others are jealous of her and bully her" (47634736, RLD, Band 6, Assessment unit, registered 10 years).

Such descriptions reinforced the strong previous message seen in colleagues with resilience that these other nurses' resilience was lowered due to increasing workplace demands *in the current climate* as opposed to personal coping. These responses suggest once more that these nurses' resilience had once been higher and a temporal trend of declining capacity and erosion of resilience more generally in the workforce:

"My colleague struggles to cope with workload and extra pressures she used to find relatively easy" (46235496, RGN, Band 6, CC, registered 24 years).

"Behaviour changes depending on the demands of the shift and pressure of beds" (46844559, RGN, Band 7, CC, registered 9 years).

"I feel all the staff in our team have days where they are sad irritable feel like a failure because you are so busy you are constantly thinking of the next task" (47628798, Adult, registered 5 years).

Frequently, perceived was the toll of caring on their committed colleagues and the erosion of their personal reserves becoming a personal risk. Fatigue is a key indicator of burnout. Stress, fatigue, and exhaustion of coping mechanisms were described variously (e.g., *stressed*, *low; tired; exhausted; worn out, run off their feet; drained, disillusioned, fed up with the system; ready to give up, tired of trying; at the end of their road; indifferent; disinterested; dismissive; burnt out*):

"Overwhelmed with workload. Simply cannot cope" (45996629, RGN Band 7, Ward Manager Surgery, registered 24 years).

Intention to leave behaviours were described and the pressure to maintain a professional "face" that does not easily encourage nurses to expose their vulnerabilities was reinforced:

Wants to leave her job but fears another job could be worse; they get tearful (46073427, RMN, Band 7, Rural Community, registered 30 years).

"Very vulnerable but does not like to show it on the outside" (46066014, RGN, Band 7, Continuing Care, registered 29 years).

The secondary personal risks of trying to reconcile work demands and the potential accumulative effects to resilience were clear. Longer-term strategies (e.g., work-life balance) to build resilience in themselves and/or others was noticeably absent (e.g., *Imbalanced in their work and in their personal lives*). These perceptions are concerning, when many colleagues with resilience were perceived to prioritise, resilience building strategies. This adds to understanding resilience as a process, a finite resource which can be eroded, which led to the conclusion that helping these nurses to restore depleted reserves could help their resilience.

5.5.6: Summary section two: Perceptions of colleagues with least resilience

The data related to the respondents' perceptions of their colleagues with **least** resilience have been presented structured by the emergent resilience dimensions broadly according to the NMC Domains (NMC 2017). These colleagues were perceived to lack resilience factors that can protect against adversity. Again, these nurses considered professional functioning of others, was broadly influenced by resilience but in this case suboptimal functioning. Fluctuations in resilience were perceived that it cannot be assumed as a finite resource, irrespective of experience, further complicated by nurses' professional "face". Of concern, compared to nurses perceived to have resilience these other colleagues could be considered to have reduced reserves. These colleagues were described in contrasting and sometimes contradictory and conflicting ways, embodied within practice. However, these findings consistently suggested that resilience was perceived as a strength of nurses that they strive towards to help cope with their work. Many similarities emerged as the risks previously perceived in nurses **with** resilience; however, the tensions were more apparent and potentially detrimental including contagion of lowered resilience.

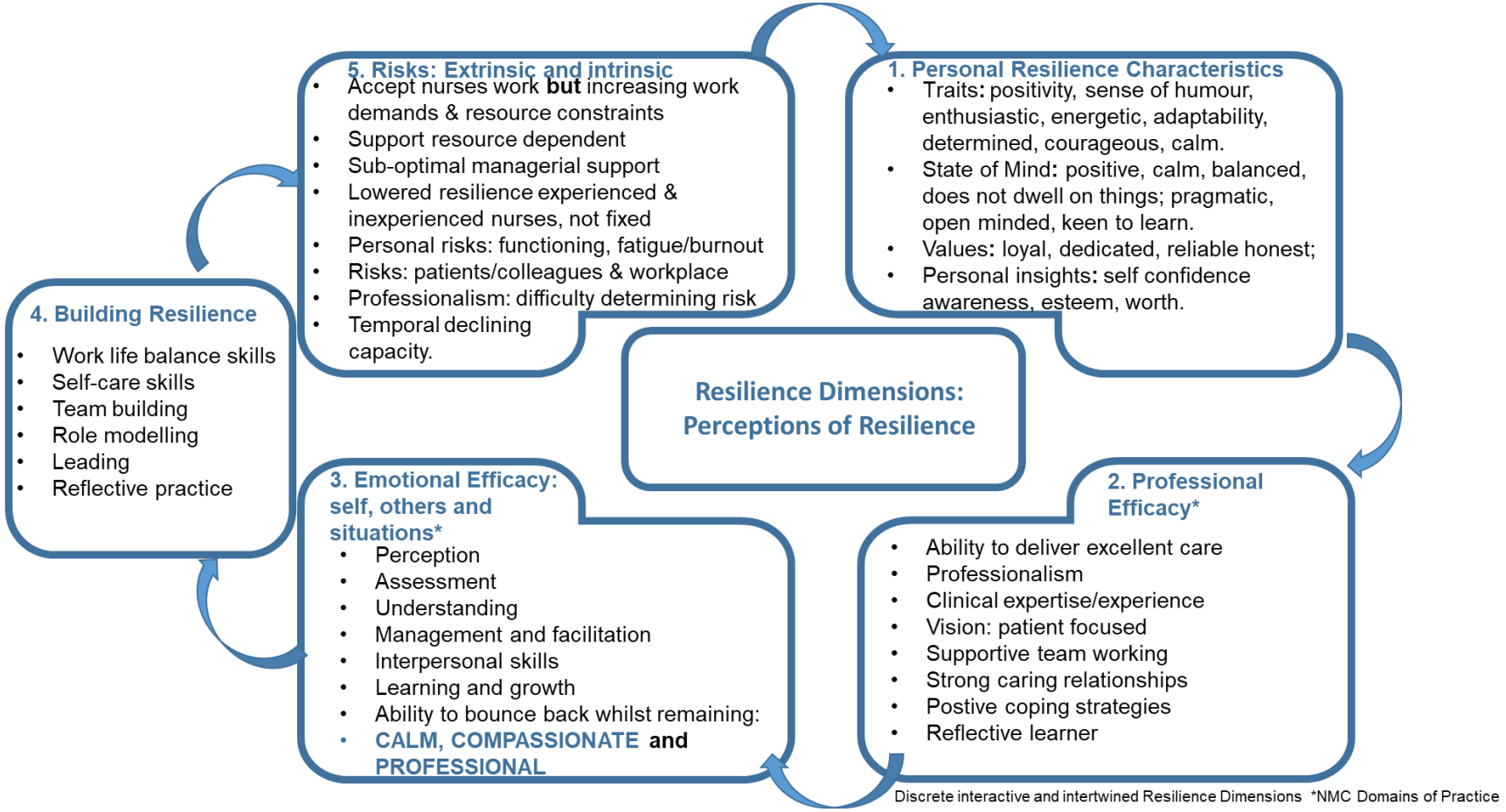
5.6: Chapter 5 conclusion: Qualitative findings 1: Perceptions of workplace resilience

This chapter addressed the first research question to understand the relevance of resilience to nurses in Wales by presenting these nurses perceptions of their differing colleagues as resilient and least resilient. The hundreds of examples of resilience in action showed that it is relevant based upon their experiences of their colleagues' enactment of resilience. A strength that nurses strive to build to help manage occupational stressors and career sustainability. To stabilise their own and the

emotions of others to deliver quality calm care, whilst under stress but the reverse was perceived in their colleagues with lowered resilience. Yet high or low resilience could be shared. These outcomes are easily recognisable; nurses know who can be resilient and who are not despite the complexity of resilience it appeared understood tangible and part of these nurses' lives. The multiple protective characteristics made up the inductive resilience dimensions that broadly accorded with regulatory requirements (NMC 2017).

Resilience was perceived as a finite resource, which can fluctuate be eroded rather than fixed. A temporal trend concerning a declining capacity in nurses' resilience was broadly evident, due to perceived increasing workplace demands indiscriminate of nurses' experience, suggesting high risks of depleted personal resources in some. This led to the understanding of the value in exploring risks and protective factors in combination so they can be negated. Findings related to adversities will be discussed next. Depicted overleaf is a summary of this chapter's insights, which will be built upon in the thesis. The risks to resilience in the next chapter, then the dimensions will be further explored when the respondents' report on their own (Chapter 7).

Figure 9: Summary Findings: Perceptions of workplace resilience



Chapter 6: Qualitative findings 2: Adversities within environments of care that can impact resilience.

6.1: Research question 2: What are the key workplace adversities facing nurses in Wales? Research question 6: What is the perceived environment of care? Research question 7: What do nurses find helps/hinders their resilience within their environment of care?

6.2: Introduction

This chapter focuses on adversities in these nurses' everyday work to answer the research questions above. The findings from the questions: **3bc** and **3d** (Box below) will be presented. Key findings were that exposure to adversities was not atypical, but the norm often revealed were the distressing nature of the adversities and workplace environments. These nurses' fortitude to deliver quality care to overcome the adversities and build resilience was self-evident. The two sections of the chapter reflect the questions and are entitled: 1.) Adversities and 2.) Tests of resilience. Each section has key interrelated sub-themes which will be outlined in the overview of each section and discussed in turn.

BOX 3
Question 3a:
Resilience can help you cope with adversities, but adversities can also build resilience to face future challenges. Think of your everyday work and consider how often you experience the types of adversity listed below (patient care, workload, resources interpersonal) on a 5-point scale.

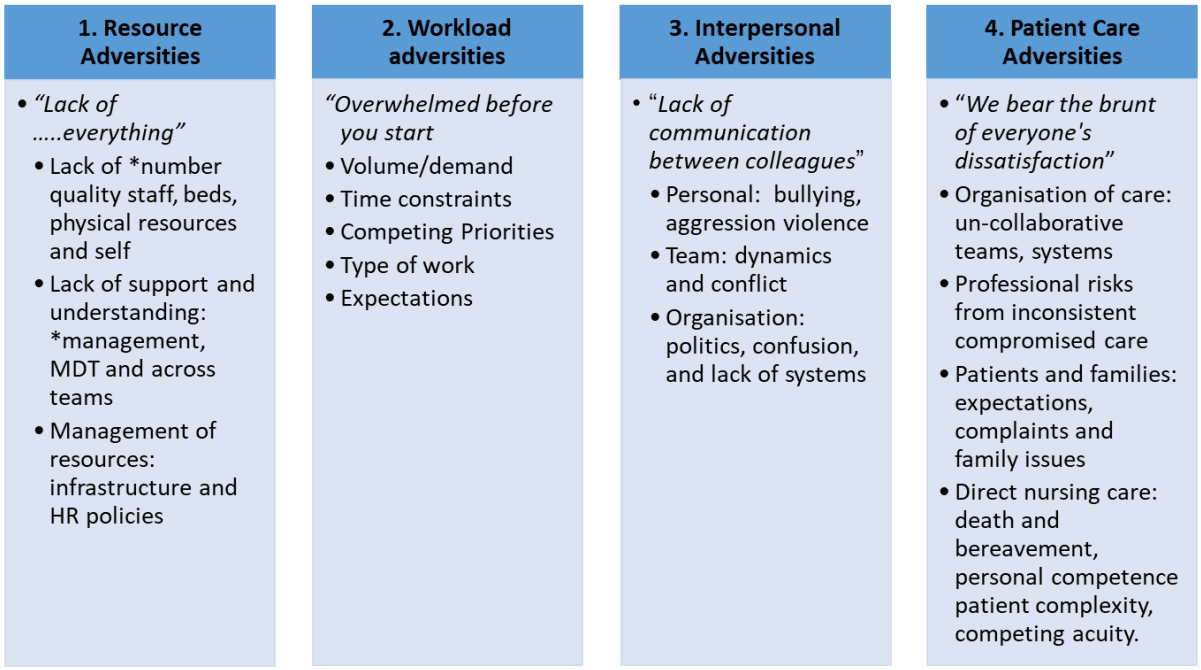
Question 3b: Please add any other types of adversities you encounter in your working day.

Question 3c: Thinking about your previous answer, can you think of any of the adversities that tested your resilience?

Question 3d: If you answered YES Please specify the general nature of the adversity that tested your resilience.

6.3: Section one: Adversities

Figure 10: Overview section one: Adversities



6.3.1: Adversities overview

The figure above depicts an overview of this first section's themes, the respondents reported experiencing adversities that were not atypical but were the norm often exposing the distressing nature of the adversities and the workplaces. From an in-depth analysis, four themes evolved that broadly reflected the priori types of adversities from the question (*resources, workload, interpersonal,* and *patient care*)[40] The analysis enabled drilling down to develop clearer pictures of the interwoven adversities embedded within the respondents' workplaces.

Most responses reflected resource adversities (49.8%), mainly suboptimal staffing, and frequently stated were lack of people/support, which guided initial analysis, next was workload then interpersonal challenges. The last and relatively small theme associated with patient care largely reflected direct care; organisational care challenges were threaded throughout the other sub-themes. The data are discussed within these themes. However, frequently the adversities were difficult to separate

[40] All responses in this section refer to question 3b. unless stated otherwise.

(particularly resources and workload) were multifaceted, multiple and could be both acute and chronic (patient death/shortage of staff) ranging from minor hassles (car parking problems) to adverse events. It was clearly shown that many experienced: ***All of them*** highlighting the overall level of workplace adversities for many and commitment to deliver care required, despite the stressors.

> *"Too much to write and explain" (47656289, RGN, Band 5, Surgery, registered 15 years).*
>
> *"I work one shift a week I face these challenges every time I am in work" (47623805, Adult, Band 5, Bank Nurse, organisation wide, registered 8 years).*
>
> *"I have a senior role so head teams who deal with all of these issues on a daily basis" (46532684, RGN, 8a, CNS, registered 32 years).*

6.3.2: Adversities: Resources

Adversities related to suboptimal resourcing and the secondary effects were repeatedly reported, within this theme there are three sub-themes:1.) Availability and quality of resources: staff, physical and availability of self to cope; 2.) Support: management, organisational and colleagues and 3.) Organisation of resources.

6.3.2.1: Availability and quality of resources

Within this sub-theme three areas emerged: *staff, physical resources,* and *availability of self to cope*. A key finding was serious sub-optimal staffing, especially RNs and was consistently described across all fields, bands, and settings (e.g., *poor staffing levels. staff-patient ratios* and *staff crisis*). Poor skill mix (e.g., *due to staff sickness and vacancies* and *over-reliance on bank and agency*) and increasing *complex patient demands.* Of concern, also nurses' competence (e.g., *stressed; worn-out; anxious; sad; unhappy; unprofessional; disengaged; difficult; obstructive; un-committed; unmotivated; un-collaborative; impolite; unsupportive; poor team workers; resistance to change*; *intimidating*). The reality of such issues is summarised below:

> *"Due to lack of qualified staff, our shifts are composed of at least one member of the nurse bank and an agency nurse to make the second qualified nurse. There are currently only 2 full time qualified nurses on the ward, one being myself" (45758695, RMN, Band 5, Assessment Unit, registered 2 years).*

Organisational strategies to offset such workforce issues (e.g., employing temporary and overseas nurses) often increased workload which led to concerns regarding quality and continuity of care (e.g., *supporting temporary staff; team dynamic; personality clashes; cultural issues*, and *overseas staff with poor English)* and the difficulties of inappropriately skilled multi-disciplinary colleagues. However, a temporary nurse also highlighted their perspective which is seldom seen in the literature:

> *"I am an agency nurse and can receive demeaning comments from nurses who have not questioned me about my significant experience in the places I choose to work. On the plus side where I have worked more regularly nurses are usually pleased to see me", (45184175, Adult, registered 8 years).*

The varied availability of physical resources particularly "*beds"*; "*bed crisis*" was a chronic adversity frequently described. The example below shows the secondary issues from bed closures, reinforcing the interconnection of physical with human/staff shortages.

> *"The skill mix has been increased recently, a very busy acute general surgery ward, predominantly vascular, ENT, (also accepting emergency admissions) from airway complications to ischemic limbs). Has now had to cope with trauma patients due to closed beds on Trauma due to staffing levels. The acuity of our patients can be high most shifts. This requires nurses to have experience with diversity. Without experienced in medical and many surgical procedures and emergency situations, patient safety can be compromised. Teamwork is essential. (4777473, RGN, Band 5, Surgery, registered 7 years).*

This extract also shows the complexity of patients requiring nurses to have clinically diverse skills necessitating collaborative team working, which cannot be assumed. In addition, other resource shortages such as ambulances were highlighted and poor physical environments including failing and limited equipment and buildings (e.g., *not fit for purpose; overcrowding; poor heating; lack of privacy,* and *room availability*) and some poor site facilities (car parking) often adding to the adversities.

Multiple negative effects were recounted including an inability to provide the standards of care required (*always short-staffed unsafe practise),* increased risks of *errors and mistakes* and the knock-on patient effects- *continuity, quality, safety*, and the compromises made. The inability of themselves and the teams they were part of, to

respond appropriately to all of those needing their help were common concerns described:

> *"Working as the only nurse on a unit with protected medication administration times. Red bibs worn showing this. Who deals with the issues happening on the unit, questions that need answering etc? They cannot be left so you get disturbed. Medication errors then happen. Nurses are given too much responsibility and there are not enough working in each department" (47673181, Adult, Band 5, Nursing Home, registered 6 years).*

Pertinent to this study the lack of nurses (and physical resources) was repeatedly linked to increased stress levels (e.g., *time to complete work*), secondary work generated (e.g., *staff rotas* and *crisis*) low morale (e.g., *fed up* and *, looking for another job*) capacity and functioning (e.g., *increased sickness levels*). Also, the effect on remaining team members being overextended:

> *"Lack of good skill mix on a daily basis, resulting in more experienced staff being stretched even further than usual (47952147, Band 6, RGN, CC, registered 10 years).*

Many described feeling personally unavailable due to depletion of their personal reserves (e.g., *exhausted; knackered; tiredness; fatigue;* and *burnt out*). This led to decreased accomplishment, negative feelings (e.g., *helplessness; demoralised; guilt,* and *low morale*) in conjunction with ethical and professional tensions, including their own competence (*skill limits; demands; new and different skills and roles; self-doubt,* and *confidence*) specifically dealing with conflict and or crises. Frequently, limited learning environments deficient in support and time for personal development and supporting others were reported (e.g., *keeping up to date; mandatory training,* and *clinical supervision*). The risks to their personal coping reserves were reported when work spilled over to home echoing previous findings related to work-life balance, especially when work and life problems coincided:

> *"Listening to other people's problems when you may have similar issues yourself" (47723195, RGN, Band 6, SNP, Occupational Health, registered 23 years).*

So far, the data have shown that lack of quality and quantity of resources, primarily nurses. However, sometimes quality could be lacking even if there were many nurses available, all of which can lead to detrimental compounding effects on nurses' workload, time and of significance risks to patient care. This led to the understanding

that some nurses compensate to overcome such deficits to offset risks to their professional registration from an over over-reliance on their personal resources, depleting their reserves leading to a vicious circle of increasing tiredness and stress levels thereby further hindering resilience. These accounts reflect the known principal sources of stress connected with burnout and compassion fatigue (Kinman et al. 2020), which suggests that prioritising optimal provision of nurses could help nurses' resilience.

6.3.2.2: Availability of support

There are three areas in this sub-theme: perceived lack of management and organisational support, multi-disciplinary team, and the public. A key finding was suboptimal support from management[41] described across the dataset, including limited leadership (e.g., *lack of clarity; direction; unreliable standards; inconsistent; fluid; individual preferences; unfair; favouritism and bullying*). It was clear that management was often considered disengaged from reality and disinterested (e.g., *ignored; not taking problems on board; not taken seriously; concerns not heard; denial of issues or adding to issues*). This suboptimal support was principally attributed to *lack of providing quality nurses* and multiple other reasons *(*e.g*., staff assistance; visibility; help; collaboration; communication; flexibility; trust; negotiation; positivity;* and *praise)*, resulting in a range of negative feelings (e.g., *disrespected; demotivated; demoralised; devalued; undermined; intimidated;* and *paranoid*):

> *"Not just lack of support but also lack of understanding of nursing - But worse still think they know" (47625911, Band 8a, Nurse Manager, organisation wide, registered 40 years).*

> *"Managing multi-professional team, staff with own personal emotional, relationship, traumas. Sick leave. Organisational conflicts between different parts of the services and agencies. Having a negative senior team leader making critical, negative and un-factual comments about team member, so having to waste time and resources in resolving and protecting staff, which could of been used more positively for patients/families" (45253288, RMN, Band 7, Acute, registered 16 years).*

The extract above also illustrates the extra work required to rectify the poor management of staff. Often managers were perceived as *challenging* and holding little value and respect for nurses' work (*those on the "shop floor)* and expertise *(*e.g., *time*

[41]Respondents used interchangeable terms e.g., senior, upper management and management.

necessary to deliver quality care and *differing patient needs*) seemingly more motivated by productivity (*targets) and political expediency versus patient care* than quality. A sense of challenging "them" and "us" cultures (e.g., *hostility; blame,* and *threatening*).

> *"Feeling as though hospital management are 'the enemy" (46235496, RGN, Band 6, CC, registered 24 years).*
>
> *"Patient expectations- e.g., wanting to be with them - hold their hand when there is so much else to do e.g., Paperwork. Then management thinking you are lazy" (48068414, Adult, Band 5, Surgery, registered 21 years).*
>
> *"Management focuses on money not care. We fill in form after form supposed to provide better care but it's all just a paper exercise. The real cure for poor care of patients would be predominantly more nursing staff" (47621435, RSCN, Band 5, Surgery, registered 15 years).*

The nurse above shares her frustrations, added to this were subsequent professional tensions described as protecting patients from organisational challenges as below:

> *"Advocating - when challenges affect patient outcomes - supporting their choices/options" (45241687, Adult, Band 6, SPN, registered 17 years).*
>
> *"Inability to change poor practice for fear of lack of support" (47621215, RGN, Band 7, Community CNS, registered 38 years).*

Of relevance, was the apparent lack of support for nurses' well-being:

> *"Poor management. Therefore, poor motivation, morale etc. Manager more concerned with box ticking for Trust than staff" (45752976, RGN, Band 5, Out-Patients, registered 22 years).*
>
> *"Line manager not very supportive, puts the interest of the service before staff welfare" (47823802).*

In addition, to sub-optimal management support lack of supportive colleagues was perceived by some which hindered organisation of care: intra-team (e.g., *team dynamics; un-collaborative; obstructive; differing behaviour and standards; attitudes; lack of respect and appreciation; communication; personality clashes; frustration;*

resentment and bullying[42]) and across teams (e.g., *multi-agency working* and *politics between departments*). Some patriarchal medical and nursing professional tensions emerged (e.g., *lack of consultation; respect* and *listening*):

> *"Doctors taking no notice of what you are saying (47620248, RGN, rural Community Hospital, registered 35 years).*
>
> *"Doctors seem to think you have telepathic abilities yet sometimes you seem to be a bad smell under their noses" (47621435, RSCN, Band 5, Surgery, registered 15 years).*

Similarly, lack of understanding emerged, between differing roles and sectors e.g., primary, and secondary care. The following extracts suggest differing perceptions of expertise, and intergenerational challenges regardless of career length:

> *"If you have been in a role for a long time, new team members can easily think that you have nothing to offer them. Being experienced can often count for nothing when others think that you are set in your way" (47695521, RGN, Band 5, Medicine, registered 32 years).*
>
> *"People make judgements and assumptions, as I am a newly qualified nurse i.e. - being too slow not helping with fundamental care" (48208524, Adult, Band 5, Surgery, less than 1 year registered).*

The challenging combination of juggling unsupportive colleagues, team dynamics, staff sanctions, work-life balance effects, on top of limited managerial support were put into context below by one respondent:

> *"Often working understaffed. Manager reluctant to employ agency staff. I work 12-hour shifts, but always work at least 1 hour extra and have no appreciation or extra money to do so. I never take a break and never get paid for it. Staff feel unvalued. Some staff don't get on with each other, and I have often had to deal with this myself as the manager does not like confrontations. Care supervisors are not supportive and will often go and do their own thing instead of following guidelines and guiding their team" (45191412, Adult, Band 5, Private Nursing Home, registered 12 years).*

These data have shown that sub-optimal management to ensure appropriate nurses, the undervaluing of nurses' work and the simultaneous sub-optimal team support all hindered resilience. Overextended nurses were compensating to overcome resource

[42] Perceptions of bullying are given more attention in the final sub-theme: interpersonal challenges.

deficits and could be expected to require more support and recognition not less. It has been formerly shown that the respondents' colleagues with least resilience were perceived to have difficulties functioning, receiving support, their voice heard and team working. These findings indicate that resilience could be helped by enhanced support. Leadership and support are known factors of positive practice environments (Laschinger et al. 2014).

6.3.2.3: Organisation of resources generally

This last sub-theme explores adversities concerning the organisation of resources generally at the macro-level that can threaten resilience downstream at the frontline, compounding workload issues. Service redesign to manage both demands and fiscal squeezes revealed adversities from nurses needing to work in multiple settings, sometimes different organisations, regions, and sectors. This could limit nurses' contact with their teams and familiar environments. The complexity of NHS systems, constant organisational change, geographical challenges, logistics, and sub-optimal service-provision were shown:

> *"Infrastructure of organisation to decipher where to obtain necessary answers from specific people and knowledge base" (47223691, RGN, Band 8a, Community Nurse Manager, registered 9 years).*

> *"Mainly services not available in the community setting for EMI patients especially those with nursing needs. The frequency of patients being admitted from the community with ongoing care needs, but no escalation process initiated prior to secondary care thus impacting patient flow" (4764529, Adult, Band 6, Medical Ward, registered 11 years).*

Linked to this, management of continuous change without clear direction or travel, was reported, including conflicting authority to influence change, implementation, resistance, barriers, politics, organisational and job instability. The extracts below from nurse managers show consequent professional conflicts during organisational change:

> *"Managing organisational change, the politics of the clinical board. Working within a system of high pressure, (constant pressure on beds whilst paying lip service to quality, safety and dignity)" (45459554, Band 8a, Nurse Manager Medical, registered 28 years).*

> *"Working in an organisation where change is constant, no memory of what has passed" (45904303 RMN, Band 7, Ward Manager, registered 16 years).*

It was clear that tensions existed regarding slow, obstructive systems that hindered delivery of care (*politics) and* communication issues (*unnecessary; excess; duplication; time consuming and confusing).* One nurse outlined her frustration below:

> *"Spending so much time on the phone on every shift repeating the same information to different senior nurses in different roles, why do I have to give the bed state to the bed manager at least three times per shift and repeat that same information to the clinical lead nurse and our clinical areas specialist nurse" (46871681, Band 7, Ward Manager, Surgery, registered 30 years).*

Challenging policies, procedures, and patient pathways (e.g., *vague; conflicting; complex; confusing; difficult to implement [*e.g.*, sickness policy])* and systems (e.g., *ineffective*; *outdated;* [IT] *time wasting; dysfunctional;* and *expensive failures*). Also, complex divisions between strategic and operational thinking were raised:

> *"Organisation and people in positions of power are unable to consider practical options to solutions" (47723491, RGN, Band 6, Emergency Admissions, registered 30 years).*

> *"System failures e.g., lack of nursing/medical notes. Nursing in the dark" (48079350, Adult, Band 5, Private Hospital, registered 26 years).*

This last extract highlights that despite nurses having little control over proximal systems they are ultimately accountable for patient safety and their own registration within increasingly complex organisations, under continual reform juggling demands and fiscal squeezes.

This theme has shown how vital combined resources are to nurse resilience and links between resources and workload, it is workload adversities we now turn.

6.3.3: Adversities: Workload

Workload adversities experienced by nurses motivated to deliver quality care, in under resourced environments, across all work settings, dominated the data. This theme has two sub-themes: 1.) Workload volume and demand, including time constraints, competing priorities, type of work (often unrewarding) and 2.) Expectations of stakeholders, including complaints when expectations were not met.

6.3.3.1: Workload adversities: Volume and demand

> *"Overwhelmed before you start" (47175096, Adult, Band 5, Surgery, registered 32 years).*

Consistently described were adversities related to overwhelming intensification of volume and work demands, limited control and autonomy (e.g., *extra clinics/times; targets; deadlines,* and *huge remits*) and volume/flow (e.g., *load* and *unequal load*) rooted in resource issues:

> *"Overworked and overwhelmed with very limited resources. Research shows that if you keep exposing people to pressurised environments, then mistakes will be made. Work is like Beirut, but without the sunshine!" (45996629, RGN, Band 7, Surgery, registered 27 years).*

> *"Feeling tired, difficult to find someone to assist me when I need it, as everyone is so busy. Upsets me when I feel I am having difficulty keeping up with the workload. Often feel that I am not giving enough time to my patients. Too much paperwork does not help" (47846947, RMN, Band 5, Emergency Admissions, registered 24 years).*

Time constraints that threatened quality of care and refuelling opportunities to protect resilience were typically recounted (e.g., *Not enough time to complete work before moving on to the next thing. No time for breaks. Running late and patients waiting)* the concerning effects are simply summed up below:

> *"Difficulty having time to care" (46005107*, *RGN, Band 8a*, *ANP Rural Primary Care, registered 30 years).*

Patient care took priority over documentation, but documentation still needed to be completed, as a result staying in work or taking documentation home to complete was commonly reported impacting on staff morale and work-life balance. As previously highlighted paperwork was repeatedly mentioned across the dataset. While others reported limited time to fulfil other aspects of their roles such as supporting others (e.g., *training* and *clinical supervision*) and importantly patient safety work:

> *"The demand of documentation. Too much paperwork. I feel that my abilities as a nurse are judged on my documentation and paperwork not my clinical skills. Paperwork is dominant; it takes me away from what I love about nursing that is caring for people and giving them my time" (48058245, RGN Band 5, Nursing Home, registered 23 years).*

> *"Lack of management time to deal with near misses/developing necessary resources and staff to take department forward" (47621379, Adult, Band 7, Medical, registered 21 years).*

Linked to time constraints competing priorities were frequently cited often due to staffing issues (e.g., *covering work due to staff shortages* and *vast areas to cover)* competing priorities *(e.g., audit)* and chaotic workplaces *(e.g., haphazard work. Constant interruptions* and *phone calls! Always Firefighting).*

> *"The demand of clinical work v managerial work and what should be priority" (46012395, RSCN, Band 8, Ward Manager Acute, registered 25 years).*

Such competing priorities showed the uncertainty and complexity of nurses' work (e.g., *unfamiliar; constantly changing; unpredictable;* and *physically demanding*). Some nurses also recounted difficult working practices, including injustice (*unfairness* and *varying work ethic*s), of unequal workloads, covering others work (e.g., MDT members and or Administrators-*Jack of all Trades)* not necessarily rewarding work. Frequently, the respondents spoke of *unhelpful; culturally diverse; challenging; unfamiliar* and *constantly changing* environments, with some indicating limited control:

> *"Moved no say" (47181994, Adult, Band 7, Charge Nurse Medicine, registered 9 years).*

> *"Staff being moved to other areas where they are not comfortable competence wise" (48417755, RGN, Band 6, Ward Manager Medicine, registered 24 years).*

These data have shown how unrelenting workloads can hinder resilience compounded by working in constantly challenging environments limiting many of these nurses' time to care for patients, themselves, and colleagues. Job demands we know are the most common and high-risk occupational stressor (HSE 2015).

6.3.3.2: Workload adversities: Expectations of stakeholders

Despite such competing workloads within challenging environments, high expectations from all stakeholders were clear including the dissatisfaction when expectations were not met, conflicting professional expectations, dilemmas, and unrealistic pressure of workloads, despite staff shortages, particularly from senior managers.

> *"Conflict between managerial expectations of role and NMC code of conduct (patient flow demands, generation of audit data, HR management vs delivery quality of nursing care and specialist nursing knowledge" (46872334, RGN, CC Sister, registered 30 years).*

Furthermore, unrealistic expectations and demands from patients/families were reported adding to but different to the unrealistic organisational expectations discussed and the mismatch of nurses' ideals and reality. Public issues were also clear (e.g., *unrealistic expectations; increased public scrutiny; more confrontational; patients unhappy with NHS systems; animosity; abusive; negative; blaming; aggression; violence; dissatisfaction; anger; unpleasant; rudeness; lack of respect; erosion of confidence* and *nurses' privacy issues on social media*).

> *"We bear the brunt of patients and relatives' discontent" (457677380, Adult, Band 6, Surgery).*

Linked to this, complaints from patients and families regarding service delivery were noticeable; this could reflect the strategic shift for a more transparent NHS culture and increased public scrutiny and or levels of care. Nevertheless, the firing line position of nurses in most direct public contact was found in the data. The complaints were distressing in themselves in addition to the secondary effects, such as distraction from work, sense of powerlessness and demoralisation from these nurses' inability to resolve complaints. In addition, limited managerial support, which some were considered inappropriate, conversely. Moreover, there were also legitimate complaints that threatened their professional duty of care.

> *"Complaints from families, unprecedented workloads as I work in the emergency department. Every day there is some form of issue that could cost you your pin" (45753386, Adult, Band 5, A&E, less than 1 year registered).*

The extracts below highlight the pressure that nurses can put on themselves whilst not meeting demands:

> *"Unrealistic expectations of what can be achieved by all stakeholders, including myself" (45412848, RGN, Band 7, CNS, organisation wide, registered 30 years).*

> *"Inability for my service to meet recommended guidelines" (45242820, RGN, Band 7, Medical CNS, registered 18 years).*

It was apparent that many of these nurses' felt that their work was *poorly understood* and that their working conditions were given little priority:

> *"Managers lack of patient knowledge is reflected in their expectations of your workload" (45637213, Adult, Band 5, rural Community, registered 4 years).*

> *"Working away from base hospital, means extra half hour travelling to work, extra half hour or more going home due to traffic. No choice given to staff on this issue had to comply. Small core group of staff allocated for this. Involves 2 shifts per week, staff attend on rota basis" (45852347, RGN, Band 5, Theatres, registered 30 years).*

Concerning outcomes that threatened resilience were common, the following examples show typical disappointment, disillusionment and distress shown concerning patient care:

> *"Feeling of helplessness when unable to give the care required" (45283153, RGN, Band 6, Theatres, registered 16 years).*

> *"People management and staff expectations very challenging your best is never enough" (46087055, RGN, Band 8a, CC Nurse Manager, registered 18 years).*

These data have shown that workload adversities and unrealistic expectations were clearly the norm for many, often unrelated to direct care demands. Moreover, compensating for nursing shortages and meeting broader healthcare demands. Short term some nurses may cope but longer-term job dissatisfaction and detrimental effects to health and well-being resulting in increased sickness absence. This is likely to occur, which results in extra burdens on those remaining in work, fuelling the insidious turnover cycle.

6.3.4: Adversities: Interpersonal challenges of bullying

This sub-theme will focus upon bullying, the difficulties of ameliorating it, and its toll and the detrimental effects that emerged to individual and team resilience. Other interpersonal associated adversities at varying levels have been presented within the other themes namely: lack of communication and listening, conflicting, confusing communication, and criticism. Bullying was variously described (e.g., *harassment;*

intimidation; rudeness; gossiping; politics; impatience and *incivility*) at multiple levels across the team, organisation, and the public:

> *"Bossy intimidating bullying staff that don't do any actual work just talk themselves busy" (47645069, Adult, Band 5, Medicine, registered 2 years).*
>
> *"Senior management ignore the shortages and demand far too much from staff. They can be very intimidating and bullying" (47423241).*
>
> *"Constant unrelenting workload. Low levels of morale. Families' unrealistic expectations and demands. Lack of respect from relatives and aggressive/bullying/threatening tactics to make you immediately respond to their demands. All of which has been brought to seniors' attention, but they seem powerless to support you" (47175096, Band 6, Surgery, registered 32 years).*

Various respondents highlighted widespread detrimental effects to their resilience from bullying. Some nurses stated that their response was to change jobs showing the clear connection between bullying and workforce turnover, such as the first extract below.

> *"Situation improved having stopped working for team of bullies but aspects of bullying rife in NHS from board level and down the levels from there" (47384897, Adult, Band 6, Practice Nurse, registered 22 years).*
>
> *"Passive aggressive behaviour, the culture of hierarchy that exists in Medics over Nurses, managers that are manipulative and devalue nursing" (47680874, Adult, Band 7, Public Health, registered 23 years).*
>
> *"You can have a great team but if you have autocratic managers who undermine what you do as a team and use bullying methods to undermine, no matter how much of an individual you can be resilient, sometimes work place politics which are continually undermining can destroy even the most resilient of people over a sustained period of time" (47668217, Band 7, CYP, Community, registered 28 years).*

These findings have shown that bullying was experienced by various nurses which weakened individuals and teams' resilience despite their strengths. These findings reflect the increased incidence of bullying reported in NHS Staff surveys (NHS 2019a). Already, lack of support has been exposed at all levels.

6.3.5: Adversities: Patient care

This final sub-theme will present adversities associated with direct care, including bereavement, competence of staff, decision making, and patients' increasingly complex health and social care needs. Other patient care adversities have been presented embedded within other themes, including organisational care issues as well as some patient and family management difficulties.

Bereavement associated adversities were apparent especially when personal connections existed such as similar age/experience to the respondents (e.g.- *end of life ethical issues; families' distress; withdrawal of treatment decisions; organ donation; bereavement care; children/young deaths; oncology dilemmas and crises*). Patient care generally was often described as more challenging dependent upon the competence of staff, either themselves or others (e.g., *Junior, inexperienced staff,* and *consultants unable to make timely withdrawal of treatment decisions*). Some respondents voiced worries about their decisions often being associated with competing patient priorities, acuity challenges and safety risks:

> *"Risks of confused elderly patients falling when another patient bleeding and needs immediate lifesaving treatment or a 2222 call out" (48397043, Band 5, Medicine, registered 15 years).*

Specific examples of the growing complexity of patients' health and social care demands were reported such as care needs of the elderly, it was also shown that mental ill-health was not restricted to anyone setting (*patients not coping with minor health problems; aggressive and resistant patients* as well as *serious mental health issues*). Vulnerable and dysfunctional families were also described (e.g., *social issues; family dynamics; challenging family involvement;* and *difficult families*). Demands of delivering professional non-judgemental care were also shown, for instance:

> *"The nature of my job means often dealing with babies who are born to drug using mums. This can be challenging; however, all feelings are put aside, and you treat this family the same as the family in the next bed. This can be emotionally draining" (45775212, CYP, Band 6, Neonatal, registered 8 years).*

This sub-theme has explored some direct nursing care adversities that reflect the significant human work that is the essence of nursing, also the complexity of expertise required to meet growing health and social care needs. This relatively smaller sub-theme supports the growing understanding evolving from the data that direct care does

not necessarily hinder nurses' resilience rather indirect care therefore providing conditions for nurses to deliver care required could enhance resilience.

6.3.6: Summary section one: Adversities

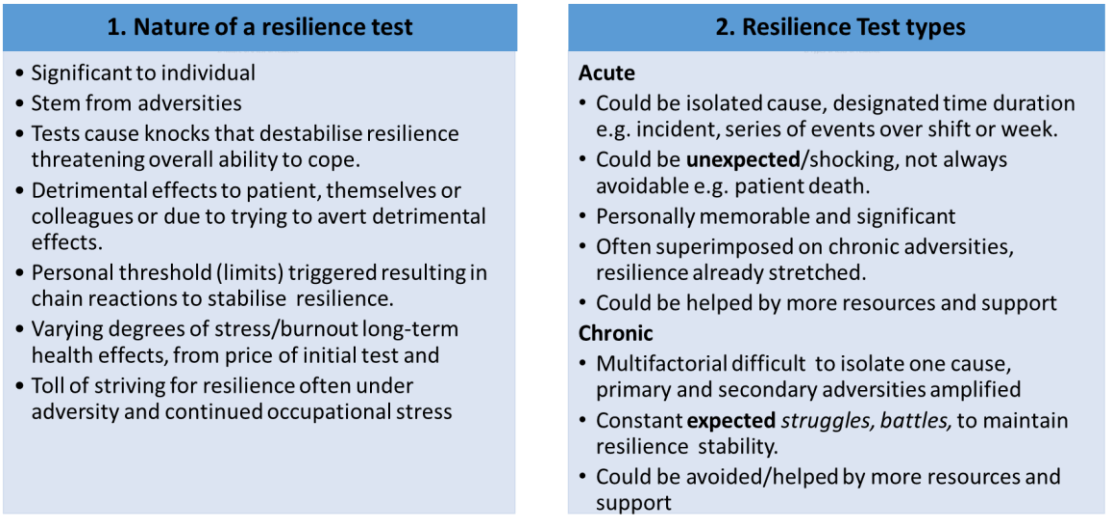
The findings associated with daily adversities within environments of care that can impact resilience have been presented: *Resources, Workload, Interpersonal,* and *Patient Care.* These nurses across all work settings consistently described facing adversities related to lack of resources, primarily other nurses and more generally (such as "beds") exacerbated by organisational barriers. This led to workload adversities, often unrelated to direct care moreover compensating for understaffing and meeting broader healthcare demands, not necessarily rewarding work, and resulting in detrimental effects on time, capacity and patient care. Sub-optimal managerial support to ensure appropriate number of nurses, the undervaluing of nurses' work and the simultaneous lack of team support further hindered these nurses' resilience. Compounded by limited learning environments for professional development and supporting others. These findings led to the understanding that despite such adverse circumstances and the consequent professional dissonance experienced these nurses' commitment to deliver quality care and overcome such adversities was obvious.

6.4: Section two: Tests of resilience

6.4.1: Overview: tests of resilience

This section presents what a test of resilience means to these nurses, from the breadth and depth of views shared within the data, it was clear that these nurses were keen that tests as they understood them, within everyday practice, were explained. Two themes emerged entitled: 1.) Nature of a test, comprising effects, thresholds, and chain reactions; 2). Types of tests: acute: including patient incidents and chronic, mainly linked to under resourced workplaces, primary and secondary adversity links especially shortage of nurses and workload, Figure 11 below outlines these themes.

Figure 11: Overview section two: Tests of resilience



6.4.2: Nature of a test of resilience

On first inspection the myriad of tests appeared to repeat the previous adversities reported. However, in-depth analysis led to the key finding that the tests stemmed from the adversities but differed in that they considerably destabilised resilience and threatened these nurses' overall confidence, functioning and capacity to cope. The tests were personally significant experiences, but common features were clear. The key feature was that the tests were often associated with detrimental effects (patients, themselves, or colleagues) and or efforts to prevent such effects, frequently due to resource constrained environments. The tests triggered personal coping thresholds and the toll to overcome the tests threatened their resolve and questioned their resilience. Some tests reported clearly hit some nurses harder than others.

> *"Adverse reaction to treatment initiated and given by self, resulting in a permanent health deficit for the patient" (46505134, RGN, ANP, Secondary Care, registered 33 years).*

> *"Every shift there are adversities that test my resilience. It's difficult to specify just a single one. There are constant challenges with staff and equipment shortages, which can be particularly stressful in times of crisis/ life threatening problems. Lack of bed capacity is another major adversity when working on the frontline. It's difficult when there is no flow through the department, thus delays and the inability to provide treatment to seriously unwell patients due to lack of capacity. During these times, dealing with hospital senior management also tests my resilience. Also, communicating with patients and relatives at these times is a challenge, as explaining the reasons for the delays*

and our inability to provide prompt treatment can be difficult" (47886142, Adult, Sister, Assessment Unit, registered 16 years').

Some tests could be traced to specific clinical settings; for instance, workflow in A&E and secondary effects to other settings, while other tests were experienced in multiple settings such as occupational violence. The emotive experiences, past or present, seemed to be readily recalled often traumatic and palpable, and that some had been carrying the emotional burden for a while.

> *"A few years ago I was involved with an incident where a spleenectomy was performed on a ward. It was entirely inappropriate, not safe and I got caught in a corner of the room which I felt that I could not leave. I decided that my main role would be to continuously pump bags of blood into the patient. It was completely out of my comfort zone (I am not even a surgical nurse) and led to me becoming very stressed. I ended up with terrible headaches which were then attributed to me grinding my teeth at night which led to facial aching. I did manage to continue with work, although on reflection many years later I often wonder how I managed" (47049190, Adult, Band 7, Nurse Manager, registered 14 years).*

The workplace often seemed unable to offer support required to stabilise resilience resulting in adversities frequently escalating to tests and or an accumulation of a test superimposed on existing adversities.

> *"Overwhelming workload due to how sick patients were. Difficult ethical issues with terminally ill patient and coping with a very distressed family Struggled to safely look after patients under my care. Unable to take adequate break to recharge" (47619443, RGN, Band 6, Medicine, registered 18 years).*

> *"Usually a combination of the above [the 4 types of adversities] -you get used to resource and staff challenges but when you have ethical dilemmas on top of it, it is testing" (48412951, RGN, 8a, CNS Community, registered 15 years).*

Specific tests appeared to trigger personal thresholds, intense effects, and chain reactions, not always positive. Increased risks to functioning were clear (e.g., *lack of confidence; self-doubt; unable to make sense of it all; insecurity, professional conflict,* and *role confusion*). Some respondents were more vulnerable than others (e.g., *feelings of shame; guilt; isolation; unsupported; helplessness; fear; frustration; anger; rage; sadness; despair; despondency; anxiety; worry; paranoia; stress; loss of morale; credibility* and *commitment*). Vulnerability sometimes could be associated with a

specific career stage (e.g., *recently registered; promoted; different workplace,* and *line manager changes*) for instance:

> *"Being newly qualified and left as the only qualified on shift despite telling staff I'm not ready as we are so short of qualified staff", (45212098, RMN, Band 5, MH, Assessment unit, registered less than 1 year).*

> *"I was bullied during a secondment. It was the only time in a 40-year time span that I have been unhappy at work. I had agreed to the secondment because changes were required to a specialist area of nursing that had been left to work in isolation without training and professional development. They resisted to such a degree that I had to take time off sick and returned to my substantive post. On reflection, a contributing factor to my failure to be resilient was a lack of support from the ground and from management" (45197943, RGN, Band 7, Specialist Practitioner, registered 34 years).*

The conflict and moral distress felt concerning compromises in care, and the emotional regulation to conceal true emotions were clear features of tests reported.

> *"Not being able to find a bed for a patient. Leaving vulnerable people in cells over the weekend. Admitting people into chairs on the ward or a mattress on the floor. Disgraceful! But that is a daily choice to keep people safe!" (47915727, RMN, Band 7, Ward Manager, rural, registered 17 years).*

> *"Chronically short staffed. Inappropriate mix of patients all outside my speciality. Constant bed crisis, juggling of beds/patients/ frequent cancelation of surgeries to accommodate emergencies outside our ward's speciality, constant apologies for shortcomings in care delivery" (47636991, Adult, Band 5, Surgery, registered 12 years).*

The toll to stabilise resilience was apparent however many struggled. Some appeared on a spectrum ranging from resilience through to burnout. This was as a result of suffering degrees of accumulative stress; whist others were less clear-cut and appeared to be experiencing vulnerability and resilience simultaneously. Detrimental physical, emotional, and mental health outcomes, in themselves and or in their colleagues were reported, once again largely influenced by resources and support available.

> *"Chronic shortage of staff to deliver continuing care shifts to patients at home constant juggling of staff and shifts and parents then complaining causing complete emotional burn out", (45208903, RSCN, Band 7, Community, registered 16 years).*

> *"Challenging patient within a psychiatric liaison capacity. Lack of staff as working on own, unable to get prompt mental health act assessment due to short numbers of doctors. Dealing with highly psychotic patient within a busy A&E department. Absconded twice due to no holding powers available as not admitted to ward environment. Lack of police support and fears and concerns for both patient and public safety. Not a day I would wish to repeat but happens regularly and so changing jobs as burnt out", (45330990, RMN, Band 6, Community, registered 4 years).*

Indeed, significant career transition points were found to act as tipping and or turning points for many, some changed their roles, others were relieved to be retiring and some were leaving the NHS, involving deeply rooted personal and professional dilemmas, and reinforcing the recurring theme of occupational turnover.

> *"Where you have tried to care for a patient or help members of staff out and then end up feeling like you were wrong knocking your confidence and generally not wanting to be a nurse anymore" (47628798, Adult, Band 5, Community, registered 5 years).*

> *"The pressure and stress of the NHS workload completely broke me as a person. I could no longer take not being able to give the standard of care I went into nursing to give as I was spread too thinly and so made the heart-breaking decision to leave the NHS" (45245585, Adult, Band 5, registered 5 years).*

> *"Time constraints make me very worried each shift that I will not have completed something. I chose to be an agency nurse to limit the paperwork I have to do on a shift - care plans" (47620336, Adult, registered 30 years).*

The compounding effect of experiencing personal and professional adversity together that threatened functioning and patient safety was shown. The extract below shows that the respondents personal difficulties led to mistakes at work.

> *"I was put on a performance plan. At the time I was going through a divorce and due to stress made some mistakes in work" (45778887, RGN, Band 6, Pre-Hospital Care, registered 12 years).*

Importantly, despite the seemingly insurmountable tests there was an overriding sense that these nurses had or were working through the associated toll. Further complicated by many of the tests being chronic in nature, the perseverance to overcome the tests and continue to practice, despite often personal risks was obvious. Revealing these nurses as real people.

"Staying at work when my mum was having palliative end of life care and staying at work after repeated failed IVF treatments" (47723195, Adult, Band 6, Specialist, 23 years).

"While undertaking the final year of my masters and after trying for some time for a family my husband and I suffered a miscarriage and I was very poorly requiring surgery. Although the physical effects were tough it was returning to work while caring for patients in primary care who were coming in to tell me of their happy news or to discuss and request terminations. That was the hardest part of all but I dealt with each one with care and compassion and when the door closed at the end of the day I could deal with my own emotion. I hope that my own experience, as hard as it was (and continues to be) helps me to be a better nurse" (48063117, Adult, Band 7, Community, registered 13 years).

These findings have shown that tests of resilience that can destabilise resilience and threaten individual nurses' overall capacity to cope were common. Indeed, critical career moments for some, which could be expected to occur but are seldom discussed in the literature. These findings suggest appropriate timely support could help prevent such adversities escalating to tests. We turn next to the types of tests that emerged.

6.4.3: Resilience tests: types

6.4.3.1: Acute tests of resilience

This sub-theme describes the hundreds of acute tests of these nurses' resilience. Some single or series of events (shift or a week) ranging from direct care to adverse incidents and crises, frequently traumatic, causing disbelief and shock, some could be expected and planned whereas some could not. Patient incidents especially bereavement, patient quality and safety, often associated with formal investigations and complaints, in addition to occupational violence will be presented consecutively.

The tests associated with bereavement care (over 60 references) one could assume were traditional nursing work but on closer inspection they differed. They were particularly tragic and morally distressing (emergency and unexpected deaths, traumatic incidents, major trauma, crises, life-threatening situations, and suicides). The demand and futility (sometimes) of fighting to keep patients alive, unsuccessful resuscitations, and inability to provide dignified care during resuscitation. In addition, the deaths of long-term patients and the intensity of constant presence required sometimes was reported. These cases were compounded by an accumulation of other

factors namely sub-optimal resources, personal expertise, help and support. The tests were often beyond traditional realms of nursing work.

> *"Pt attempted suicide by cutting his throat and I and others stopped him from carrying on with this and prevented death. Investigation was not very friendly after this", (47048673, RMN, Band 7, ANP, registered 17 years).*

> *"Death of patient due to obstinacy of non-clinical manager not providing prompt transfer for lifesaving treatment at another hospital" (47104370, Adult, Band 7, A&E, registered 20 years).*

Risks to patient quality and safety were shown and the reality of the shift in context to increased transparency and scrutiny to offset public concerns regarding declining care.

> *"I was made aware of a breach in patient safety-serious incident. Very stressful experience", (46683205, Adult, Band 8a, CNS Community, registered 16 years)*

> *"……..speaking out about a colleagues shortfall in care and compassion" (47636451, RMN, Band 6, registered 43 years).*

> *"Dealing with an incident in which 13 people were involved" (48029973, RGN, Band 6, CNS, registered 35 years).*

The role of a society that is more informed and questioning of the public sector with higher expectations was clear, once again.

> *"The Welsh Government required savings year on year for the past 4-5 years. This has made efficiencies in service, which are positive but it has also led to stresses. Patient perceptions/expectation of what they should have and what the NHS realistically can offer causes added pressure within the service" (47909908, Adult Band 8a, Nurse Manager, Medicine, registered 20 years).*

Some of the incidents above involved complaints, which were clearly tough due to the issue itself, the varying roles of the nurses involved and the protracted processes (sometimes over years).

> *"Patient/relative complaint about myself. Leading to an investigation – no action taken" (48547856, Adult, Band 5, rural 3rd sector, registered 16 years').*

> *"Complaint against colleagues in regard to their practice that was true in its nature" (45209942, Band 6, Ward Manager, Community hospital, registered 6 years).*

Connected to complaints were incidents, including occupational violence and other situations (over 100 references) involving mainly patients and relatives across varied settings, which can be associated with an increased incidence in the NHS generally. The impact on safety, professionalism and competence were obvious.

> *"I was assaulted by a patient and the team were so supportive, but it was the after effect that shook my confidence for a long while" (47677830, RMN, Band 6, Rural Private Hospital, registered 10 years')*

> *"Patient assaulted colleague who was 8 months pregnant. I struggled to deal with this without becoming hostile to the patient" (47623715, Adult, Band 6, Medicine, registered 16 years').*

The above extracts suggest supportive teams but more often lack of support was reported exacerbating the initial incident and sometimes aggressive colleagues were reported.

> *"Verbal aggression from a patient. They humiliated me in front of other patients, my colleagues and visitors. No back up for me from senior staff. I felt helpless and vulnerable" (45751832, Adult, Band 5, Surgery, registered 4 years).*

> *"Another stressed colleague transferring their lack of resilience by shouting at me" (47793631, CYP, Band 8a, CC, registered 26 years).*

Competence can be a core strength that protects resilience but often these nurses spoke of tests of their competence, exposing their vulnerability and support needed but was often sub-optimal.

> *"A patient crisis which you are expected to deal with whether you have the expert knowledge skills. Make decisions in regard to patients care and in regards to their capacity when you feel you don't have the necessary training and skills to make these decisions, or support" (45246163, RMN, Band 5, Community, registered 10 years).*

These acute tests of these nurses' resilience speak for themselves, leaving no doubt concerning the often-adverse unpredictable nature of contemporary nursing and the associated patient safety implications. The value of resilience to help nurses manage this work was clear. However, the necessity to manage such tests as well as provide support to reduce the need for nurses' resilience was even clearer. The context of pressurised organisations struggling with growing demands and expectations dominated. Thus, suggesting that resilience interventions must be realistic and

judicious. Such serious tests in themselves but often these acute tests were experienced by nurses already under chronic stress, it is chronic tests we now turn.

6.4.3.2: Chronic tests of resilience

This sub-theme describes chronic tests of these nurses' resilience and as such they expected them to occur. There were hundreds of tests reported that had escalated from adversities that could be acute on chronic or accumulative frequently multifaceted/level and relational. Two key features arose, tests associated with the workplace environment, compounded by once again unsupportive relationships at team and more commonly at managerial level and cultures not conducive to engendering resilience. Secondly, interconnections between primary and secondary adversities specifically shortage of RNs and workload.

The word *environment* was frequently stated, which respondents appeared to consider was all encompassing. Experiences described within such environments were *constant daily battles of fighting; struggling and juggling* to control work and maintain care standards (*disappointment* and *disillusionment)* and stability of themselves and others.

> *"As a staff member of a busy Emergency Department, our resilience is tested daily, from busy shifts, full departments, lack of beds to aggressive patients & relatives. Also working within this area can be highly emotive, when dealing with paediatric arrests/deaths; moments later possibly having to see to an aggressive intoxicated patient. On shifts like these, your emotional resilience is tested; often with a lack of adequate breaks on busy shifts, your physical resilience is also tested" (45221418, Adult, Band 5, A&E, registered 8 years).*

> *"Bereavement following a serious incident where we were at fault and improvements have not been made" (48667181, RGN, Band 8b, Senior Nurse, organisation wide, registered 30 years).*

Unsupportive conflicting cultures were apparent. On the one hand some were more transparent as discussed above but on the other hand one of an unsupportive productivity led managerial culture "*where the service comes before the welfare of staff*" with numbers rather than quality mattering more than individuals. A sense of depersonalisation (apparently for patients and staff) was common. Consistently unsupportive management once again was described (over 100 references) and included little understanding and valuing of the physical, emotional, and mental impact of nursing and nurses' dedication to overcome adversities faced and subsequent toll.

A nurse in the second extract below describes seeking help in a resilient way only for this to be rejected due to resource constraints.

> *"Where it is seen that patients fit into criteria and descriptions rather than being seen as individuals" (47603699, LD, Band 6, Community, registered 9 years).*

> *"Being placed in very similar clinical situations very recently, whilst going through personal close bereavement, myself. Even approaching the team manager requesting not to be placed there. The replying answer was due to staffing levels declining wasn't an option (45775715, Adult, Band 5, DN, registered 5 years).*

Added to this, unsupportive team relationships were discussed in detail (over 100 references), including issues from working within stressed teams trying to achieve the unachievable, internal struggles and difficulties of managing conflict and bullying were frequently described. Compounded by strategies, such as moving staff to unfamiliar environments, from a resilience sense, colleagues in close proximity usually support each other and share emotional challenges.

> *"Lack of proper team management, which led to work, based bullying of team by one team member. This was allowed to continue gradually, getting worse over approximately 3 years due to issues not being dealt with. Tensions within team became unbearable which led to long term sickness so adding to the stress. I tried to help mediate the situation but one colleague was encouraged to take out an official complaint against the bully. We all had to give individual statements which took it's toll on all our resilience", (45211034, RGN, Band 5, DN, registered 26 years).*

> *"Having a poor relationship with a colleague in the team and it began to affect my general well-being and therefore resilience", (45679249, RGN, Band 7, ANP, registered 27 years).*

These findings have shown that a combination of environmental factors embedded in relations and routines tested these nurses' resilience, which led to the understanding that the environment itself can be a primary and or secondary source of adversity which can lead to an imbalance of resilience. Such environments can exist, and care failures can occur as a result.

Building on this, specific primary and secondary adversities emerged as tests highlighting a serious vicious cycle due to lack of RNs and workload. The conflicting and accumulative demands described included undertaking practical measures, staff

support, patient safety and managing people, professional conflict, as well as organisational expectations. Practical measures to cover shortfalls reported across the dataset included moving nurses, doing more and often inappropriate work and working extra-unpaid hours.

> *"High levels of sickness and retirement creating situation where I had to cover for multiple clinics i.e. I was doing the work of 3-4 people, unpaid overtime over an extended period with little support from management" (46783290, Adult, Band 6, CNS, Unscheduled Care, registered 15 years).*

> *"Watching staff being pressured into finding patients to be discharged or transferred to community hospitals. Stretched staff being pushed to their limits by inadequate staffing levels and are not able to meet the collective needs of patients, no time to care, and having to give up a member of staff to another ward, further depleting staffing. Causing no time to care, and stressed staff" (47656727, RMN, Band 7, CNS, registered 44 years).*

Furthermore, the extra support required by permanent staff (e.g., *junior/inexperienced; unskilled; tired; demoralised;* and *disengaged*) in addition to agency nurses and the relentless juggling of rotas and the impact on patient safety were tests described.

> *"Producing staff rotas when our service is thinly staffed and constantly having to update them as no sooner are they given out, then things change e.g., someone goes sick or leaves" (45534896, Adult, Band 7, Department Manager, registered 22 years).*

> *"Working with colleagues off sick with stress, which in turn makes your work life much more stressful. Spending large amounts of work time filling in incident forms for near misses or clinical incidents" (47671796, Adult, Band 6, CNS, registered 39 years).*

Moreover, being managed and the skill of managing others within the long-standing workforce churn were clear tests reported (including *stress; burnout; conflict; sickness; returns to work; absence; resignations; retention; recruitment* and *staff development; performance; capability; disciplinaries,* and *conflict resolution).* Reconciling and adhering to organisational and HR policies including the detrimental effects on themselves, were apparent.

> *"Member of staff going off sick with intention of staying off until pay exhausted, then resigning" (48548729, Adult, Band 8a, CNS, registered 30 years).*

> *"I was a line manager for a particular member of staff who was not performing. When this was discussed with her, she called in sick and accused me of bullying. I had to go through the investigation process, and this was found to be not true. I was consequently treated for anxiety and depression because of this and had to take a long period of sick leave. This in turn left my ward short staffed which increased my anxiety levels" (46211272, Adult, Band 7, Ward Manager, registered 30 years).*

Connected to managing staff, perceived lack of autonomy, inflexible, ineffective, fiscally driven organisational processes and governance of resources were reported. In addition to lack of managerial support to provide an adequate workforce that cares about appropriate skill mix and well-being of staff, not just the numbers of nurses.

> *"Constant need to 'fire fight' problems arising from lack of ground floor staff. Frustration arising from the knowledge that investment reduces the cost of crisis management but having no budget to invest in staff" (47588320, Adult, Band 7, CNS Medicine, registered 19 years).*

> *"Lack of resources, rudeness, impatience, lack of staff, over work. No basic tools to the job. Staff reductions at clinical level, unable to take time off, more added responsibility over huge geographical areas, poor morale, unhappy colleagues, and tears in work from others more often" (47390863, MH, Band 7, Community CNS, registered 25 years).*

Some nurses had worked through or were working through the toll of these tests of resilience. One nurse described below how close teams can help share emotional burdens, such as the spill over of personal grief to work, showing a sense of camaraderie. Such closeness reminds us however that resilience whether high or low, can be contagious.

> *"Staff have had to cope with several colleagues having very close relatives with bereavement. This has affected everyone in the team as we are very close knit" (47817698, Adult, Band 7, Ward Manager, Surgical, registered 25 years).*

Interpersonal/intrapersonal responses were described dependent upon available resources.

> *"Trying to refer and doctor refusing/talking over me. I spoke to my consultant who was very supportive. Phoned doctor back and patient accepted and admitted" (47670387, Adult, A&E, ANP, registered 27 years).*

"Relationship with a colleague the same grade as myself who made it difficult to work with due to his handling of a disagreement with me. Felt he was questioning my integrity which I challenged. Since then working relationship has improved and is very professional" (47621904, RMN, Band 7, ANP, registered 23 years).

"Members of the team not working together in the patients' best interest. It made it very difficult to work effectively. But by staying positive and constantly thinking of the patients' best interests, I managed to keep positive" (45272797, Adult, Band 5, Surgery, registered 4 years).

This sub-theme has shown that many of these nurses irrespective of experience, expected to face tests of their resilience, sometimes daily, principally due to their workplaces which reflects the causes of rising workforce stress. The seldom discussed daily grind of staff turnover was also shown. Despite often suboptimal support, hallmarks of these nurses' resilience in action were clear including their tenacity, decline and recovery showing vulnerability and resilience simultaneously, which is rarely acknowledged. These findings suggest enhanced support for nurse resilience is critical.

6.5: Summary section two: Tests of resilience

What a test of resilience means to these nurses has been presented. The personally significant experiences, often stemmed from previous adversities described, which destabilised their resilience, triggered personal coping thresholds and the toll to overcome the tests threatened their resolve and questioned their resilience. The tests were often associated with detrimental effects (patients, themselves, or colleagues) and or efforts to prevent such effects, frequently due to pressurised environments. A backdrop of often distressing contextualised accounts were shown, not only the importance of the tests but what had gone before and what followed. Varying resilience was shown some nurses were clearly more vulnerable than others, influenced by resources and support.

The workplace environments exposed were often unable to support and protect these nurses' resilience. The key risks reported to restoring resilience stability were the tenuous fragility of relationships, particularly management, some colleagues, not excluding some patients and relatives. These findings led to the understanding that essentially the environment can be the adversity in itself, which can result in escalation

of adversities to tests of resilience, which can be linked to rising workforce issues. These key findings suggest that these nurses' resilience could be made more secure by ameliorating rather than overlooking and normalising adversities to avert such tests.

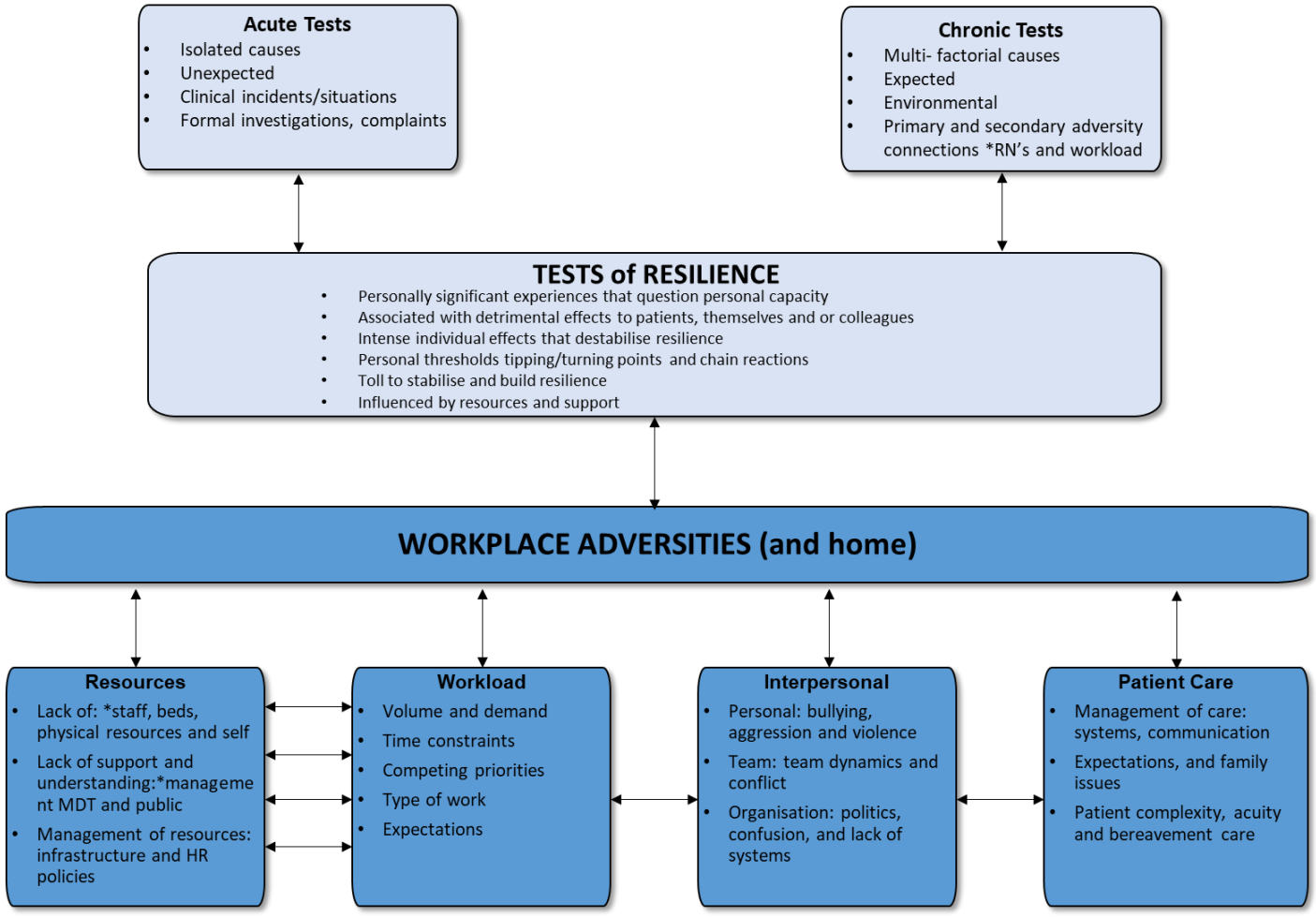
6.6: Chapter 6 conclusion: Qualitative findings 2: Adversities within environments of care that can impact resilience.

To address the research questions adversities then tests of resilience were described. Adversities were found not to be atypical but actually more of the norm, at least in this sample. The adversities experienced arose from multifaceted factors: under resourcing particularly. Furthermore, the changing nature of nurses' work often unrewarding, within a fiscal productivity led context of high scrutiny and expectation. A sense of high demand low control and dissonance was apparent within low resourced environments, compounded by lack of support recognition, and understanding of nurses' work. The nature of support particularly management and the relationships at different levels was not straight forward, influenced by context and culture. Nurses appeared to compensate for such deficits to protect their professional registration resulting in often over-reliance on personal reserves leading to vicious circles of individual and team fatigue and stress, particularly for some.

Notwithstanding some unavoidable clinical adversities, it was plain that the environment often could not protect these nurses' resilience leading to adversities escalating to tests whereby resilience could be threatened rather than built. This led to the understanding that the delivering of direct care the traditional essence of nurses' work was not necessarily an adversity, more the inability of nurses to deliver the care required due to environmental stressors. In short, the environment can be the adversity in itself. These findings provide insights into adversities nurses typically face, risks to resilience, which we know little about and possible ways to ameliorate the risks, resources and support seem critical. These findings showed how nurses can develop resilience under often continued occupational stress and dealing with the inherently stressful nature of nursing itself which cannot be dismissed. Leading to the conclusion that adversities managed well could potentially lead to stabilising and building resilience, but any resilience interventions must be realistic and judicious.

The figure overleaf summarises this chapter. Embedded within the data were various responses to adversity described which will be analysed next.

Figure 12: Summary findings: Adversities and tests of resilience



The arrows indicate the interconnected nature of the factors reported, the multiple arrows between workload and resources show the particular links that emerged between the two factors.

Chapter 7: Qualitative findings 3: Routes to resilience: What does help, what could help nurses' sense of resilience.

7.1: Research question 3: What are the range of resilience strategies that nurses adopt to cope with their workplace adversities? Research question 7: What do nurses find helps/hinders their resilience within their environment of care?

7.2: Introduction

This chapter will present findings related to these nurses' routes to resilience to address the research questions above. Key findings were how these nurses had built accumulative ways of coping and adaption; some were able to do this more easily than others. Resources, education, and support were found could help resilience likewise largely the reverse could hinder it. The findings are based upon responses to several questions (Box 4). The chapter sections are entitled: 1.) What does help and 2.) What could help nurses' resilience.

Box 4

Question 4a: When faced with difficult circumstances we can adopt various coping strategies. Think back over the last year to some difficult circumstances that you have handled well. From the list below indicate to what extent you agree with the following statements (on a 5-point scale). I tried to .....

Question 4b: Please add any other types of coping strategies you employed.

Question 4c: Please add any coping strategies you would like further training, guidance, or assistance to develop further?

Question 5a: When faced with difficult circumstances we can draw upon our personal strengths. How important would you say the following personal strengths are to you? (on a 5-point scale)……..

Question 5b: **Please add any other personal strengths that are important to you when faced with difficult circumstances. Question 5c: Are there any strengths you would like to build further?**

Question 6a Coping with adversity in work can make us feel unsettled or insecure at times. What has motivated you to get out of bed in the morning to help you through these unsettled or insecure times? From the list below indicate to what extent you agree with the following statements. My sense of.....

Question 6b Please add any other motivations.

Question 7a Think now about how you normally try to relax and recharge your batteries. How important are the following activities in helping you to do this? (on a 5-point scale)...

Question 7b: Please add any other activities you normally do to recharge.

Question 7c: Are there any activities you would like to do more of?

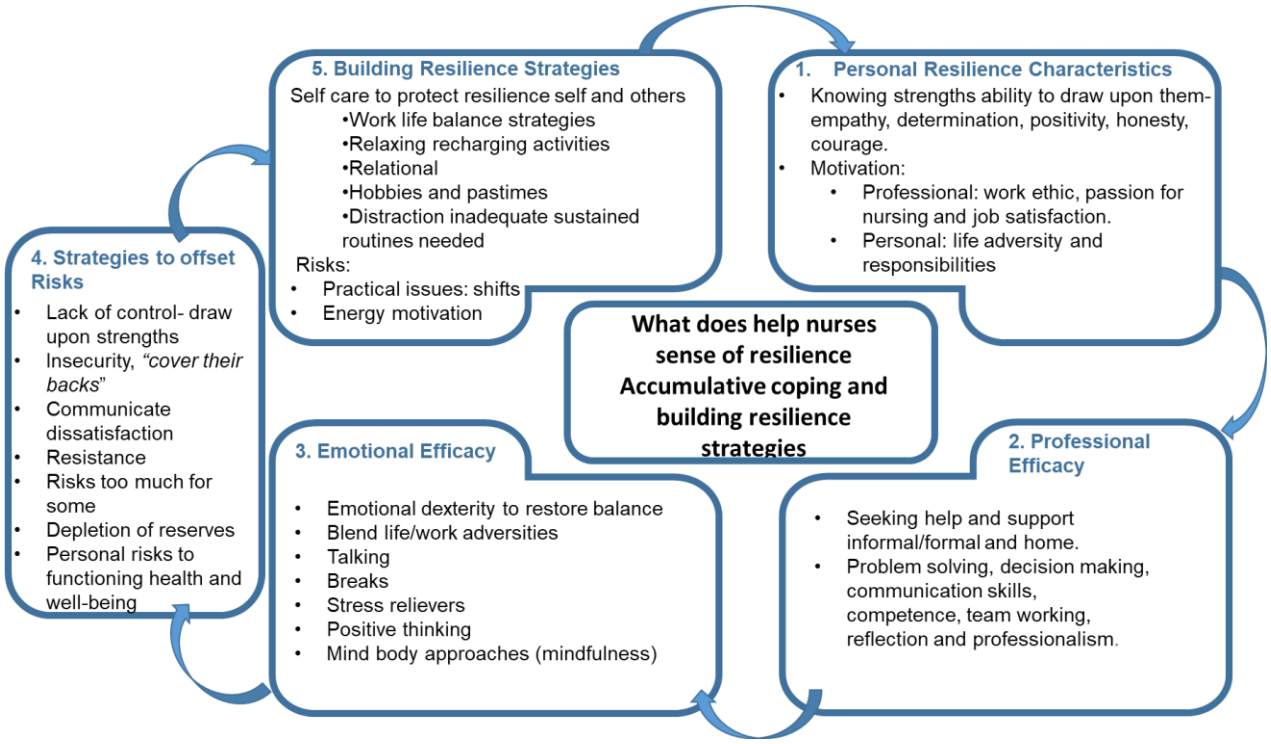
Question 10: Can you suggest three things that would improve your sense of resilience in your working life?

7.3: Section one: Routes to resilience: What does help nurses' sense of resilience.

7.3.1: Section one: Overview what does help nurses' sense of resilience.

To especially address Research Question 3 this section presents these nurses' reported wealth of built coping and resilience building strategies, underpinned by personal strengths, particularly passion for nursing and strong relationships. Some nurses were able to do what helped them, and others, to cope more easily and offset some risks more than others, some powerful accounts. The findings resonated with their perceptions of factors that underpinned their colleagues' resilience. Here, however they were able to explain further how they had built their own resilience. Hence the emergent *Resilience Dimensions* shall be utilised once more to structure these data to build on earlier insights[43]. Figure 13 below depicts an overview of this section.

Figure 13: Overview section one: What does help nurses' sense of resilience.



[43] *Personal Resilience Characteristics, Professional and Emotional Efficacy, Building Resilience and Risks to resilience.*

7.3.2: Personal resilience characteristics

This sub-theme presents the findings that describe these nurses' personal resilience characteristics, that is their personal strengths: knowing them, and an ability to draw upon and employ them skilfully including motivation to build resilience. When asked to comment on any strengths they had drawn upon, over the last year to deal with difficult circumstances (Q5b) determination was described variously *(e.g., never/not giving up; resolve; tenacity; mental stamina; endurance; grit; commitment; persistence; perseverance; ploughing through*; *ability to play the longer game, resist quick fix solutions; patience; confidence* and *tolerance).* Honesty (candour) *courage, confidence, facing challenges, self-belief, and humility* in the patients' best interests were also commonly described:

> *"Keep on going through the fog of work" (47863186, RMN Band 6, Specialist Clinical Role Community, registered 22 years).*
>
> *"Ability to say what needs to be said, not what people want to hear. To convey the message in a supportive way, but which leaves no doubt about the actions needed to protect patient safety", (47728840, RGN, Band 8, CNS, organisation wide, registered 27 years).*
>
> *"Ability to assertively escalate care where appropriate, continuing to the highest possible level if needed to gain clinical management plan for a poorly patient", (47774738, RGN, Band 5, Surgery, registered 7 years.*
>
> *"Admitting fear but remaining confident not pretending that we know it all" (45335567, RGN, Band 5, Rural Nursing/Care Home registered 40 years).*

Also, personal insight (e.g., *self-awareness; respect limits and beliefs; pride, manage expectations; saying no; letting go;* and *knowing when you can't do any more*) from working through adversities and building strengths:

> *"Ability to keep your head up and knowing you are doing the best you can" (47887805, Adult, Band 5, Medicine, less than one year registered).*
>
> *"Accepting one's own limitations and responsibilities. Being able to accept and apologise if the wrong decision is made", (48036941, Band 6, Outpatients CNS, registered 34 years).*

Linked to insight some nurses reported self-compassion. Certain states of mind were also considered as strengths (e.g., *equanimity; positivity; flexibility,* and *sense of perspective)* humour and positive thinking were often linked:

> *"Ability to say no and only work within the resources provided and to stop blaming oneself when unable to deliver because of lack of service provision" (46012082, RGN, Band 7, Community CNS, registered 26 years).*

> *"Self-esteem and responsibility to myself is the greatest sense. Facing up to the challenge and accepting the outcome as it will be made in your absence otherwise. Being involved in the decision on your progress and not allowing others to make that decision for you. Hiding away does not change the outcome and may have a detrimental effect on how others perceive you. Staying true to myself", (4803694, Band 6, Outpatients CNS, registered 34 years).*

Many of these strengths reported echoed those that they had experienced in their colleagues' resilience.

When asked to consider what motivated these respondents to "get out of bed in the morning" when experiencing unsettled or insecure times in work, (Q6b) predominantly it was professional motivations and some personal ones that emerged. A passion for nursing (*to care* and *to make a difference*) was an overriding motivation instantly visible in the data, many could not think of doing any other job: it was more than a job, instead it was their whole identity accompanied by job satisfaction. Some *loved* the relational aspects of nursing:

> *"I love my work!" (48169895, Band 5, CC, registered 3 years).*

> *"Love for my profession. Very lucky to love my job which enables me to look forward to going to work and a sense of achievement of helping others" (45171374, Adult, Band 5 Community CYP, registered 4 years).*

> *"Professionalism nursing is not just what I do it's who I am. Sometimes it's hard, you don't get a break, you don't get a thank you, you're behind with your paperwork and though you haven't stopped all shift you feel bad that you haven't been able to give everyone the care you want to give and the care they deserve but if you have made a small difference in just one life it's all worth it" (47619443, RGN, registered 18 years).*

> *"The fact that I love working with people with a learning disability and have never regretted my career choice in 30 years!" (47932254, RLD 8a, Team Leader, working across rural organisation, registered 30 years).*

While others explained their motivation from working hard and doing a good job (e.g., *pride; continuity,* and *high standards of care*). This motivation was seen in the determination by many to overcome adversity and provided glimpses of their resilience strategies (e.g., *persevere; plough on; continue; stick at it; complete work expected,* and *I'm not a quitter*):

> *"Just getting through it. This is the job I do and cannot give in to the stresses of it all. We are in a very privileged position but very demanding. Have fun with family and friends think of all the good things it puts things into perspective", (45244392, Adult, Band 6, Deputy Sister, Continuing Care, registered 18 years).*

> *"Self-respect, the hard work/dedication given to the trust over 19 years. All the positive care given over the years, the difference you make to people's lives. The sacrifices made to succeed in the job", (47627417, Community NP, Band 6, registered 19 years).*

> *"Work ethic is very important. As an employer I now employ the person and worry about superior qualifications later. If you haven't got an innate drive, then you can't buy it or teach it. I have employed several people with very high qualifications, and they have been appalling" (47646966, Self-employed, Nurse Manager, registered 23 years).*

Supportive teams were cited as core motivators based upon strong relationships, (e.g., *respect; recognition; expectation; appreciation; shared responsibility; fun; camaraderie* and *security).* In the last extract (below) team loyalty however was recounted as a necessary shield to protect against adversity:

> *"A good team on shift that pulls their weight and is supportive" I don't like to let the patient or my colleagues down" (47135156, RGN, Band 5, Theatres).*

> *"I work in a very good team who are loyal and supportive. The flexibility to express yourself on difficult days without it impacting on your role or how people perceive you is sometimes helpful but is only possible with trust which I am fortunate to have with my colleagues", (47031670, RGN, Band 7, Specialist NP, registered 32 years).*

> *"My motivation to go to work when it's hard is to not let my **team** down. We get the job done however short staffed we are, so it isn't to my patients, it's to who I support in work and who support me. Our job is thankless and demanding in crisis services in mental health, there is never praise or reward for what we go through every day" (47649836, RMN, Band 5, registered 4 years).*

Alternative to this hopefulness was expressed by a couple of nurses that current adversities may improve, and their motivation stemmed from potentially influencing the broader nursing landscape:

> *"Personal determination to overcome these times" (48081450, RGN, 8a, Public Health Nurse Manager, registered 20 years).*
>
> *"To fight for continued respect for the nursing profession" (45335567, RGN, Band 5, Nursing Care Home, registered 40 years).*
>
> *"The belief that one day there will be a transformation of the profession and that my input might support that change for the benefit of service users" (47645291, Adult, Band 6, Sister, Medicine, registered 12 years).*

Furthermore, personal motivations appeared strong for many and arose from life's adversities and responsibilities suggesting these nurses' personal lives and values:

> *"My personal experiences of illness and hospitalisation of both myself and family, including surgery, cancer care and death and knowing the importance of the way in which every detail is dealt with" (47433230, RGN, Band 7, CNS, Outpatients, registered 28 years).*
>
> *"To ensure my son is aware of the importance of work ethic and making a difference. To sculpt him as an individual. Also, to make him proud to have a professional mother and father" (45136866, CYP, Band 6, Medicine, registered 6 years).*

7.3.3: Professional efficacy

This sub-theme relates to strategies that enable professional efficacy seeking help and various other strategies such as problem solving, and communication were described[44]. These findings will be presented consecutively.

Seeking help was a core strategy within and outside work underpinned by self-awareness.

[44] Unless otherwise stated these responses refer to question 4b.

> *"Knowing who/where to go for help and support and knowing what works for me- experience" (48712573, RGN, Band 7, Practice Educator, organisation wide, registered 25 years) [Q5b].*

> *"Working as a team and getting support from my colleagues I find fundamental in helping my resilience", (47903533, RGN, Band 8B, Nurse Manager, Unscheduled Care, registered 32 years).*

Consistently these nurses gave credence to seeking support from trustworthy confidantes, (Q4b largest sub-theme 33.4%), from either within the team or externally for some. Carefully selected respected individuals (e.g., *honest, close, supportive, trusted, like-minded, reasonably minded, experienced, experts, good listener,* and *neutral*). Fundamentally, the overriding purpose of seeking support was to talk and reflect and make sense of the adversity (e.g., *chat, discuss situations/problems, vent, offload, let off steam, reflect,* and *share experiences*) and engage in core resilience processes (e.g., *expressing emotions openly, honestly, to gain another's perspective, work it through, weigh up all angles,* and *solve the problem and resolution*) enabling individual and reciprocal benefits:

> *"To get not only support from my team but to be able to talk openly about my thoughts and to discover that other people were thinking the same way despite our inability to change the situation" (45183178, Adult, Band 5, CC, registered 13 years).*

> *"Helping each other get through difficult times, each person reacts in different ways" (45235259, Adult, Band 5, Surgery, registered 15 years).*

Strong relationships were critical, contrary to this, however some described how they intentionally navigated from unhelpful relationships (e.g., *distancing* and *avoiding unless absolutely necessary for patient need)*:

> *"To distance myself from the "non-copers", the habitual moaners" (46306925, RGN, Band 7, Outpatients, registered 18 years).*

> *"Negotiating with more reasonably minded colleagues. Patience and "working under the wire" for 6 months until they retired!!" (47624994, RGN, Band 7, Lead Nurse organisation wide, registered 24 years).*

Relationship difficulties with managers were described by many nurses from varied settings echoing former adversities reported. In stark contrast, one or two nurses however described strong relationships with managers, these mixed responses

indicate the complex dual effect of how a significant individual can both help or hinder in terms of resilience.

> *"Very difficult manager- I've eventually had to take time off work through work related stress" (45183883, RMN, Band 5, Community Unit, registered 28 years).*
>
> *"Very supportive management" (47903533, Band 7, Public Health Nurse, registered 32 years).*
>
> *"1:1 with line manager, realistically considering my sphere of influence" (45246435, RGN, Band 7, DN, registered 28 years).*

The value of seeking and receiving formal support to help cope (individually and groups) was given credence by many. Clinical supervision was consistently valued (e.g., 37 references Q4b) however it was seldom available, and improvisation was evident. Provision of other formal support services varied considerably, the last extract below was a fortunate yet isolated case, following a traumatic death of a baby:

> *"Asking for supervision, but again due to time constraints this cannot always be delivered" (47676883, RMN, Band 7, CNS, registered 7 years).*
>
> *"Discuss challenges in handover, using clinical supervision" (48412524, RMN, Band 6 nurse, primary and secondary, registered 5 years).*
>
> *"I saw our team's psychologist; we have a well-being team" (47621585, CYP, Band 5, CC, less than one year registered).*

Due to the severity of the adversities some respondents had clearly experienced decline in their functioning, some requiring prolonged sickness absence, receiving medical and or other support in and outside of work (psychologist, counsellor). Some, however, described building coping strategies from the formal support received:

> *"Trust and outside counselling and medication for anxiety. Management were very supportive but 4 months off work to work through stuff" (45203821, RSCN, Band 6, School Nurse, registered 33 years).*
>
> *"I have been through CBT from my episode of sickness absence from bullying; I try and adopt this thinking to get through" (4762741, RGN, Band 6, Community NP, registered 16 years).*

Many respondents expressed the importance of seeking support outside of work to help with their resilience, (*from people who matter the most*) again founded upon

strong-trusted relationships. The respondents noted upholding confidentiality. Notwithstanding the nature of the adversity itself, for some however it was due to workplaces not being conducive to nurses being able to talk within work (e.g., *busyness* and *social dynamics*). Over reliance on support outside of work can conflict with work-life balance, concerning when previously work-life balance was considered key to their colleagues' resilience. Indeed, a newly registered nurse expressed such tensions in the last extract below:

> *"My family (2 boys) and friends are very supportive, and they always listen to my concerns and always offer helpful different views" (47765977, RGN, Band 7, Occupational Health, registered 33 years) [Q5b].*
>
> *"I make my friends listen and they give perspective it is not always possible to see what is important when you are in the middle" (45412848, RGN, Band 7, Community CNS, registered 30 years).*
>
> *"Support at home! Battling through but does impact work/life balance" (45747474, RGN, Band 5, Surgery, registered 1 year).*

Various other strategies related to professional efficacy that help these nurses manage adversity were described, namely: *problem solving, weighing up all sides of situations/arguments, persisting, resisting, learning, and researching*. Communication skills are core to nursing, here they were considered vital to coping, variously described frequently prefaced by superlatives (e.g., *good; advanced; effective,* and *open)* and specifics (e.g., *listening; negotiation; reasoning; tact).* In addition, to knowing who, how and when to communicate, (e.g., *giving an air of security* and *firm ground*), often described in conjunction with supportive relationships:

> *"I find considering the code of conduct very helpful, to aid me in the way forward and to remind my team of their responsibilities. The RCN CLP programme also gave me many tools and developed my confidence and ability to manage challenges" (46276960, RGN, Band 7, Elderly Care).*
>
> *"Good relationships with colleagues and good listening skills. Being able to listen to staff, making sure the team gets support from within" (47620620, RGN, Band 7, Emergency Care Practitioner, registered 24 years) [Q5b].*
>
> *"Communication central in diffusing lots of situations and recognising when you need help and recognising when others need it" (47619443, RGN, registered 18 years) [Q5b].*

Linked to communication, competence, experience, tacit knowledge, decision-making underpinned by reflection were key professional strengths that these nurses also considered to give protection against adversity.

> *"Experience helps me to test my thinking with others in terms of implementing care in the best way - I see this as being flexibly self-assured or even 'secure in knowledge'" (45183178, Adult, Band 5, CC, registered 13 years) [Q5b].*
>
> *"The ability to reflect upon situations/issues/problems as well as achievements (48419670, RGN, Band 8b, Consultant Nurse) [Q5b].*
>
> *"The ability to be unbiased. The ability to be value free in reaching decisions. The ability to break down the topic into manageable and negotiable parts. The ability to detach/depersonalise from criticism that is founded on or led by professionals thinking naive/bias/illogical. Ok bias is fine - but it depends how this is presented to the case and its purpose and /desired outcome", (45696670, MH, Band 7, Ward Manager, LD, Private Forensics, registered 4 years) [Q5b].*
>
> *"Think outside the box even though nursing is hard it is also very rewarding- reward yourself" (46870223, Band 6, Frailty, CNS, registered 28 years).*

Many clearly wished others to benefit from their experience (e.g., last extract above). Professionalism came through as fundamental to help these nurses cope, such as not taking offence. However, tensions were expressed again from upholding professional expectations.

> *"Professionalism the ability to not take things personally when patients are ill tired and frightened and to be able to build rapport very quickly", (47619443, RGN, registered 18 years) [Q5b].*
>
> *"Improved my acting abilities so others around me think that everything's ok (putting on a brave face for work)", (47958981 Adult, Band 6, Neonatal, registered 17 years).*
>
> *"I am able to maintain a professional external appearance when needed. I have however sat in the car and cried after leaving" (48062146, Adult Band 6, Continuing Care, registered 10 years) [Q5b].*

7.3.4: Emotional efficacy

This sub-theme describes how these nurses accumulated emotional management strategies to be calm, professional, and compassionate despite stressors

experienced[45]. Strategies to stabilise, restore emotional balance and keep perspective (e.g., *keeping, staying, remaining, stabilising, retaining,* and *don't bottle things up).* The exposure of one's vulnerability and developing emotional management skills were reported as hard and persistent effort was necessary:

> *"Being open about things rather than keeping it to myself (45764000, Adult, Band 5, Emergency Admissions, registered 2 years).*
>
> *"To distance myself from emotional responses. If I feel emotionally challenged- if possible I delay any decision making until any initial emotional responses e.g. annoyance/upset passes and then I find I make better decisions and can justify them better than making "knee jerk" decisions. If I have to act "there and then" I have built up the ability to "quickly" distance myself...make a decision and then allow my emotions to catch up. Took a long time to master this", (46306925, RGN, Band 7, ODP, registered 18 years) [Q5b].*

Empathy, a core component of compassion, often co-coded with *kindness, calmness*, *patience,* and *understanding* were consistently reported as core to their emotional efficacy. Many nurses described complex skills of building empathy from blending life and work experiences for patient care benefits:

> *"Empathy! Try and put yourself in the patient's shoes and think about what you would want if you were ever in that position" (45758695, RMN, Band 5, MH Assessment Unit, registered 2 years) [Q5b].*
>
> *"Life experiences of loss, bereavements, and coping skills" (47682257, RGN, Band 7, Sister Palliative Care, registered 37 years) [Q5b].*

Contrary to this many described the opposing skill of maintaining emotional boundaries within work and separating work from home:

> *"Ability to keep boundaries without losing compassion" (47625368, RGN, Band 6, Palliative Care, registered 39 years) [Q5b].*
>
> *"Ability to keep work and home life very separate" (45772882, Adult SPQ, Band 7, registered 15 years) [Q5b].*

Linked to gaining perspective the necessity for breaks was clear: during the adversity (e.g., *time out; time away;* and *to step back*) break times (e.g., *Quiet moment on my own*. *To calm down and think rationally before acting. To breathe. To think. To get my*

[45] Unless otherwise stated these responses refer to question 4b.

head together. Bang head on wall. *For others to calm down).* And crucially time off (*To recharge*). The need to remove themselves from the immediate environment was frequently expressed:

> *"Walk away from situation for a short while, return refreshed, go back and try again" (47623014, RGN, Band 5, Elderly Care, registered 21 years).*
>
> *"Exercise. Time off the ward. Emergency chocolate" (47883220, RMN, Band 6, registered 6 years).*
>
> *"Talking to loved ones. Exercise to relieve stress, clear my head and relax" (47647638, ANP, Band 7, organisation wide, registered 27 years).*

Flowing from this, reflective practice again was considered core to emotional efficacy (e.g., *on my own; with colleagues';* and *writing my journal*) time was clearly a barrier. However, as seen with clinical supervision above. A fragment of time gratefully snatched in work was often viewed as critical. These are concerning findings, given the adversities reported and their high expectations for patients:

> *"Have no time to reflect" (47666720, RMN, Band 6, Community, registered 10 years).*
>
> *"Time out for a few minutes to reflect" (47671099, Adult Band 5 Community Hospital).*

In contrast, some strategies disclosed were distressing, not unexpected perhaps given the nature of some adversities described, for instance some nurses stated how they had broken down hidden from others, seemingly any private place they could find in work, or at home:

> *"Crying in the storeroom" (47883220, RMN, Band 6, registered 6 years).*
>
> *"Drank heavily and cried myself to sleep" (46008705, Adult, Band 8, ANP, registered 21 years).*

The last response above highlights the reality and risks of varying coping strategies yet poignantly illustrates the hidden emotional impact following a traumatic young death despite experience. To manage such extreme emotions various stress management strategies were described to deal with difficult stages of resilience (such as gaining perspective and moving on) positive psychology appeared embedded in

many respondents practice such as consciously adopting positive self-talk and offsetting negative. Personal responsibility to manage their own stress and risks to resilience were clear. Various self-directed approaches were recounted including relaxation techniques and mind and body balance approaches, such as mindfulness (e.g., Q4. 40 references) and meditative practices (yoga):

> *"I have completed a mindfulness course (self-funded) and am now more able to let things go. Am learning to stop over thinking things, thoughts are thoughts not facts. Learning to be kinder to myself and not to beat myself up when situations are difficult" (45623652, Band 6, CNS Community, registered 27 years).*

> *"15 minutes' meditation on my break" (47647178, Band 5, RLD, registered 2 years).*

The need for emotional management strategies to enable calm quality care is reinforced in this data and substantiates the previous data related to their colleagues' resilience. These findings have also exposed the risks of developing and maintaining emotional dexterity, it cannot be assumed, suggesting that continuous support is required.

7.3.4.1: Strategies to offset risks.

This sub-theme describes how these nurses developed strategies to offset risks that they had little control over to maintain patient safety, reiterating previous risks discussed particularly suboptimal resources. Drawing upon their strengths, being responsive, flexible, accepting, determined, and using communication and prioritisation skills were some of the varied ways these nurses described coping to offset risks:

> *"Firefighting in what are the worst times of the NHS" (45969238, RGN, Band 7, ANP, Medical, registered 30 years).*

> *"Time management is vital due to work demands, and I have had to become accepting of the time constraints. Flexibility is also essential in our team" (45136866, CYP, Band 6, Medical, registered 6 years).*

Professional dissonance and reluctance about some of the strategies they employed however were found:

> *"In the modern NHS I am finding it increasingly hard to be as compassionate as I have been in the past which I do not like", (47790616, Adult, Band 7, SPN, registered 27 years) [Q4c].*

> *"I love my job but as there is little support from managers, my attitude has changed somewhat" (4523455, RGN, Band 5, Outpatients, registered 41 years) [Q5b].*
>
> *"Blinkers – hoped it worked" (47661121, Adult, Band 7, ANP Community, registered 13 years).*
>
> *"Crossing fingers (advice from CEO!)", (45221255, RGN Band 7, NP Across Organisation, registered 34 years).*

The last two examples above offer insights into insecurities that can be experienced working in the NHS at all levels. Other ways of coping that were reported included communicating dissatisfaction, continued acting on worries; resistance and determination, also feelings of insecurity translated into other tactics to "*cover their backs*":

> *"Wrote a letter documenting my concerns to management, signed by nursing/medical staff", (47636991, RGN, Band 5, Gynaecology, registered 16 years).*
>
> *"Communicating with others. Keeping email evidence of management of situation", (46047590, Band 8a, Community MH, registered 25 years).*
>
> *"Ensured that the teams' point of view was heard and documented, even if not acted on by the health board", (47637605, Band 7, Community MH Service Operational Manager, registered 21 years).*

Contrary to this, speaking up was not always considered an appropriate strategy and the difficulties of acceptance and moving on reiterated:

> *"Gave in and stayed quiet" (47620020, RGN, Band 5, DN, registered 32 years) [Q4b].*
>
> *"Increased self-awareness by becoming more reflective. Realising that I would have to let some things go and try to move on. This has come at a cost to my mental well-being though" (47695521, RGN, Band 5, Specialist Medicine, registered 32 years) [Q4b].*

Such strategies were clearly complex, often risk laden and could seriously threaten some respondents' resilience more than others. These findings endorse the previous tests of resilience data:

"Coping strategies are brilliant but require clarity to engage them. I believe resilience can be lost personally but can be found again with good mental health. I was a DN for 12 years until 2 yrs ago when my resilience deserted me!" (45903206, RGN, Band 6, Practice Nurse, registered 16 years) [Q4b].

"Constantly thinking about your actions and consequences all the time. I am tired now 10 hours into the shift, but I have another 2 hours to go before I can rest. I could make a mistake, which could make a massive difference to this patient's outcome", (48068414, RGN, Band 6, Surgery, registered 21 years).

When personal and work adversities coexisted risks clearly accumulated indicating depletion of reserves from all angles. The extracts below show an example of how one respondent required extended work absence and necessitated formal support but appeared to be recovering from combined personal and external resources, some available more than others.

"Numerous personal issues all at one time, then an issue in work blown out of all proportion. Staff were aware of personal issues and gave no support" (45203821, RGN, Band 6, DN, registered 33 years) [Q3c].

"I was doing my best. Hanging in there by my fingernails some days……" [Q5b].

"Exercise has always been important but due to medication I am on I find it difficult to get up in mornings. Have gone for run/walk for 30 mins. every morning for years-not happened for a year now. Motivation not there at present…… "[Q7b].

"Clinical supervision. I had this for years but due to an issue between my colleague and supervisor, it was stopped", [Q10].

A common strategy and turning point for some was to change jobs, but sometimes this was not sufficient to offset risks for one nurse below reinforcing the persistent nursing turnover messages.

"The increasing and ongoing pressure (=chronic stress) due to increasing workload and decreasing staff numbers over the past years... this has caused many of my colleagues and myself to feel disheartened, depressed and hopeless" [Q2c].

"Doing all sorts of coping strategies and not seeing any signs of things possibly improving I decided to accept an opportunity to leave my place of work by accepting a 6 months' secondment into a completely different area. I have since decided to give up nursing

altogether rather than to ever return to ward based acute nursing care" [Q4b]. (46035109, Band 5, registered 15 years)

Nurses expressed their deep concern that regardless of nurses' strengths if resources are not available nurses' resilience will be at risk:

> *"The best nurse in the world cannot implement personal strengths without time and this is impacted by staffing levels. Implementing a staff to patient ratio might be beneficial as again possessing all these strengths and being unable to implement them can test the resilience of the best nurses" (4764529, Adult, Band 6, Sister, Medicine, registered 12 years) [Q4c].*

> *"Nurses need to recognise the early signs of "burn out" can be the reduction in their levels of resilience. Resilience is vital in nursing, but nurses are human too. Lack of, reduction or lowered levels of resilience doesn't make you a failure at nursing. Nurses feel under a lot of pressure to manage no matter what the circumstances, but recent years have seen these circumstances become ever more demanding" (45903206, RGN, Band 6, Practice Nurse, registered 16 years) [Q4c].*

Linked to this, a clear message was voiced regarding reduction of the stressors, particularly investment in more resources, rather than interventions to help nurses cope with the stressors. However, help to cope with what were described as unprecedented workplace stressors was also recognised by some:

> *"The immense pressure on nursing staff in acute care needs to change, not our ability to cope with it" (47621060 Adult, Band 5, Surgery, registered 24 years) [Q6].*

> *"It's not coping strategies that are required. It is resources. If we truly had what was needed then staff would not need to develop coping strategies just to get them into work" (45996629, RGN, Band 7, Surgery, Charge Nurse, registered 24 years) [Q4c].*

> *"Bring in yoga/meditation/mindfulness into the workplace to counteract work-based stress/anxiety/conflict" (47418231, RMN Band 6, Nurse Manager, registered 10 years) [Q4c].*

These nurses have shown how resilience strategies can be built to offset risks, and hidden resilience when external resources are sub-optimal.

7.3.5: Building resilience

This sub-theme illustrates that these nurses' help to build resilience in others as well as themselves through protective health and well-being measures alongside managing challenges.

A key personal strength described by many respondents was building resilience in others (e.g., *good mentor; role model; listener* and *making sure the team gets support from within*):

> *"To be able to look after your own needs in addition to others" (46810939, RGN, Band 6, SDN, registered 27 years) [Q5b].*
>
> *"Ability to listen and support supervision, unconditional positive regard", (47671245, RMN, Band 7, Nurse Manager, Private Sector, registered 15 years) [Q5b].*
>
> *"Supporting the team, I found it very difficult as I have only qualified for a year I remember the difficulty of first qualifying and how terrifying the first few months were so I always try to help newly qualified staff and my colleagues who supported me" (45747474, Adult, Band 5, Surgery, registered 1 year) [Q5].*

These messages reinforce the experiences previously described of sharing their colleagues' resilience. However, contrary to caring for others, caring for their own health and well-being within work was seldom mentioned and this seemed to be normalised. Yet the significance of good work-life balance to these nurses was clear.

> *"Nurses don't eat at regular times- complete tasks first etc. Therefore, looking after own health doesn't happen often" (48210144, Adult Band 5, registered less than 1 year) [Q4b].*
>
> *"A stable home life, somewhere to escape" (45194308, Adult, Band 7, Sister Emergency Unit, registered 19 years) [Q5b].*
>
> *"The ability to park work at work and do positive things at home like watch a film or walk the dog, or visit relatives", (47048673, RGN/RMN, Band 7, ANP) [Q5b].*

When asked to consider important health and well-being activities to help build their resilience a host of activities[46] were described primarily spending time with significant

[46] Unless otherwise stated all responses are from [Q7b].

others to invest in their relationships, receive reassurance and relax, which substantiates the known links between strong relationships and resilience.

> *"Take pleasure in my 4-year old's enjoyment of her activities" (45246435, Band 7, SPN, registered 28 years)*

> *"I enjoy helping at my daughter's school & with my son's rugby club & feel a bit more involved in their lives as a working mum", (47859142 Band 5, Private, Community, registered 13 years).*

> *"I spend time with people who build me up" (47624290, RGN Band 6, Deputy Sister Continuing Care, registered 14 years).*

Some nurses favoured spending time with colleagues outside of work, whilst others did not.

> *"We work in a very busy department and we try to ensure we get together and do some form of team building last week we walked up Snowdon!" (47622613, Band 6, A&E Junior Sister, registered 8 years).*

> *"I have learnt to avoid socialising with colleagues over time - distance I have learnt is healthier" (47793631, Band 8a, CC CPD Nurse, registered 26 years).*

A multitude of other routine self-care activities were recounted, underpinned by self-awareness and experience, popular were hot baths (*spas*), walking the dog (e.g., *open spaces, fresh air,* and *connecting with nature*), energising pursuits (*walking, cycling, swimming,* and *running*), and home-based ones (e.g., *cooking, gardening,* and *housework).* Some valued meditation type activities (e.g., *yoga*), suggesting perhaps the broader public interest of mind-body balance interventions to combat increasing contemporary stress. Generally, the activities helped distraction, relaxation (e.g., *switch off; de-stress; calm; unwind,* and *downtime)* and processing emotions to help gain perspective. Importantly, the need to stabilise and restore emotional equilibrium emerged once more reinforcing the recognition to restore depleted reserves.

> *"Energy. Core stability. Focus." (48079350, Adult, Band 5, Private Hospital, registered 26 years).*

Some enjoyed studying, whilst a few chose to connect with others divorced from nursing to gain perspective, positivity, income and develop different skills, thereby boosting self-esteem. The last nurse below however is just one that described

developing a “safety net” from the NHS, suggesting again the turnover intention message:

> *I enjoy studying, currently doing a counselling diploma (47671539, Band 5, Outpatients, registered 3 years).*
>
> *“Hobby unrelated to work i.e., learning the piano. It provides and maintains a sense of accomplishment/competence that cannot be judged/rated/observed by employers” (45696670, Band 7, MH/LD Sister, registered 4 years).*
>
> *“I have recently joined an annulment company not just for extra cash but to get out and socialise to build confidence and get a sense of balance, nursing can at times be demoralising so to give life balance I deliberately seek positivity and balance in my everyday life” (48065702, Band 5, Surgery, registered 2 years).*
>
> *“I run my own business so I know I can walk away if I have to” (45761451, Band 7, ANP, registered 30 years).*

Many respondents indicated however that developing well-being activities is tough and that they had achieved success by prioritising self-care time and sustained routines. Rituals often at the beginning or end of work (e.g., *leaving work at work*; *home at home; compartmentalising*, and *switching off*):

> *“Own health and well-being is vital. Constantly changing and playing with the way we cope, to find the magic formula”, (47860193, Adult, Cancer Care, Band 7, Charge Nurse, registered 13 years) [Q4b].*
>
> *“Debrief myself I do this walking to and from work (reflective practice)”, (47909908, RGN, Band 8a, Medicine, registered 20 years).*

Conversely, despite the recognition of well-being activities numerous nurses found them harder to undertake than others:

> *“I find it difficult to relax. I walk frequently but find it hard to sit for long periods. Find it hard to spend time reading and doing things for myself. Feel guilty for giving myself time to myself. Never feel recharged!” (45767380 Adult. Band 6, Junior Sister, Medicine) [Q7b].*
>
> *“Find it difficult to relax and forget when I've had a hard/bad day in work either with staff or with an upsetting encounter (48082873, Band 5, Surgery, registered 23 years).*

Practical and personal difficulties also emerged, such as time constraints due to working conditions (irregular shift patterns) balancing competing demands and self-care reinforcing the adversities concerning working conditions exposed earlier:

> *"Holidays are impossible because I cannot get a complete week off due to staff shortages. Last complete week - Monday to Friday was 6 years ago" (48410120, RGN, Band 6, NP, Organisation wide, registered 30 years).*

> *"For many years I've not been committed to social groups due to irregular work patterns" (46872334, Adult, Band 7, CC, registered 33 years).*

> *"Spending time with my children- their needs always come first" (48053490, Adult, Band 5, DN, registered 5 years).*

Many indicated barriers due to fatigue, stress, competing demands and lack of motivation. Unhealthy behaviours that undermine well-being in the longer term were recognised (e.g., *excessive drinking, binge eating, inactivity, smoking*, and *working excessively*):

> *"Probably overeating, and being anxious" (45761451, RGN, Band 7, ANP, Minor Injuries Unit, registered 15 years) [Q4b].*

> *"I drink alcohol to excess then I break down and cry to my partner who is very supportive. Then move on, (47623805, Band 5, Bank Nurse, organisation wide, registered 38 years).*

Similarly, numerous respondents from varied settings described the difficulties of following through with their good intentions, highlighting stress and burnout risks.

> *"Spend more time with friends, walking and hobbies, which I started doing now since I started my secondment... While working on my ward I constantly was too stressed out and too exhausted to do anything during my time off work", (47621060, Adult, Band 5, Surgery, registered 28 years) [Q4b].*

> *"I have a very poor work life balance because of the demands of the job and just being too exhausted. I would like to do hobbies etc but don't have the energy", (45677817, Band 8a, Community Nurse Manager, registered 37 years).*

> *"I would like to exercise more, but I find I'm always so exhausted from work that I just end up falling asleep on the sofa after work", (46948335, Adult, Band 6, Research, registered 3 years).*

"I would like actually to be conscious doing the activities", (47625602, Band 6, Community MH, registered 9 years).

7.4: Summary section one: What does help nurses' resilience.

To help answer research question 3, the self-reports of these nurses' strengths and strategies that underpinned their resilience were presented. The importance of supportive relationships was core. We must remember however the tenuous fragility of relationships, particularly with management, that has been a consistent risk identified. In contrast, their commitment to build resilience of others was clear. However, often their strategies depended on personal resources and many strategies were developed to offset risks. A key message was the detrimental effects of the adversities and that they needed to be tackled, that shared responsibility rather than sole responsibility upon nurses to cope was required. Leading to the understanding that regardless of individual capacity if workplace resources are suboptimal nurses' resilience will be hindered. Structuring the findings broadly according to the inductive resilience dimensions helped to further understanding.

The last dimension described how these nurses attempted to build their resilience including self-care. It was found that despite the recognition of the importance of self-care, it was hard, and some nurses had more difficulty with this than others. It was found that distraction from stressors is not enough that sustained routines are important. This led to the understanding that self-care skills cannot be assumed, contrary to the extant literature where it is generally recommended, showing the hidden toil of building resilience which is rarely considered. These are unique insights into the hidden resilience (Ungar 2011) of nurses to overcome workplace deficits which led to the conclusion that a combination of support to reduce risks and develop sustained strategies could help nurse resilience.

7.5: Section two: What could help nurses' resilience.

This final section addresses what could help nurses' sense of resilience. Key findings emerged principally provision of more resources (especially nurses) education and support and understanding generally to do their work. Inevitable stressors of nursing were acknowledged, but that adversities due to suboptimal resources need to be tackled not perpetuation of nurses' responsibility to cope. In short, workplaces could

do far more to help resilience. Through in-depth analysis of the data[47] three main themes and subthemes emerged. 1.) Resources, 2.) Education and development 3.) Support and understanding particularly from managers and colleagues (e.g., *N*=24.5% [226] stated "*support*") each theme will be discussed consecutively. The figure below depicts an overview of this section.

Figure 14: Overview section two: What could help nurses' sense of resilience

7.5.1: Resources

> *"More staff. More staff and more staff" (46017527, Band 5, Rural CC, registered less than a year).*
>
> *"Looking after nurses before NHS going to extreme crisis!!" (45185962 RMN, Band 6, Community, registered 30 years).*

It was overwhelmingly reported that more resources, especially nurses to meet patient demand, could help these nurses' sense of resilience in their everyday work. Often emphatically expressed in numerous ways, quantity (e.g., *full nursing establishment; safe; correct; appropriate levels;* and *more admin staff*) and quality (e.g., *skill mix; patient ratio; meet ward demand; lots of one-to-one care; uniform standards;*

[47] Unless otherwise stated all responses, refer to Q10: Can you suggest three things that would improve your sense of resilience in your working life?

competence, and *better staff*). In addition, to stable happy teams, (e.g., *consistent staff; less agency, difficult staff; friendlier; less defensive; staff that smile more,* and *better staff morale*):

> *"*Appropriate staffing levels * Skill mix * Time" (45192504, Adult, Band 5, Community, registered 1 year).*

> *"Better staff morale, non-judgemental team feeling more supported and appreciated" (47164814, Adult, Band 6, Surgery, registered 6 years).*

Such responses reinforce again the nursing workforce shortfall and its detrimental effects. The opposite, however, was described here that is the positives from appropriate provision of nurses especially workload reduction, that could release the key resource: time. Unanimously these nurses expressed more time to care to the *highest standards*. To undertake rewarding work but notably not change "nursing" work per se was reinforced, to modify their work volume and type (e.g., *less unpaid overtime* and *inappropriate work* i.e., work of others/paperwork) and work organisation (e.g., better rotas). Time to better support their colleagues and self-care.

> *"More time with patients. Not to feel guilty if not seeing patients" (45196788, RGN, Band 6, NP, registered 42 years).*

> *"More staff. More time for patients. Colleagues. Less paperwork" (45738730 Adult, Band 8a, Primary Care ANP, registered 20 years).*

Linked to self-care these nurses frequently stated that to help their sense of resilience working conditions needed to improve, specifically better rotas and breaks for their health well-being and work-life balance (e.g., "*work"* and "*life"* co-coded 50 times). Again, reinforcing earlier findings that meeting fundamental needs is necessary for resilience (i.e., hydration, nutrition, rest, and exercise). General enhancements to rotas were recommended (e.g., *more flexible; improved shift patterns; consecutive days off together,* and *rostered online learning*) also ad hoc rota provisions (e.g., *home crisis*):

> *"A rota that provides adequate time between shifts to allow for rest and recuperation and work life balance" (45769700, Band 6, Manager, Emergency Care, registered 7 years).*

> *"To have a work pattern so I can commit to a social group" (46872334 RGN Band 7, CC, registered 33 years) [Q7c].*

The first extract below reinforces the tensions of home and work demands seen previously then the second suggests flexible rotas to motivate nurses to remain clinically:

> *"A better balance between work and life. Finish on time so my private time is fixed. Family friendly hours, shifts don't help. Better home relationships" (45637213, Adult, Band 5, Community, registered 5 years).*

> *"Being able to work shorter hours and no nights in a permanent position while still being in a clinical role" (45143710, Adult, Agency nurse A&E, registered 30 years).*

It was apparent that breaks within the working day to protect these nurses' reserves were unsatisfactory. The responses ranged from meeting minimum legal requirements (e.g., *daily; protected; regular; routine,* and *frequent breaks*) healthier working days (e.g., *drinking more water on 12-hour shifts*) to better quality breaks (e.g., *undisturbed; proper meals; breaks not used for training,* and *mindfulness*). Furthermore, better break facilities (e.g., *off ward* and *away from the shop floor*):

> *"A nice staff area for breaks- a recognition that we are valued-not a converted cupboard as a coffee room" (47660688, RGN, Band 6, Ward Manager, Surgery, registered 28 years).*

> *"Time out sessions during the working shift (not breaks) to reflect on stressful situations as a group" (46622720, Adult, Band 5 CC, registered 8 years).*

One nurse shared a novel workplace intervention they had experienced:

> *"I've previously worked within a non-stat service where the employers had a policy around staff being able to take short bursts of time (where reasonable), approx. 30 minutes, out of their work if they were feeling stress/under pressure, to engage in an activity to try to help. This was not taken out of their breaks and there was some expectation so that the policy was not taken advantage of but I remember one gentleman would go for a run, he felt this enabled him to manage his workload more effectively" (47418231, MH, Band 7, Nurse Manager, registered 12 years).*

Putting these messages together, it is not surprising, yet concerning, that a few nurses mentioned the need for better home relationships. It is beyond this study to explore work effects on these nurses' home lives, but the two-way entanglements have surfaced previously the extract below reinforces chronic problems associated with shift working:

> *"More support and understanding from family and friends about my off duty" (47637293, RGN, Band 5, Medicine, registered 35 years) [Q4c].*

An important overall finding of this theme related to resources was that it was not necessarily nurses lacking resources but workplaces, suggesting that more multi-level resources could help nurse resilience. The extract below sums this up.

> *"Current resilience not taken for granted Systems to support clinical environments not Clinical environments to support systems Being less resilient" (45301246 Band 8b CYP Lead Nurse, registered 20 years).*

7.5.2: Education and development

This subtheme illustrates that enhanced provision of education and development could help these nurses' sense of resilience in their everyday work, there are two subthemes educational development provision and needs.

7.5.2.1: Education and development provision

Limited education and development provision was a point of agreement suggesting that their motivation was not the barrier:

> *"Would accept any training" (47682257 RGN, Band 7, Palliative Care, registered 37 years) [Q4c]).*

> *"More study days to allow nurses more opportunities to be up to date with their knowledge and develop new skills/knowledge. I believe it would help the nurse remain confident and competent in their role", (47626162, Adult Band 5, Medicine, registered 5 years) [Q4c].*

> *"Training time is very poor where I work. Too much sickness time, often due to colleagues suffering stress, to be covered, so study leave gets cancelled frequently" (45767380, RGN, Band 6, Medicine, registered 6 years) [Q4c].*

It was reported that clinical pressures dictated current provision which was generally ad hoc, variable fragmented and did not reflect career pathways. In addition, that development opportunities in work should be the norm (e.g., *regular; routine; respected; prioritised; designated; committed*, *protected time; time built in; time-out; released,* and *free access to computer*), which echoes previous findings:

"Everyone is so worn down and demoralised because of NHS austerity. The 3 things needed:
1. Proper staffing levels with registered nurses (UK)
2. Career progression structure
3. Opportunity and CPD support"(47793631, RSCN 8a, registered 26 years).

"Need access to appropriate support and training without feeling scrutinised and leaving the Department short staffed" (47794197, RGN, Band 7, Charge Nurse, Operating Theatres, registered 34 years [Q4c]).

Investment in meaningful regular development (e.g., *on the job, in-house, work based,* and *professional*) not theoretical, more learning from experiences to develop expertise and health and well-being was considered important. Preferred approaches emphasised were *debriefing* (especially significant/critical incidents) and again *clinical supervision,* which reflected these nurses' experiences shared previously.

"Time for group debrief reflections, CPD and meetings within our working day/weeks. Training/discussions around the teams' health and well-being. Investment from trust in nurses' well-being- Nurses continue to work well over their contracted hours and this is still not recognised" (468110150, Adult, Band 6, DN, registered 15 years).

"A time and set routine when at the end of the shift to have the opportunity to talk it through. Particularly if there has been a death. Someone to talk about it with" (48068414, Band 6, Surgery, registered 21 years).

The first extract below suggests the perceived organisational benefits of ward-based training, as opposed to its appropriateness of it. Whilst the second extract shows the value of protected time away for the many reasons discussed: structured learning, talking and group reflection with others to help sense making.

"Ward based training as due to difficulty in having time off ward to attend courses for further development" (45794231, RMN, Band 5, Rotational Post, registered 6 years).

"Coping strategies. I know that talking to others really helps. Group reflecting in uni helps" (48664021, Adult, Band 5, Medicine, less than 1 year registered).

It was described as the norm for mandatory training (patient health and safety) to be prioritised rather than nurses' development needs, which seems reasonable, however sometimes it was inappropriate. Compounding this it was expected by some

organisations that nurses completed mandatory and other training in personal time, often online, generating work-life balance dilemmas and employee-employer conflict:

> *"Have a life outside work. There is an expectation that we should attend study days in our own time, study for courses in our own time. I want to look after my elderly father and spend time with my kids. My free time is my time" (45623652, Adult, Band 6, CNS, organisation wide, registered 27 years).*

Building on this, development was associated by many with a sense of being *appreciated* by their employer, which relates to a recurring message that resilience could be helped if these nurses and their well-being was an organisational priority:

> *"Time for discussion. Opportunity to reflect more in work. Feeling more valued in the workplace" (47623250, RGN, Band 7, Practice Nurse, registered 32 years).*

> *"Time for group reflections, CPD and meetings within our working day/weeks. Training/discussions around the teams' health and well-being. Investment from trust in nurses' well-being. Nurses continue to work well over their contracted hours and this is still not recognised and valued" (46811015, Adult, Band 6, Community, registered 7 years).*

Senior clinicians and colleagues were considered important to facilitate clinically based developments, but independent advisors/mentors (e.g., *coaching* and *buddying*) were also valued particularly choosing mentors at certain times.

> *"Extended mentoring when starting a new position or role (45196607, Adult, Band 5, Theatres, registered 5 years).*

In-person compared to online was the preferred approach, for both group and individual learning, especially debriefing (following traumatic incidents and stressful days) also *case reviews, meetings, learning sets, networking, and informal support and well-being groups (peer groups and networks*). Regular opportunities to reflect was the core underpinning learning process valued, for individuals and teams regardless of the subject or approach, to help sense making (*difficult situations*) and moving on to build resilience. These views reinforce earlier data that reflective skills underpin resilience. However, time and support for reflection were clear barriers reinforcing previous findings and the other two sub-themes of this section.

> *"Ongoing reflection to help me be a good practitioner. Increased knowledge and experience in my clinical area. Training and support. More opportunity for team working and team reflection- there is often little or no time for "team reflection" except through emails (45144192, Adult, Band 5, Practice Nurse, registered 24 years).*

Connected closely to reflection, clinical supervision, and guidance to conduct supervision and other approaches (coaching/mentoring) were also recognised as important to build resilience (e.g., Q10 and Q4c 22 references).

> *"The importance of clinical supervision is underestimated I think make time for others, time feels pressured at times" (47635209, RMN, Band 7, CMH, registered 27 years).*

> *"Protected CPD time. Work based facilitators. Regular action learning/clinical supervision mandatory" (47932602, Adult, Band 7, CNS Stroke care, registered 20 years).*

Whilst it was indicated that supervision was typically insufficient or unavailable, the response below suggests a similar message for other types of team learning:

> *"Clinical supervision. Ward meetings. De-brief sessions. We currently don't have any" (47629232, Band 6, CYP, Acute, registered 11 years).*

These findings predominantly reflect permanent NHS nurses', but development deficiencies were reported by two temporary NHS nurses (below). Given the reliance on temporary nurses in NHS settings this is concerning, this cannot be determined whether this applies more broadly.

> *"Better support and training opportunities for agency nurses who work regularly in NHS settings. Even if they are self-funded. None if any exist". (45184175, Band 5, A&E, registered 35 years).*

> *"I am a bank nurse I move around and have no line manager no appraisal no development plan" (47623805, RGN, registered 38 years).*

7.5.2.2: Education and development needs

This sub-theme illustrates development needs that these nurses considered could help their resilience. The suggestions broadly accorded with the emergent Resilience Dimensions[48]: which will be reported consecutively. The key personal characteristic

[48] *Personal Resilience Characteristics, Professional and Emotional Efficacy*

identified was the building of confidence (e.g., Q5c 51 references) such as: *self-belief and faith; assertiveness* especially: *clinical competence; dealing with stressful situations; speak up for myself; interpersonal conflict; confrontation; management and communicating concerns.* Confidence reflects successive coping with adversity (Rutter 1999) these findings can be linked with the common battle to overcome the former often insurmountable adversities.

> *"Confidence to challenge the established order", (48562425, RGN, Band 8a, Community Lead Nurse, registered 35 years) [Q5c].*

> *"I'm currently undertaking an MSc in Health and Public service management- this has given me confidence to approach management issues in the appropriate/professional manner with the correct evidence-based rationale" (47688188, RGN, Band 7, Public Health, registered 26 years) [Q4c].*

Connected to confidence, to enhance professional efficacy many respondents recognised clinical competence and team working to be core development needs (e.g., Q5c 32 and 34 references respectively). Competence development reflects expectations to meet known complex patient needs and their former motivations reported that underpin their resilience (i.e., *competence* and *love of nursing*). Related to competence *increasing knowledge*, receiving *constructive feedback positively and* time management were identified. Time management reflects the former workload difficulties voiced. However, some respondents perceived it as their responsibility to become more effective, rather than workload becoming more achievable. While some, spoke of alternative ways of working:

> *"I don't really want to be more ruthless in my actions and management which may make my life easier but I believe to be detrimental to others", (47909908, RGN, Band 8a, Nurse Manager, registered 20 years) [SQ5c].*

Development of team working reflected the recurring message of the importance of close supportive relationships, but also reinforcing the team working difficulties experienced in often overextended and or fractured teams (e.g., *how to maintain good relationships; team bonding/building coaching; counselling; delegating; leading; motivating,* and *gaining help)* and managing others (e.g., *poor team dynamics; difficult staff,* and *differing work ethic*). In addition, to supporting and developing their colleagues' resilience:

> *"More team building skills for all levels of staff" (47630497, RGN, Band 5, Private rural Nursing Home, registered 13 years) [Q4c].*
>
> *"Supporting colleagues during stressful shifts and having the opportunity for protected debrief sessions and clinical supervision regularly. We currently don't have either" (4762923, CYP, Band 6, Acute, registered 11 years) [Q4c].*

The last area identified by the majority related to enhancing their emotional efficacy to help their resilience, at what was commonly perceived as *difficult times*: (e.g., *new ways/alternative/strategies to cope; leave 'work' and forget it*; *moving on with life and situation;* and *more about the way we think)* and stressful situations (e.g., *emotional protection*; *de- escalation; managing boundaries; unexpected aggression,* and *staying calm*) and *capacity to help/support others*:

> *"More access to learning sets based on known organisational stressors ie. dealing with conflict, serious incidents. Refresher of emotional intelligence workshop". (46533862, LD 8B, Nurse Manager, registered 27 years).*
>
> *"Managing personalities and identifying their weaknesses/ strengths to help them become more effective in stressful situations they encounter", (47671245, MH, Band 7 Nurse Manager, registered 15 years)*

Finally, there was some acknowledgment that experiencing stress was unavoidable, particularly in the short-term, hence stress management training was requested (Q4c: 21 references). Once more, clinical supervision and reflective, cognitive, and meditative approaches, including CBT were recommended. In addition to mindfulness but funded by employers (e.g., Q4c: 36 references).

> *"Free of charge mindfulness training" (45220437, Adult, Band 5 Surgery, 1 year registered) [Q4c].*

7.5.3: Support, understanding and being valued.

> *"Support, compassion and understanding" (47556730, Adult, Band 7, CC, registered 24 years).*

This final sub-theme illustrates that enhanced support, understanding, and valuing to perform their work generally could help these nurses' resilience, especially management, colleagues, the profession, government, and the public.

> *"More support from senior manager*
> *More cooperation/appreciation from my team*

More understanding from the public about the demands on nursing staff," (45772882, Adult, SPQ, Band 7, registered 15 years).

"I feel no sense of responsibility to my employer or profession as I cannot depend on them to back me up in difficult circumstances", (47620248, RGN, Band 5, Community Hospital) [Q6b].

The majority described multiple ways that support from management could help their resilience including supply and protection of the workforce, visibility, critical incidents, trust, and communication. Some managers were clearly perceived unable to do this.

"Being able to sleep not worry about work issues. Having managers who know how hard our job is to time manage. More nurses everywhere to ease" the pressures (47673181, Band 5, rural Nursing Home, registered 6 years).

"Adequate levels of staffing and resources. It doesn't matter how resilient one is, if you are repeatedly bombarded with trying to give with less and less, some day you will just give up caring" (45969238, Adult, Band 7, CNS, registered 16 years).

The last response is significant, highlighting vulnerability and risks to depletion of reserves, that resilience is not a finite supply consistent with the detrimental effects of former adversities shown and experiences of colleagues with lowered resilience. A few stated changing jobs, part-time working or leaving (*N*=7) retiring (*N*=2) could help their resilience reiterating the intention to leave thread again.

"New Job. Less Bullying. Manager who cares" (45702507, Band 6, Emergency Out of Hours Practitioner, registered 29 years).

"Retirement x 3" (47644351, Band 8a, MH, Nurse Manager, registered 30 years).

"I would like the top line of management to be aware of the high turnover of staff in our department and investigate it rather than just say no one has complained (even though at least 1 has asked x 2 for exit interview)" (45215074, RGN, Band 6, CNS, A&E, registered 14 years).

Linked to workforce turnover, a point of agreement was that these nurses' resilience could be helped by receiving recognition (*e.g., respect; compassion; sense of worth; motivation,* and *acknowledgement)* praise and encouragement (e.g., *you've done well today* and *people saying thank you)*. In addition, to be able to exercise autonomy to essentially feel a sense of belonging and value for the work they do, the personal sacrifices made and the effect on their health and well-being:

"Feeling unmotivated by management and unsupported. Surrounded by colleagues who are counting down to retirement! No sense of feeling needed or valued just used and critisised" (47915727, RMN, Band 7, rural, registered 29 years) [Q6b].

"Managers that take time to ask how I am. Managers to not expect staff to work over and above contracted hours" (47635370, RGN Band 6, CNS, Medicine, registered 40 years).

"Encouragement to stay and feel like a valued member of the team rather than just a number, by working with management to improve work-life balance" (45758222, Adult, Band 5, Operating Theatres, registered 1 year).

Despite these nurses wanting to feel more valued, suggestions to enhance "nursing" work were absent rather it was enhanced support from management to perform their work. Management visibility to support and *first-hand* insights to appreciate the demands of nurses particularly critical incidents (e.g., occupational violence) was called for. Furthermore, regular, genuine career progression feedback, learning needs and effective appraisals (e.g., 360-degree feedback). These link to earlier findings where feedback was considered fundamental to their competence, which appears logical when there was a consensus that competence was core to their professional efficacy:

"Allow nurses to nurse" (46872334, RGN, Band 7, CC, registered 33 years).

"1) Having a manager with backbone.

2) Having an employer who listens and acts on things

3) Being shown appreciation" (47624428, RMN, Band 7, Nursing Home, registered 26 years).

It was reported that leadership and management support was considered suboptimal, and that management "upskilling" was necessary to help their resilience, strength of feeling was shown for this:

"I am listened to I am told if I'm doing a good job/or not I receive effective leadership, any leadership actually", (4522125, Band 7, Night NP).

"For ALL management levels to sit through one-to-one interview with someone who has had their life destroyed by management bullies. Would happily take part to educate and try to protect future

colleagues" (47384897, RGN, Band 6, Practice Nurse, registered 22 years) [Q4c]

"Teach management to consider staff welfare" (47823802, RGN, Band 5, Emergency Out of Hours, registered 42 years) [Q4c].

Overwhelmingly it was considered that to help these nurses sense of resilience relationships between nurses and management needed strengthening by improved organisational open communication and more frontline collaboration (e.g., *dealing* and *negotiating*).

"Better support and understanding from managers to reflect workload stress/issues upwards rather than downwards. Greater recognition of the significant extra work that now is expected outside of work time. Better communication between ground floor staff and policy makers to make appropriate targets", (47588320, Adult, Band 7, SPN, registered 19 years).

"Be able to communicate with high management easily without having to go through line after line of managers. Concerns raised never get to the top....." (47621287, Band 7, Medical ANP, registered 32 years) [Q4c].

"Follow through of managers with promised support. Feeling that the organisation cares for the staff. Not feeling like a small voice in a big world and not being heard," (45197095, RGN, Band 7, Research, registered 27 years).

Linked to meaningful communication respondents expressed greater trust and reliability of their organisations could help with their sense of resilience:

"I feel our employer talks the talk but don't walk the walk. I feel that my personal integrity outweighs the corporate image", (45631070, RGN Band 6, Charge Nurse, Operating Theatres, registered 32 years) [Q6b].

"For organisations to do what they say - if they are to come back and collect feedback then do so rather than go through the motions. It is insulting and demotivating and less than one should expect from an employer," (48003563 RGN, Band 7, SPQ CNS, registered 46 years).

"If I say I have difficulty with something I would like the people who are in a position to do something about it to try and understand why rather than just say no one else is complaining", (45215074, RGN, Band 6 CNS, Community, registered 14 years).

In addition, some considered that their resilience could be helped by organisational support and recognition more broadly (e.g., *culture; expectations; systems* and *processes*):

> *"I would like the health board to recognise that it employs humans not machines and not try and stretch them to cover problems outside their own county", (45215074, Band 6, A&E, registered 14 years).*

> *"Pay nurses what they deserve and acknowledgement from the public and government how hard nurses work" (47888461, RMN, Band 6 Continuing care, registered 26 years).*

Likewise, at the micro level the need for greater support from colleagues was variously described (e.g., *trust; loyalty; respect; confidence; openness; team; unity; equal; commitment; peer support; supportive conversations; being able to offload; non-judgmental and friendlier team,* and *no "clicks"*). Ways to enhance team relationships were suggested, principally by having more contact with each other (e.g., *team bonding; meetings; conversations; activities* and *cohesiveness*). Aspirations of supportive teams were frequently mentioned such as the first extract below, but descriptions of actual supportive teams were rare such as the second extract:

> *"Within the team, a sense of belonging, respect, no bullying," (47701528 RGN, Band 7, Surgery).*

> *"Working with regular staff in a small team knowing each other's strengths and weaknesses hugely improves your ability to cope in busy/stressful situations, it is much easier to delegate when you know your staff well" (47619443, RGN, Band 6, registered 8 years).*

Importantly, however a few (*N*=10) nurses did offer alternative experiences describing how supportive teams and managers engendered resilience.

> *"Nothing really, find online courses helpful.*
> *I have a truly dedicated clinical nurse manager who supports me in all aspects of my RN role" (48547856, Adult, Band 5, Community, registered 19 years).*

> *"I work in a small unit with a great bunch of colleagues, I am privileged to have all I need within my organisation, from top to bottom, everyone supports each other, even the deputy director of nursing is available to listen and support staff at all times". (47084434, Band 6, CC, registered 8 years).*

To end, the extracts below sum up the main findings in this sub-theme that a combination of continuous support, development and health and well-being could enhance these two nurses' sense of resilience:

1. "Continued balanced health and well-being.

2. Continued work life balance.

3. Continued development opportunities."

(45193100, Band 7, Community CNS, registered 23 years).

"I'm really happy in my job. I work in an exceptional area - other departments in the trust are not as supportive.

1. Continued mutual respect between management and staff.

2. The ability to have fun in a very supportive work environment.

3. Ongoing education/CPD" (45222810, Band 5 Oncology, registered 27 years).

7.6: Summary section two: What could help nurses' sense of resilience in their everyday work?

This section revealed that these nurses' sense of resilience could be helped by three key workplace factors, resources, education and development and support. Especially provision of nurses to enable reduction of workload, thereby releasing time to provide patient care, team, and self-care; in conjunction with health and well-being (breaks and break facilities). Education and development particularly practice-based learning opportunities that are protected, routine and reflective (e.g., debriefs) to develop individual and team expertise (clinical, emotional and well-being). To enhance a sense of being valued by employers. Multiple gaps were exposed that could inform such learning. Supportive teams modelled by supportive managers that are visible, value nurses and their work could also help these nurses' sense of resilience. The reverse of these factors was found to hinder resilience, reinforcing the former adversities exposed. This led to the growing understanding of these nurses' determination to overcome workplace deficits, by drawing upon available resources principally personal reserves which is not sustainable. These findings confirm the consistent thread

throughout this thesis that these nurses do not necessarily wish to change their "nursing" work per se but require enhanced support.

7.7: Chapter 9 conclusion: Routes to resilience

This final theme: Routes to Resilience illustrated what helps and what could help these nurses' sense of resilience in their everyday work to help answer several of the research questions. These nurses explained multiple often hidden strategies showing how resilience is not easy, but it can intentionally be built in themselves and others despite workplace deficits. Trusted supportive relationships were found to be crucial. Important findings as it is known that response to adversity is individual some nurses more than others can respond positively to adversity and support can influence this.

7.8: Overall summary of qualitative findings

The first of these three chapters revealed that resilience was clearly perceived as a positive built capacity of their colleagues, translated into calm compassionate quality care and career sustainability. Composed of dynamic abilities, processes, and outcomes, which are vulnerable to risks that can potentially be negated. That it is more than individual in nature; important contagion high or low can occur. A temporal trend concerning a declining capacity in their colleagues' resilience was however broadly evident, related to workplace risks indiscriminate of nurses' experience, suggesting high risks in some of depleted personal reserves, that resilience is not a finite supply. Resilience of nurses is complex, determining lowered resilience is not straightforward, complicated by concealing of emotions due to professional and workplace expectations. Resilience dimensions[49] emerged composed of discrete intertwined elements: Put together, these findings led to the understanding that resilience is not easy, but it can help nurses manage occupational stressors, which can positively influence nurses' functioning and vice versa which we know little about suggesting greater understanding of this complex concept grounded in practice is required.

The second chapter reported these nurses' experiences of workplace adversities that can impact resilience. It was found that traditional direct care work, though demanding, seemed not necessarily the risk to resilience, more these nurses' inability to deliver

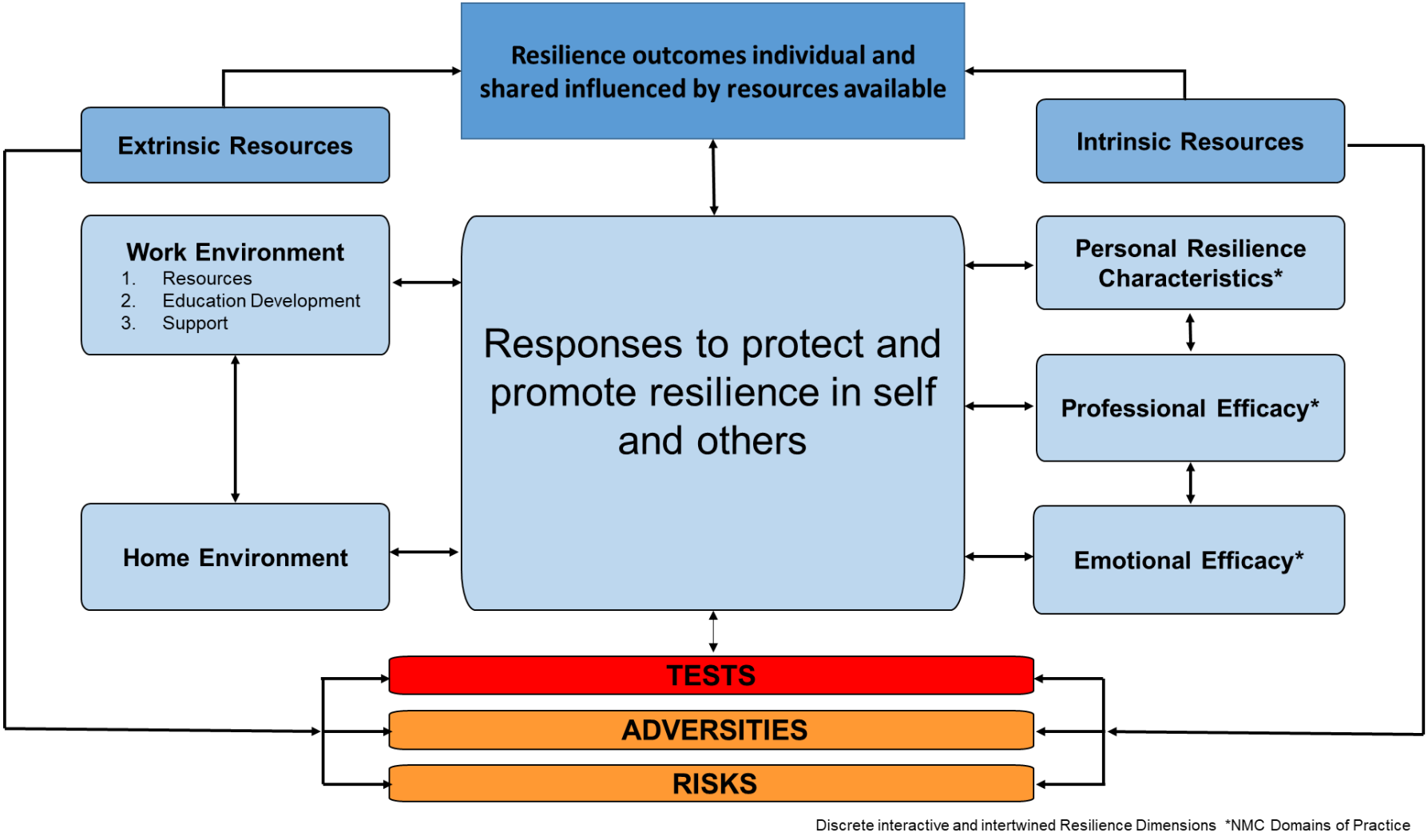
[49] *Personal Resilience Characteristics, Professional* and *Emotional Efficacy, Building and Risks to Resilience.*

care required and overcome environmental adversities, particularly resources (lack of nurses) and workload. Often workplaces could not protect their resilience and adversities escalated into tests of their resilience that could seriously destabilise their functioning and transpired into critical career transitions for some. That the workplace was the adversity itself. Leaving no doubt concerning the stressors that nurses need to overcome to be able to care for vulnerable others, which is inherently stressful in itself. These findings were especially important and led to the understanding that despite such adversities there was an overriding sense of these nurses' commitment to deliver quality care indicating that even in the most severe circumstances nurses can develop their own and others resilience concluding that workforce support is critical.

The last chapter showed how these nurses built their own resilience and that of others in often hidden varied ways despite workplaces deficits. Trusted supportive relationships were found to be crucial. Building resilience cannot however be assumed it requires support, disparities in support were apparent. Therefore, nurses can depend on their personal resources, which can be eroded hence not sustainable. These findings suggest considerable enhanced workplace factors are required to help nurses' resilience, resources, education development, and support appear critical.

The figure overleaf depicts an outline of these qualitative findings shaped by the research questions, first hinted at in the quantitative results. It has been shown that these nurses are exposed to extrinsic and intrinsic adversities and risks to their resilience, often their personal stress is due to environmental stressors. The nurse's interpretation and response to these occupational stressors will depend upon available resources as to the individual and shared outcomes. If any or all these resources are depleted or challenging to mobilise the response to adversity can be hindered.

Figure 15: Overall summary of qualitative findings



Chapter 8: Discussion, recommendations, and conclusion

8.1: Introduction

The aim of this study was to better understand nurses' resilience, how intrinsic and extrinsic influences contribute to the way nurses cope with workplace adversity and build resilience. First an overview of the study is provided, then the key **merged** findings are outlined for the first time. A discussion of the changing professional context during the study follows. Then the key findings are discussed, whilst considering the context and theoretical framework, literature and policy that is representative rather than exhaustive, and aligned to the research questions. The discussion is separated into three key themes which capture the main findings: perceptions of resilience, adversities within environments of care and routes to resilience. Some findings are more immediate and relevant than others. A stakeholder event is also discussed prior to the synthesis of the findings and a new definition and model of nurses' workplace resilience. The implications, recommendations, strengths and limitations of the study are discussed then the dissemination strategy, and finally conclusions are made.

8.1.1: Overview of the study

This study adds to the growing body of literature pertaining to the resilience of nurses, a critical topic linked to the well-being of the nursing workforce which has moral and economic implications with consequences for patients. To help understand the continually increasing global nursing workforce shortfall, workforce stress levels, and links to standards of patient care. Resilience can buffer stress and may positively influence the well-being of nurses. The study is informed by international and national health and workforce policy (WHO 2016; HEE 2019; WG 2018a), reports (RCN 2018), research (Aiken et al. 2012), public enquiries (Francis Report 2013), parliamentary reviews (The House of Commons 2017; WG 2018c), and legislation (WG 2016). It is known that exposure of nurses to pressurised workplaces are connected to the workforce stress levels. Despite knowing this there is limited evidence that examines how workplace environments shape nurses' resilience.

A mixed methods design consisting of a purposively designed questionnaire and analysis of free text responses exploring perceptions of resilience and workplace

environments was employed (November 2016). Respondents included nurses (*N*=1459) across Wales (all fields, pay bands, job roles and settings). Quantitative and qualitative responses (almost 8,000 free-text comments) were descriptively analysed, framework analysis was utilised to help categorise the qualitative data. The main findings were shared at a pan Wales stakeholders' event (March 2018), with feedback from stakeholders informing the latter stages of the study.

This study found that resilience is a capacity that can help nurses manage occupational stressors, built from exposure to occupational adversity. Understanding the role of positive workplace factors are key to the enablement of resilience. This study supports the enquiry of resilience reflecting the literature in addition to less acknowledged aspects. The literature review indicated limited discipline-specific conceptualisation of the concept and that the focus has been upon individual factors of nurses and their ability to cope with stress, in so doing viewing it separately from the workplace. In contrast this study showed how these nurses' views of resilience and their often-sub-optimal workplaces were inseparable. Therefore, an understanding of nurse resilience needs to extend beyond the stance that resilience is an individual capacity as it is shaped by the environment where changes to resilience occur. This stance is consistent with a social-ecological perspective, which positions resilience as resulting from the interaction of individuals and the assets within their environment and the relationships between those assets. The main findings made up a new more discipline sensitive definition and a workplace model of nurse resilience. Critical findings to inform policy and practice that could lead to more integrated interventions at different levels not solely for the individual nurse.

8.1.2: Outline of the merged findings

The findings have been partially integrated into the core of the study's theoretical framework formally outlined (section 2.8) to ensure that any of the six levels of influence were not missed (see figure 16 overleaf). Starting at the core, working out to each level (to the left) the findings are listed, the importance of considering the two-way overlapping micro, meso, macro levels was evident. Then returning to the core of the framework the themes and synthesis of the findings that were generated are stated (below the concentric circles). This overarching figure will be further explained later when the main themes are discussed other figures will also support the discussion.

Figure 16: Social-ecological theoretical framework overlay of findings: Intrinsic and extrinsic influences that shape resilience of nurses in Wales.

6. Political, Social, Economic and Public

- Increasing health and social care demands
- Public declining care concerns
- Fiscal constraints political factors
- Healthcare policy
- Global workforce Crisis
- Population and social factors
- Increased violence in society
- Lack of workforce health and wellbeing policy
- **Investment in nurses health and wellbeing could help nurse resilience**

5. Workforce

- Workforce patient risks, complaints investigations
- Fiscal constraints workforce delays
- Managing churn, sickness absence
- Diversification of roles
- Successive re-organisations mergers
- Revalidation increased regulation
- Rising stress levels
- Recruitment issues, limited education and development
- **Enhanced staffing and education could help nurse resilience**

4. Organisational Systems

- Resource management infrastructure, politics and barriers
- Culture of productivity versus staff wellbeing, limited breaks, break facilities
- Complex HR systems reliance on temporary staff
- Complex care systems, duplication of communication/paperwork
- Excessive data demands
- Increased quality monitoring
- **Enhanced wellbeing culture-breaks and break facilities could help nurse resilience**

3. Organisational Relationships

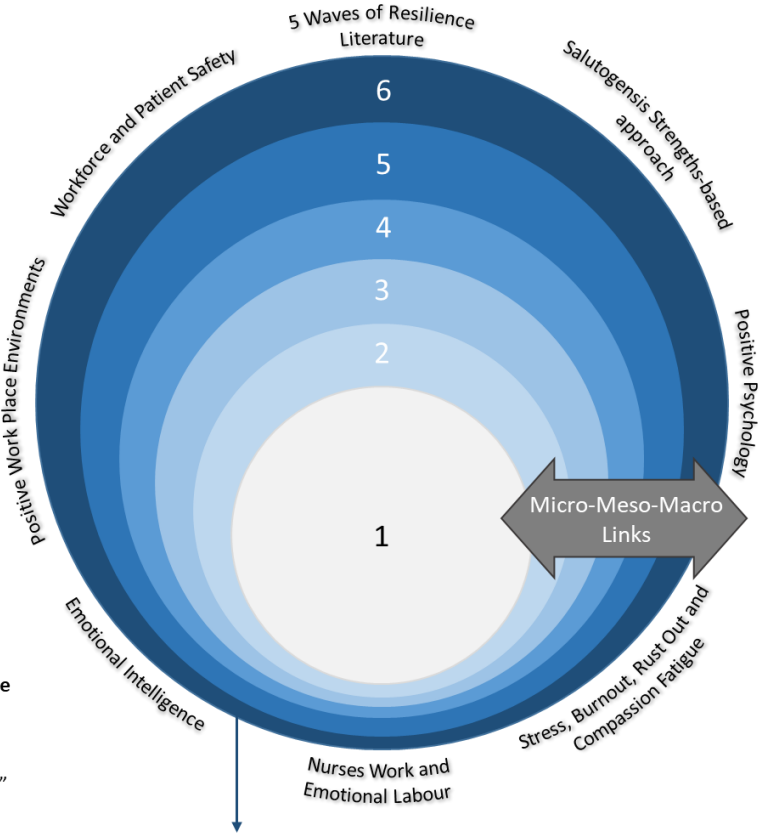
- Resilience tests: patient adversity, detrimental patient effects, self or colleagues and or offsetting risks.
- Sub-optimal management support, understanding and recognition
- Complex cross organisational/sector relationships
- **Enhanced support and understanding particularly management, team and patients could help nurse resilience.**

2. Nurse Patient Co-Worker Relationships

- Understaffing, low morale, stress fatigue, self/team coping reserves and functioning risks
- Under resourcing "beds", overwhelming workloads, time pressures, expectations, professional "mask"
- Increased patient complexity, acuity, social care issues competence needed
- Public expectations, complaints, inconsistent compromised care patient/nurse conflict
- Interpersonal issues conflict bullying
- **Seeking and receiving help from colleagues can help nurse resilience**

1. Individual Nurse

- Resilience Dimensions- Personal Resilience Characteristics, Professional and Emotional Efficacy, Building and risks to resilience.
- **Development and support of individual protective factors can help nurse resilience**



Discussion Themes:

- Perceptions of Resilience
- Adversities within Environments of Care
- Routes to Resilience

Conclusion:

Factors that can help resilience

- Resources
- Education
- Support

Next, the three **merged** finding's will be outlined: perceptions of resilience, adversities within environments of care and routes to resilience.

8.1.2.1:Perceptions of resilience

This study asked nurses to describe perceptions of their colleagues' resilience. A consensus was found that nurses with resilience cope better with stressful events and bounce back quickly after challenging times in work. Resilience was easily recognised and experienced as a capacity to help manage stress, validating nurses' occupational stressors. The numerous enactments of resilience in context directed the critical finding that nurses can bring a sense of resilience to their work that contributes to their professional performance and career. In addition, that resilience is more than individual in nature and not solely about personal well-being.

In contrast, it was found that respondents' colleagues with the least resilience were perceived to have difficulties managing stress and offsetting risks which hampered their functioning. For instance, 74.6% (*N*=1089) agreed that their colleagues with least resilience get overwhelmed. However, nurses have fewer protective factors to draw upon when experiencing stress. They will be more vulnerable to stressors and their detrimental effects. Irrespective of professional experience vulnerability was described but some nurses seemed more vulnerable than others. There is an assumption that nurses will consistently and continually overcome adversity (based on their historical robustness and uncomplaining) but (like most assumptions) this needs to be revisited.

One of the important findings from this thesis was that resilience can fluctuate and that managing risks cannot be assumed. The risks of increasingly pressurised workplaces and a trend of a declining, fluctuating capacity of resilience emerged. Of serious concern it was suggested that resilience can affect patient care a key finding when it is increasingly documented that staff well-being is synonymous with quality care. Connected to this, it was also found that resilience (high and low) can be contagious within teams. Nurses' experiences of their colleagues' resilience have not been detailed before to understand resilience, setting these findings apart from previous research.

Individual factors that protected these nurses against adversity fell into interlinked dimensions that broadly aligned to the NMC Domains of Practice (2017): *Personal Resilience Characteristics, Professional, Emotional Efficacy, Building Resilience,* and

Risks During the study these dimensions emerged inductively furthering our understanding of factors that underpin nurse resilience.

8.1.2.2: Adversities within environments of care that can impact resilience.

This study asked nurses to describe their experiences of adversities in their everyday work. Few studies have researched nurses' self-reporting of adversities, despite known workforce stress levels. Most respondents reported experiencing four types of adversity (*resources, workload, interpersonal,* and *patient care*). The adversities most frequently experienced that were found to be statistically significant with a moderate affect size (Cohen 1988) were resources and workload. These findings are consistent with nurses known occupational stressors. The hundreds of self-reported descriptions across the dataset explained the multifaceted and interwoven adversities. Indeed, the workplace environment was found to be the adversity itself often unable to protect the nurses' resilience to be able to care for vulnerable others which is inherently stressful in its own right.

Notwithstanding some unavoidable clinical adversities, it was plain that the environment did not protect these nurses' resilience leading to the adversities escalating whereby resolve and resilience was threatened. The majority 81.7% (*N*=1033) agreed that at least one of these adversities had tested their resilience and 65% (*N*=952) described these personally significant experiences, acute and or chronic tests often stemming from adversities and the notion of resilience thresholds emerged. Such tests to resilience are rarely discussed in the literature and little understood. These findings led to a critical understanding that direct patient care, the traditional essence of nurses' work, was not automatically the key adversity it was more often nurses' inability to deliver care required and overcome workplace adversity. Despite difficulties these nurses' determination to overcome adversities and build resilience was unequivocal. These are important findings indicating that even in the most adverse circumstances nurses can build resilience, which could be helped by ameliorating rather than overlooking and or normalising adversities and greater timely support.

8.1.2.3:Routes to resilience: What does help, what could help nurses' sense of resilience.

This study also asked nurses to describe strategies that they adopt to cope with workplace adversities. Including their motivations, strengths, and well-being activities. In contrast nurses were also asked about the helpfulness of workplace resources and how their work environment affects how they cope with adversity and build resilience. Extensive personal coping strategies from drawing upon intrinsic resources were apparent but extrinsic resources were less clear due to the variation in availability between workplaces.

The quantitative results showed that these nurses had built various positive coping strategies including utilising their strengths and well-being activities to manage exposure to adversity. Such as working out the problem to find the solution (97% (*N*=1425) and receiving team support (90% *N*=1315). The most mixed responses concerned looking after their own health and well-being as a coping strategy. There was little difference between intrinsic motivations that is wanting to do a good job (97% *N*=1425) work ethic and responsibility to patients and families. Similarly, there was a consensus between the strengths they considered important to help during difficult situations: competence, compassion, and capacity to help others. The qualitative findings further supported and expanded the results especially giving and receiving team support and that developing resilience is hard, strategies developed over time were contingent upon adversities and support available. Which directed the critical finding that many of the strategies reported (productive and non-productive) were however developed to offset workplaces deficits resulting in nurses overlying on their personal resources which can become eroded which is of serious concern and is not sustainable. These important findings suggested that adversities needed to be addressed, that shared responsibility rather than sole responsibility upon nurses to cope is required.

When these nurses were asked about the helpfulness of workplace resources the most helpful was found to be receiving and giving support to others. The top-rated resource (91% *N*=1327) was a conversation with a trusted colleague. When asked about the helpfulness of supervision and feedback and other organisational resources all resources were reported as helpful, although not equally so. For instance, 61%

(*N*=890) reported debriefs after a stressful event helpful but unavailable for 18% (*N*=263). When these nurses were asked how their work environments had affected how they cope with adversity and build resilience; mixed opinions were also received. For instance, 75.2% (*N*=1097) agreed they felt part of a supportive team. However, only 49.3% felt supported to cope with emotional demands of their job and 32.4% (*N*=473) disagreed that they felt their health and well-being is supported. Statistically significant links were found across the whole sample related to these nurses reports of well-being and specific workplace resources- debriefs following a stressful event and a line manager conversation.

Finally, these nurses were asked to describe what could improve their sense of resilience in their working life, and it was found that any enhanced support could help. Resources, (particularly more nurses) education, development and support and understanding (particularly from management) were core factors reported, substantiating other quantitative and qualitative findings. Few studies focus upon a combination of positive workplaces factors for resilience, important findings as they were all commonplace factors but often less than optimal suggesting enhanced supply and or resource utilisation by organisations could help nurse resilience.

8.1.3:Changing professional context during the study

Overall, a healthcare context of austerity has prevailed in recent years, but it is increasingly recognised that critical to the continued success of the NHS is the workforce. Specifically, that nurses require more support and recognition has gained global prominence, (WHO 2018; WHO 2020). The nursing workforce shortfall has dominated the professional context, and the workforce crisis appears to have accelerated as the supply of nurses has not kept up with demand (HF 2019; RCN 2019). At one stage for the first time in recent UK history, more nurses alarmingly have been leaving than joining the profession (NMC 2017). Too much pressure, was still considered a main reason for nurses leaving, compounded by other complex workforce issues such as the Brexit situation affecting the supply of European nurses (NMC 2019). Workforce stress levels have consistently climbed (Kings Fund 2019; Health Foundation 2019). In 2019, they hit a five year high in the NHS survey 40% reported work-related stress in the last 12 months and there were over 44,070 nursing

vacancies in the English NHS (RCN 2019) and at least 1651 in Wales (RCN Wales 2019).

As to resilience the two opposing camps remain. That is resilience can be developed to buffer stress, resilience related proficiencies feature prominently now in the NMC Education Standards (NMC 2018). Whilst for others (Traynor 2018) scepticism with resilience has intensified due partly to it being viewed as a “new solution” to avoid tackling the real systemic problems and the ambiguity of the concept (Maben and Bridges 2020). Nevertheless, of relevance to this thesis, even prior to the COVID-19 pandemic there was an emergent recognition that resilience is topical due to the nature of nurses’ work. However, where sole responsibility for this situation lies has been disputed. The Care Quality Commission (2018: p.8) cautioned that nurses and other healthcare professionals are:

> *“….at full stretch…and staff resilience is not inexhaustible”.*

The interest of policy makers on what nurses do has also intensified. The unprecedented workforce Parliamentary Review (House of Commons 2017) concluded that too little attention has been given to supporting and retaining NHS nurses and that workforce policy is insufficient. This review and other policy that has followed in Wales (WG 2018ad) and in England (NICE 2017; DH 2019; NHSI 2019) have specifically included a discussion of workforce support and resulted in workforce strategies in England (NHS 2019b) then Wales (HEIW 2020).

The need to reduce workforce stress and enhance the well-being of health care practitioners has become an increasing concern (HEE 2019; Gray et al 2020) and is endorsed by HES statistics (HES 2019). Hence, thinking may be evolving to better support nurses, which may be appreciated, but meanwhile the persuasive healthcare and economic arguments prevail, and the healthcare demands may still undermine efforts to counter workplace stressors. With this dynamic context in mind, we now turn to discuss the three main themes: perceptions of resilience, adversities within environments of care, and routes to resilience. It is important to highlight that largely all categories of nurses from one nation, with widespread individual experience and multiple views, can be said to be represented within this study which helps to informs this discussion.

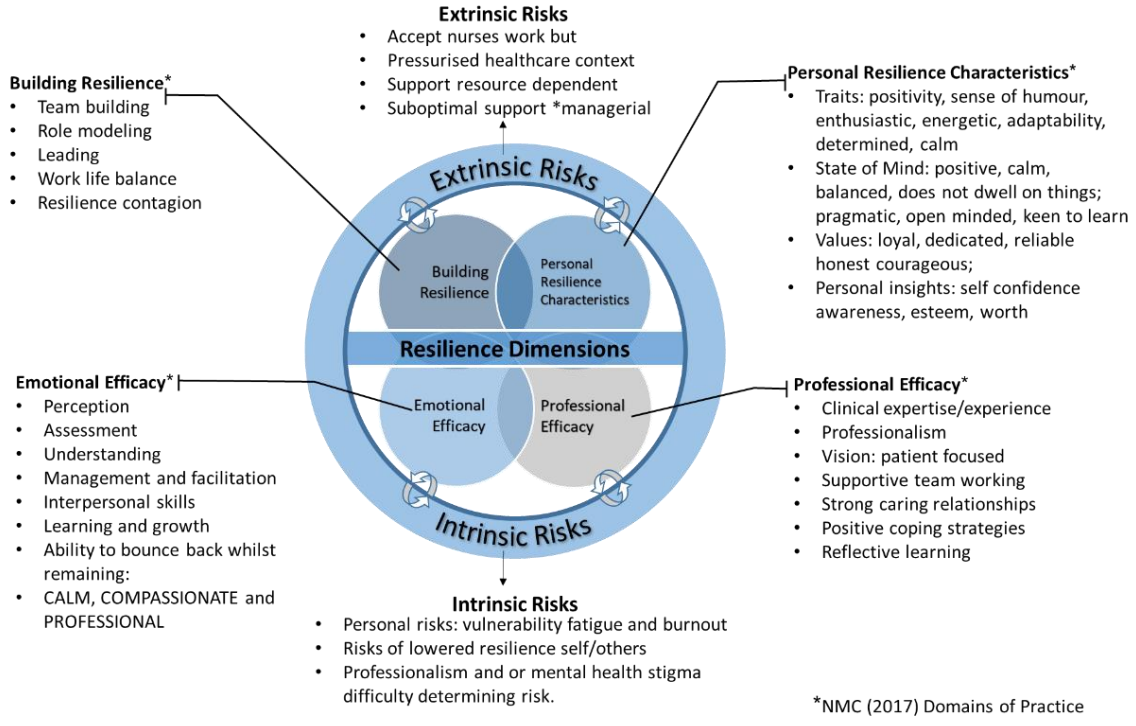
8.2: Discussion theme one: Perceptions of resilience.

Research question 1: What is the relevance of resilience to nurses

8.2.1: Overview

This study adds to our discipline sensitive understanding of resilience to help answer the overarching research question above. This section discusses the factors that were found to make up the dimensions of these nurses' resilience, a foundation for the subsequent discussion sections. The principal themes are captured diagrammatically below (Figure 17) the first of three interconnected figures (*Resilience Dimensions one two and three*) which are built in this chapter. At the centre of the figure are the resilience dimensions and around them the risks showing the two-way interconnected nature of both protective and risk factors. The factors are mostly at the micro level of the study's multi-level framework formally presented (Figure 16), yet inextricably linked to meso and macro factors particularly development and support. Some figures in this chapter standalone others build upon each other, but all are inter-related. The figures have been iteratively developed. Two subthemes will be presented: dynamics of resilience, then the resilience dimensions, drawing upon the literature review, including stress, burnout, and Emotional Intelligence.

Figure 17: Resilience Dimensions One



8.2.2: Dynamics of resilience

Despite often complex debates about the dynamics of resilience broad theoretical coherence was found consistent with previous literature and theory. There was a consensus across the data that generally nurses perceived as resilient cope better with stressful events and “bounce back” (restore functioning) quickly after workplace adversity. Suggesting a built capacity from exposure to occupational stressors, which can influence positive outcomes for themselves, patients, and the teams they work within. These findings reflect the consensus that resilience is a multi-faceted process (Masten 2007) and outcome (Smith et al. 2008) that fluctuates through life shaped by various influences and the precursor is adversity. This is interesting but even more so given the wide range and number of nurses in the sample. In contrast, resiliency is a personality trait that facilitates adaption, but adversity may not be required (Luthar et al. 2000). Whilst McLarnon and Rothstein (2013) describe workplace resiliency as a process to restore psychological well-being rather than an outcome following adversity. Adversity was commonplace for these nurses and resilience developed because of the adversity not despite it. Following this through, all these nurses could broadly be considered to have some resilience capacity, which supports Jackson et al. (2018) view that resilience is not solely an individual trait, (although some nurses may have this trait more than others), an ability (Rutter 2013) and or simply the restoration of well-being.

It was found that the exposure to adversities of these nurses left no doubt about their built resilience and stress resistance through development of self-efficacy, following successful coping (Rutter 2013). These findings are consistent with the literature on nursing (see Literature review: wave two) and other practitioner research (Hunter and Warren 2013; Mc Fadden 2015). In contrast to most other studies, which have focused on individual factors, apart from Marie et al. (2017), the risks to these nurses’ resilience were predominantly linked to suboptimal workplaces, which then led to depletion of personal resources and burnout risks, regardless of nurses’ experience. This is consistent with broader non nursing literature (Tugade and Fredrickson 2004) that suggests everyone has some resilience potential, but the level is determined by individual experiences, strengths, the environment, and balancing risks, including protective factors. Protective factors help individuals to achieve positive outcomes regardless of the risks by reducing vulnerability and increasing strengths. These

nurses' protective factors were found to make up the dimensions of resilience which will be discussed further below.

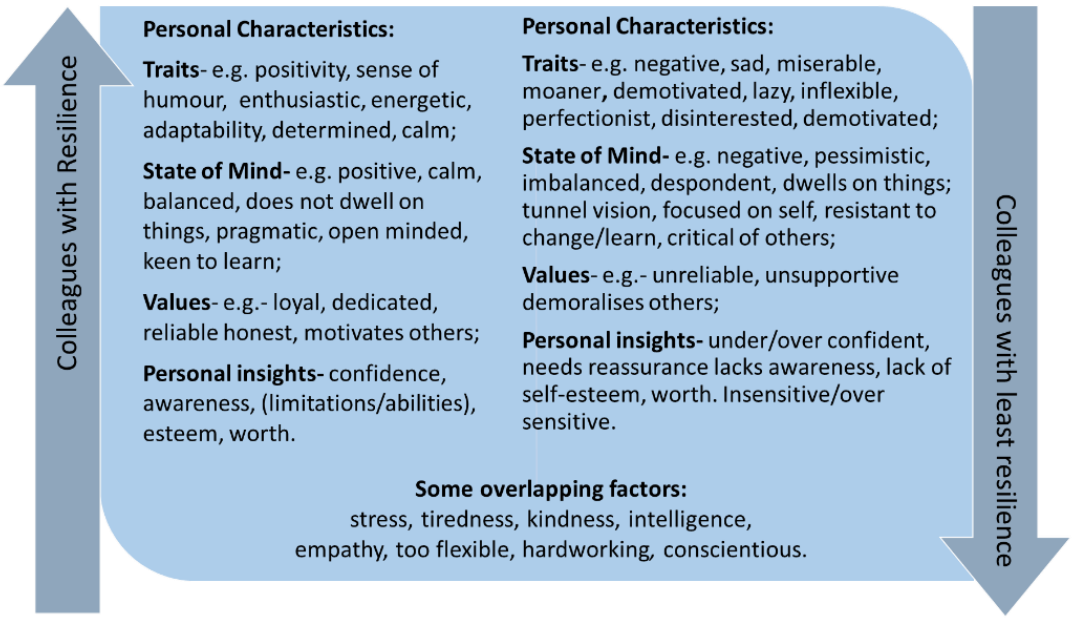
Data consistently showed that these nurses balanced their risks and protective factors, and for some the battle was greater than their adaptive capacity. These findings are consistent with the widely documented occupational stressors and stress levels of nurses (WHO 2014; NMC 2019). Sometimes nurses are resilient but other times not. Overall and importantly, however, these nurses' resilience capacity was found to decline over time and cannot be assumed to be a limitless capacity. Without opportunities to replenish their capacity nurses could eventually reach the point of complete depletion of resilience. A temporal trend of a declining capacity due to pressurised workplaces was apparent. This presents a picture of nursing and resilience that is somewhat at odds with the traditional view of nurses as doughty and tough and able to plough on indefinitely. These findings are more consistent with the social-ecological stance that views resilience as a dynamic individual asset in response to the situation, environment, and resources available (Ungar 2011). If resilience risks rise, then supportive interventions must also do so (Tugade and Fredrickson 2004). It follows that if more workplace resources were available these nurses' personal resources could be better protected. This leads to an important understanding from this study that resilience is a finite supply rather than a bottom-less intrinsic reservoir that nurses can infinitely draw upon. Discounted largely is resilience solely as an individual ability to cope with stress as was predominantly conceptualised in the literature review.

Indicators of lowered resilience are rare and have not been previously documented in the literature like this before. The substantial stress literature largely comes from a deficit approach. Furthermore, almost exclusively, apart from a small study (*N*=27) by Mealer et al. (2012b) the nurses who have been researched self-defined themselves as resilient. Hence positive manifestations of nurse resilience predominate. However, the responses and the subsequent findings in this study offer a more complete picture. This original contribution to the literature was validated by a critical audience of cross disciplinary researchers when early findings were presented at a global resilience conference (see Appendix 17: 4/International). For instance, personal resilience characteristics formerly listed (Figure 17) are once again listed overleaf (Figure 18)

next to the perceptions of personal characteristics of nurses with least resilience. In addition to examples of contradictory overlapping factors found. These can be seen at the base of Figure 18, which highlights the dual nature of characteristics serving as protection and as a risk. Linked to this a spectrum of indicators, which operated in sometimes contrasting and contradictory ways was found, suggesting co-existence in these nurses of both vulnerability and resilience simultaneously. Again, this contrasts with much of the broader literature (Rutter 2013), which can mostly present nurses positioned on a linear continuum situated somewhere between two points, either thriving or towards burnt-out. However, some authors (Lankshear et al. 2016; Jackson et al. 2018) have also made similar observations, suggesting such a binary or linear notion of resilience may not be helpful or reflective of nurses' experiences.

Linked to these contradictions a serendipitous but important finding emerged that nurses are good at pretending to be okay or presenting themselves as "okay" when often they are not, making resilience itself sometimes difficult to discern. This is consistent with professional expectations of nurses requiring induction and suppression of emotions to cope with emotional "labour" (formally outlined Chapter 1). However, it was found that these nurses could report additional suppression of emotions resulting from the dissonance experienced when confronted with being

Figure 18: Perceptions of personal characteristics of colleagues with resilience and least resilience



unable to deliver the care they wish to and/or observing others delivering poor standards of care. These findings suggest that the normative professional concealing of emotions may mean that these nurses perpetuate some of the myths of being resilient regardless of significant workplace stressors. Therefore, in so doing reinforces the somewhat controversial view of resilience being about nurses coping better with pressure. This can hinder the determining and sharing of resilience risks, perpetuate mental health stigma, and give resilience its current "bad name"- a risk in itself. Greater awareness of context and culture could help this process (Ungar 2011) and has been given attention in midwives (Hunter and Warren 2013) and social workers (Grant and Kinman 2014). Further attention is now warranted in nursing.

Respondents' descriptions of their colleagues lowered resilience reflected varying levels of stress and burnout, emotional exhaustion hopelessness, and cynicism; all of which are core burnout factors (Maslach et al. 2001). The severe implications of burnout in nurses detrimentally effect patient outcomes are known (Maben et al. 2008), as nurses experiencing burnout are, for example, more likely to make poor judgments and errors within complex clinical situations (Johnson et al. 2018). The perceived functioning difficulties of these nurses' colleagues with the least resilience were clear but equally concerning, were signs of reduced professional effectiveness, accomplishment, and de-personalisation, all the hallmarks of burnout (Mc Cann and Pearlman 1990).

Given the stress levels reported by the respondents these findings are not unexpected but are of severe concern. However, these findings can be interpreted in different ways. Intrinsic factors such as conscientiousness can explain burnout, as it can be due to over investment combined with too few gains resulting in cautiousness to invest in the future (Hobfoll 2011). This may account for the negative attitudes and or withdrawal from situations reported, for instance, being self–focused was mentioned, which is not anticipated of nurses or necessarily documented before. Such personal coping strategies can be sub-optimal for others, further highlighting the shared nature of resilience. Alternatively, due to job exhaustion nurses may limit themselves to their job description (work to rule) (Bakker et al. 2005). However, it may not be that simple as some of these nurses, their lowered resilience was from "doing extra". Biological processes can also help explain burnout due to emotional and physical exhaustion,

which many nurses reported. Despite such intrinsic orientated explanations for burnout, for these nurses it was more likely a combination of intrinsic and extrinsic factors, a combination which has received less priority. Of relevance, the WHO has reclassified burnout as "*a medical diagnosis resulting from chronic workplace stress that has not been successfully managed"* (ICD-11 WHO 2019).

It is known that burnout can be both independent and communicated between nurses (Bakker et al. 2005) the foundation of positive psychology (Seligman and Csikszentmihalyi 2000). Of importance in this study, it emerged that resilience was also contagious (high and low), which is on the one hand positive but on the other concerning given the temporal trend of a declining capacity found in these nurses due to pressurised workplaces. Resilience as a shared capacity has been recognised in mental health nursing (Cleary et al. 2014; Foster et al. 2108a; Itzhaki et al. 2015) and other healthcare professionals (McAllister and McKinnon 2009) but outside of mental health nursing it is underexplored (Pipe et al. 2012). Conversely resilience is conceptualised as a collective capacity in the broader literature (Theron and Theron 2010). Relatedly, Traynor (2017) has called for a more collective critical stance regarding nurse resilience. This limited attention suggests an urgent shift away from the individual nurse emphasis is required adding weight to the understanding that resilience is an individual and shared asset.

Resilience posed as an individual and shared asset developed in and by the healthcare environment is consistent with the social-ecological perspective (Ungar 2011). These findings will be discussed further in the subsequent adversities theme.

8.2.3: Resilience Dimensions

This study found multiple individual factors that protected these nurses from adversity which fell into interlinked dimensions: *Resilience Characteristics, Professional, Emotional Efficacy, Building Resilience, and Risks.* Additionally, it was found they could be aligned to the NMC Domains of Practice (2017) (see Figure 17). The *Resilience Characteristics* and some of the other factors have been identified in the body of literature in nursing (first and second waves), but this study showed links between the factors in addition to accompanying risks. These findings cannot be directly aligned to any previous research hence they offer a more complete and novel picture. The *Characteristics, Professional* and *Emotional Efficacy dimensions* will be

discussed next, *Building Resilience* will be covered in the Routes to Resilience theme and *Risk*s will be expanded within the adversities theme.

These nurses' personal resilience characteristics were found to be consistent with the broader literature (Rutter 2013) and crucially with professional attributes (NMC 2017). In contrast, this study showed that the vulnerability of these factors are not confined to colleagues with lowered resilience mentioned, some examples can help to illustrate this. Optimism and self-confidence are interesting*:* nurses could simultaneously describe themselves and their colleagues as *optimistic* but *demoralised demotivated and disillusioned* with standards of care provided, limited reward and failure to overcome workplace deficits. Not surprising when there was a consensus found that these nurses overriding motivation was "*to do a good job".* The concept related to resilience- a sense of coherence (Antonovsky 1996) may help to explain this (see Appendix, Table 7). Simply put this concept relates to the search for purpose and meaning in life. in other words, if nurses are continually struggling to find meaning in their work this will affect morale, and we know nurses are leaving the profession (NMC 2019). Moreover, self-confidence is considered core to resilience developed from successful coping, closely related to self-efficacy, and an individual's belief in their ability to succeed and self-esteem. If nurses persistently feel they are not coping then inevitably, their confidence optimism, and motivation will be detrimentally affected. Indeed, 60% of respondents perceived their colleagues with least resilience to struggle with motivation and confidence. These findings further suggest that resilience is not a static individual trait, nor can it be assumed.

The next dimension termed *Professional Efficacy* related to factors that were found to influence these nurses optimum functioning, in contrast, to the sub-optimal functioning linked to lowered resilience discussed previously. Maintaining system integrity is a core concept of resilience theory (Folke 2006). Applied to nurses' it can be the maintenance of an expected level of functioning (NMC 2018) governed by regulatory and employee frameworks to ensure public safety. Professional identity has been found to be a protector of midwives' resilience (Hunter and Warren 2013). In fact, professional functioning has been utilised to measure resilience of social workers (McKinnon and Grant 2010). In contrast these ties are underexplored in nursing (Foster et al. 2020; Walpita and Arambepola 2020). However, Jackson et al. (2018)

have found links between CC nurses' situational awareness and resilience. Situational awareness requires situational appraisal of emotional and patient safety aspects (Fore and Sculi 2013). Certainly, how an individual appraises an event and understands its significance is core to resilience (Rutter 2013). This study found that nurses with least resilience were perceived to have difficulties with situational awareness. These insights set this work apart from previous research, suggesting that supporting nurses' resilience can help professional functioning and vice versa. For instance, more experienced colleagues may be able to help those lesser experienced to reflect in and on situations.

The last dimension to be discussed in this section relates to factors that were found to underpin these nurses' management of emotions for optimum functioning termed: *Emotional Efficacy*. These nurses described their enactment of their own and their colleagues' everyday emotional intelligence (Goleman 1998). The unique insights substantiate and build upon the quantitative findings, consistent with the broad view that emotional intelligence is a known precursor of resilience (Rutter 2013). This reflects resilience as an ongoing adaptive capacity and strengths-based process reflecting the differences between resilience and coping. In contrast, it was found that these nurses did not merely keep calm but compassionate, and professional as well whilst building resilience of self and others. Situational self-control has been identified in resilient nurses (Imani 2018). Certainly, affiliations between emotional intelligence and resilience have gained traction in nursing (Delgado et al. 2017; 2019) and other professional groups e.g. midwifery (Hunter and Warren 2013). Proficiencies are now within the latest NMC Educational Standards (NMC 2018). However, in this study some nurses clearly struggled more than others. For instance, being overwhelmed was the main indicator reported (71.8%) of colleagues with the least resilience, suggesting that emotional agility to detach oneself from situations whilst remaining empathic is challenging but increasingly expected. In fact, the social-ecological lens enabled the importance of environmental perception to also emerge (Mayer et al. 1997). These findings provide greater understanding of discipline sensitive emotional intelligence that add weight to the need for emotional intelligence development opportunities for nurses.

These findings set them apart from previous research where factors that make up nurses' resilience have not been predominantly augmented in this way by aligning them to context, regulatory frameworks, or risks. In fact, peer validation was received at a conference[50] that suggested these findings could be foundations towards a professional taxonomy of resilience. These dimensions may also offer a more refined picture of factors that can be hard to articulate helping to bridge theory to practice, and for others to understand, these dimensions will be developed in this discussion.

8.3: Summary discussion theme one

Resilience is more than individual in nature it is a shared asset developed in and by the workplace that is not static. These discipline sensitive understandings can help nurses determine support they may require and help stakeholders responsible for protecting this finite supply of workforce resilience to review risks and enhance protective factors.

8.4: Discussion theme two: Adversities within environments of care

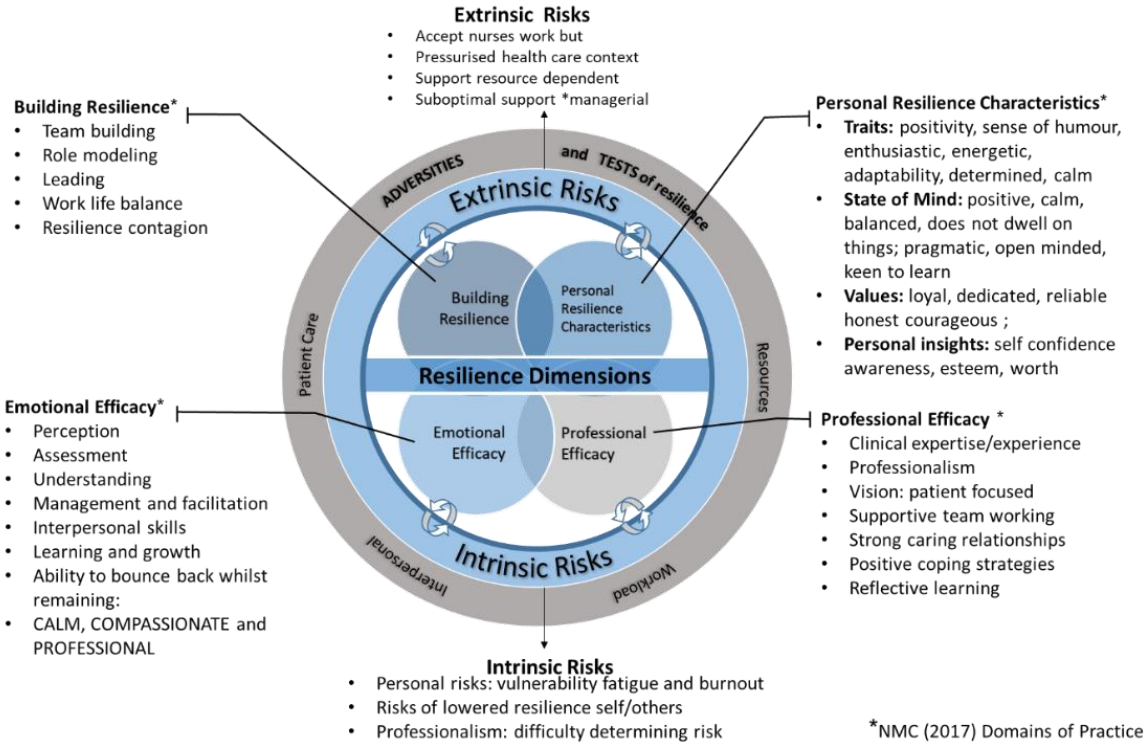
Research question 2: What are the key workplace adversities facing nurses in Wales? Research question 6: What is the perceived environment of care?
Research question 7: What do nurses find helps/hinders their resilience within their environment of care?

8.4.1: Overview

The adversities that these nurses were found to experience in their work will be discussed to address the research questions above. Largely, the adversities were influenced by system-wide challenges at the organisational and professional levels of the theoretical framework but impacted on the individual (see overarching Figure 16). There are two sub-themes, first the adversities are discussed utilising workforce and emotional labour literature. Then the tests of resilience follow where a unique sub-process of resilience is outlined then the notion of atrocity stories (Dingwell 1977), some organisational resilience literature is drawn upon. Figure 19 (overleaf) builds on understandings so far; adversities have been added to the outer circle to show that nurses need to overcome these and simultaneously access resources for resilience.

[50] See Appendix 17 presentation local/national: 7.

Figure 19: Resilience Dimensions Two: Adversities



8.4.2: Adversities

Despite the workforce stress levels (NMC 2019) few studies have researched nurses' experiences of adversities. However, consistent with a social-ecological perspective (Ungar 2011), understanding adversities is key to knowing what the individual must navigate to access resources required. In this study most nurses reported experiencing four types of adversities (resources, workload, interpersonal, and patient care). The adversities most frequently experienced that were found to be statistically significant with a moderate affect size (Cohen 1988) were resources and workload. The hundreds of free-text responses across the dataset further explained the multifaceted interwoven adversities. These findings are consistent with the principal sources of increasing global workforce stress, burnout, and compassion fatigue from organisational stressors (formerly outlined in Chapter one). These are anticipated findings perhaps, but the large multivariate sample made the adversities more visible and as such alarming.

Few studies have examined adversities and resilience (Cameron and Brownie 2010; Lankshear et al. 2016; Jackson et al. 2018). The few social-ecological studies do however provide important insights into adversities within context (Foster et al. 2018)

and culture (Marie et al. 2017; 2015). Cope et al. (2016) highlighted that nurses' workplaces are often overshadowed by the dysfunctions of strained systems within, which nursing workplaces are situated. Indeed, a critical finding was that the adversities were not merely experienced within workplace environments but in short, that the environment could be the adversity in itself. Consistent with a social-ecological (Ungar 2011) perspective, this led to the critical understanding that the environment often lacked resilience, not the nurses, as a result of the workplaces inability to provide resources required.

Despite extensive healthcare reforms many of the workplaces reported by these nurses reflected the damning Francis Report (2013) and the known challenges of NHS culture (Dixon-Woods et al. 2014). Poor workplace environments are key contributing factors to the global workforce crisis (WHPA 2008; ICN 2016). *On the Brink* (RCN 2018b) is one of numerous reports documenting the distress caused (to nurses and the public) from poor healthcare environments: low morale, retention and recruitment of staff, poor team working, low commitment to quality of care. Lower levels of patient care and support for innovation, decreased patient satisfaction, damaging confidence in healthcare and rising costs; all compounding the primary adversities. Such factors are consistent with the extant literature on workplace environments (Laschinger et al. 2014) and workforce research, particularly sub-optimal staffing (Aiken et al. 2012), and detrimental care associations (Braithwaite et al. 2017), outlined formerly in Chapter One . In fact, the adversities described by respondents in this study could be compared to experiences of MH nurses in a Palestinian war zone (Marie et al. 2017): namely lack of support and resources, inconsistencies in service delivery and organisational challenges. Similarly, these findings reflect experiences of doctors (Panagioti et al. 2017), midwives (Hunter and Warren 2013), and social workers (Grant and Kinman 2014). Furthermore, limited professional development and learning environments were described, and although a skilled professional workforce is costly (HF 2019) learning and personal growth are core to resilience.

Certainly, adverse working conditions were described where these nurses' health and well-being were not a priority of employers, substantiating national (RCN 2017) and global (Holland et al. 2016) extant evidence. Limited breaks and break facilities were the norm rather than the exception. Findings which were endorsed by the stakeholder

group and the indictments of workplaces to prioritise breaks by current workforce campaigns (BMA 2019; RCN 2018c). These findings cannot be directly aligned to any previous studies, but breaks are vital for energy (Wadsworth et al. 2003) and resilience requires energy to meet core physiological needs as identified in Maslow's seminal work (Hart et al. 2016). Restorative breaks have been shown to reduce clinical errors and omissions from fatigue and cognitive stacking (Dall'Ora et al. 2019). Of course, breaks are a minimum employment requirement (HSE 2015), but context and culture can influence breaks (Rafferty et al. 2015), which will be more fully discussed later (section 3).

These facts concur with the HSE (2015) that normally job demands are the most frequent and high-risk stressors, including insufficient support from managers and colleagues, role overload/conflict and ambiguity; poor workplace relationships; lack of control and ineffective management. Three leading theories of work-stress (Appendix 4) can help to explain the complexity of these nurses' stress mechanisms. Several studies have demonstrated that a high degree of control and support are stress resistors to nurses (Mark and Smith 2012), which can be explained by the Demands Support Control theory. Of concern, lack of social support and high workloads were commonplace for these nurses. Whilst, the Effort Reward Imbalance theory, helps to explain that nurses are known to be motivated by the intrinsic rewards of their work as opposed to financial remuneration. It is recognised that nurses are experiencing reduced intrinsic rewards due to organisational demands, which have probably been compounded by the UK public sector pay freeze (WF 2018). Furthermore, the transactional theory of stress can explain how some nurses working in these known challenging environments have difficulty constantly adapting and developing coping strategies. It is recognised, that the intensity of an individual response to the distress is directly proportional to their vulnerability and inversely related to their resilience, which relies on subjective and objective factors (Fletcher and Sarkar 2013).

Resources, workload, and interpersonal adversities will be discussed more fully now, patient care adversities will be considered when discussing tests of resilience. It was found that the shortfall of nurses and resources[51] dominated the findings and appeared the root of the problem. Wales is the first European country to legislate minimum nurse

[51] Resources refers to environmental and organisational resources.

staffing (WG 2016). It is necessary to mention this, as this may have influenced some respondents. Nevertheless, the findings are consistent with the global nursing shortfall (WHO 2016; NMC 2019). The findings endorse the view of the House of Commons (2017) of an overextended workforce struggling to cope with the demand of providing a high-quality service in the NHS. The volume of nursing vacancies, due to investment deficits and insufficient workforce planning means that nurses face increasing time pressures to deliver quality care (UK Parliament 2017). The dire consequences on staff morale from suboptimal staffing and the delay in addressing such issues are known (Francis Report 2013). Certainly, this study substantiated these multiple risks to these nurses' resilience (e.g., patient care concerns, workload, and time) and the hidden burdens of managing the enduring shortfall (e.g., sickness absence). Largely, these findings reflect the emergent socio-ecologcial literature (Cope et al. 2015; Lee et al. 2015; McDonald et al. 2015, Marie et. al. 2017; Foster et al. 2018b; 2019; Badu et al. 2019).

In contrast to other workforce research, this study was interested in "nurses" as a resource for other nurses' resilience consistent with a social-ecological stance that views resilience as both an individual and an environmental asset. It was shown how the current workforce shortfall can hinder resilience in three multilevel ways. First, for the remaining nurses, increases in workload can drain personal reserves, which can affect professional functioning. Second, the interactions between nurses to build resilience can suffer. Finally, the collective resilience of the environment as a shared asset for all to benefit can be reduced. This means that a progressive process of increased risk and vulnerability can be potentiated for the nurse, organisation, and workforce more broadly. These findings add further weight for radical workforce reform to prioritise the *central challenge to the NHS* (HF 2019). That is the escalating gap between the number of nurses available and numbers needed to meet demand as well as the detrimental impact on care and increasingly staff, exacerbated by poor workforce planning (HEE 2019). Not least extending the Staffing Act in Wales (WG 2016) to all areas nursing care is provided. The vulnerability of these nurses' resilience due to the varied availability of supportive workplace resources was also apparent. In addition, some nurses more than others could have more difficulty accessing support (such as counselling), which could add to the detrimental impact of adversities

experienced. These findings highlight the urgent need for more accessible and standardised workplace support, which will be discussed further later.

Workload adversities linked to pressurised workplaces were found across the dataset substantiating the findings discussed linked to suboptimal resources. Excessive workload causes fatigue, the greatest burnout risk factor (Maslach et al. 2001). It has been firmly established (Literature review: wave two) that burnout is negatively correlated with nurse resilience. The workload adversities however were often found to be unrelated to the delivery of direct care but instead resulting from having to compensate for suboptimal workplaces. Consistent with the UK study by Ablett and Jones (2007), it was found that despite these nurses' coping strategies they still felt unable to achieve expected goals. Of importance suggestions by these nurses to improve their work related to direct care were found to be absent implying it can help resilience. These findings conflict somewhat with the seminal emotional labour research (Theodosius 2008) (outlined formerly in Chapter one) regarding the emotional demands of caring for vulnerable others. Nevertheless, the adversities concerning direct care must not be dismissed, which we will see when the tests of resilience are discussed.

Consistent with a metanarrative that is not new to nursing (Smith 2011; Theodosius 2008) it was commonly found that these nurses reported that their work was poorly understood and undervalued particularly by management (sometimes also by colleagues and the public). This is in keeping with professional ongoing tensions of unravelling nurses' work. Contrary to therapeutic work "*collegial"* work challenges dominated the findings*,* some involved teams, but it was largely at the organisational level, particularly with management to secure resources, especially nurses. This interaction was frequently outside the immediate team (e.g., bed management) distracting these nurses from their clinical roles and teams, within the chaos of many clinical contexts ("*constantly fire-fighting*") and the accompanied professional as well as the moral tensions. It was apparent that nurses often work in diverse roles, across organisations, and sectors(Traynor 2018). It was found that these tensions could lead to further induction and suppression of conflicting emotions, adding to the professional demeanour already discussed.

These findings suggest that our thinking has moved on from Theodosius' (2008) work and much of the emotional labour literature which has centred upon patient, family, and collegial interactions within immediate teams. These findings support the increasing recognition that nurses' work can be more distant from the "bedside" and is organisational in nature. This is consistent with the work of Allen (2015; 2018) that has described nurses hidden organisational work as "*conduits of care*" ensuring patient flow, safety, and quality care in pressurised environments. In addition to workplaces that reflect conflicting organisational and professional agendas where nurses have little influence (Allen et al. 2013). A critical finding that gathered momentum in this thesis was that direct care- the traditional essence of nurses' work was not necessarily the adversity it was more the nurses' inability to deliver care required and overcome workplace deficits. For resilience, nurses organisational work needs to be valued not assumed (Riley and Weiss 2016).

Supportive leadership is an established facet of positive practice environments (Laschinger et al. 2014; DH 2015c). In this study many workplaces were shown to be distanced from this notion. Management and leaders with power to influence the adversities were often reported as suboptimal. Despite the extant professional literature suggesting the importance of leadership for resilience, it is overwhelmingly underexplored (Wei et al. 2018). Superimposed upon this, were disparities in support reported from immediate colleagues, unprofessional behaviour and bullying were described by respondents in addition to conflict from the public. Previously, Mealer et al. (2012a) has identified verbal abuse from family and physicians as adversities experienced by CC nurses. Also, Lanz and Bruk-Lee (2017) has found that low resilience can increase the magnitude of the indirect effects of work conflict. Similarly, nurses who have been bullied have been shown to have lower mean resilience scores than nurses who were not (Tabakakis et al. 2019). These types of adversities can threaten relationships, and strong relationships are fundamental to resilience (Ungar 2011). Colleagues in proximity can support and share emotional challenges (Cameron and Brownie 2010). After all, working cooperatively in a team is a professional requisite (NMC 2018).

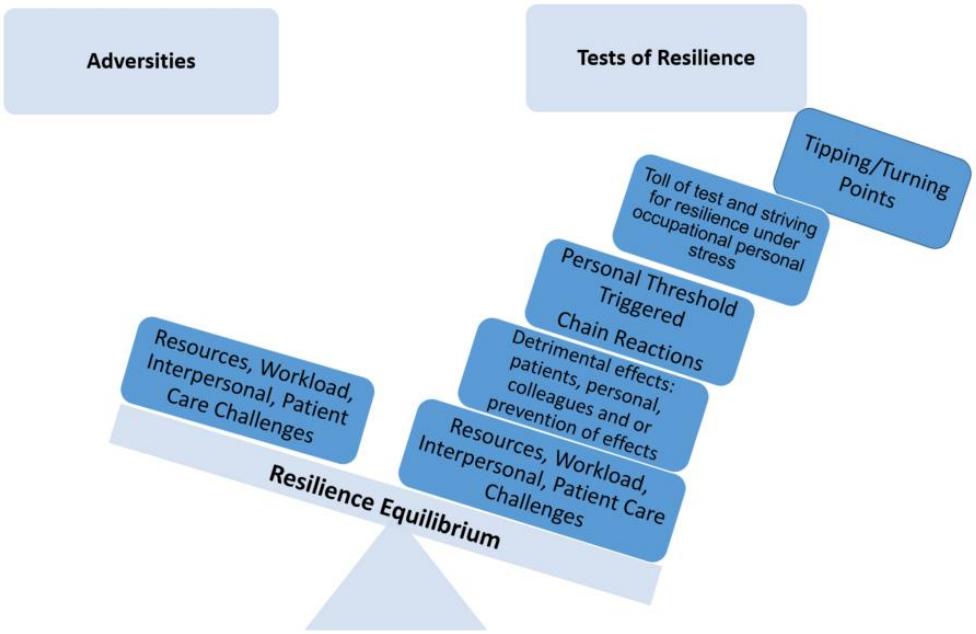
Workforce stress caused by poor relationships in work with limited value and recognition has been firmly established (Ruotsalainen et al. 2015). The simultaneous

lack of team support and toxic cultures it was found hindered these nurses' resilience (Jackson et al. 2018) that multi-level adversities can be toxic, cumulative, and harmful. These findings led to the important understanding that solely increasing nurses may not eradicate other workplace adversities, simultaneous mitigation of these is required. These findings help bridge theory practice gaps as to how workplaces can hinder resilience, how workplaces can help will be discussed more fully later. These are crucial findings for stakeholders' responsible for workplaces to avert erosion of nurses' resilience, and to help nurses to externalise workplace deficits as organisational shortcomings rather than personal failings.

8.4.3: Tests of resilience: sub-process of resilience

In this study over 900 nurses chose to explain tests of their resilience, unique experiences but with common features, whereby a unique sub-process emerged. Identifying sub-processes of resilience are considered central to potential solutions (Rutter 1999). It was found that the tests stemmed from the adversities but differed in that more often they threatened these nurses resolve and resilience rather than build it. These are findings that cannot be compared to previous studies in nursing. Key elements to be discussed include the key stages, responses to instability, thresholds, vulnerability factors and chain reactions .The figure below will support the discussion.

Figure 20: Tests of resilience sub-process



Initially a test occurred that destabilised resilience due to seemingly emotive and often detrimental effects (patients, themselves, or colleagues) and or efforts to prevent such effects. The destabilisation appeared two-fold, from suboptimal resources (particularly nurses) and subsequent risks to the nurses' personal reserves. Some tests were acute and unavoidable (such as a patient's death) but more often the cracks (Virkstis et al 2018) within the workplaces were exposed. Therefore, often seeming unable to offer support required to steady resilience. This resulted in adversities escalating to tests and or accumulation of stressors superimposed on acute adversities (Lankshear et al. 2016). The imbalance appeared to trigger individual nurses' limits initiating chain reactions (Rutter 1999) a spectrum of individual responses from striving to access resources to restore equilibrium and personal growth. Tipping/turning points (career junctures) for some featured within the process.

Stability is a recognised component that fosters resilience (Masten 2014) whereby individuals employ varied responses to stabilise resilience. Determination and flexibility were two responses clearly shown by these nurses recognised in the literature. Flexibility is an interesting response, Folkes' (2006) a leading ecologist researcher when discussing organisational resilience, can inform our understanding. Folkes cautions that a resilience threshold exists, which if breached makes recovery difficult or impossible, hence precariousness to thresholds is important. As either too much adaption and or transformation could ultimately lead to collapse, that healthcare organisational resilience is high risk and overcoming associated adversities are not a quick fix. Translated to nurses this could mean the precariousness of nurses' personal reserves and responding in a resilient way to continued adversity and the importance of recovery. For example, 71.8% (*N*=1089) agreed that their colleagues with least resilience found being flexible in work challenging. These insights add traction to our understanding that resilience is not static. As a result, both stable and unstable states can co-exist, consistent with ecological thinking (Xu 2017). Therefore, quick fixes are not the answer. Evidence exists about stress thresholds and performance curves (see Chapter 1), but insights into thresholds of resilience are lacking. All these nurses had been exposed to adversities; this means they all could be vulnerable; some were more vulnerable than others**.** Recognising that everyone is vulnerable could help shift the current individual orientation and associated mental health stigma of resilience

towards more help seeking behaviour. Greater insight of thresholds could help understand co-existence of vulnerability and resilience.

Resistance is a known feature of resilience (Masten 2014) these nurses' steadfast resistance to offset patient risks at the interface of care was unequivocal. It is debated that resistance and resilience are however considered as separate entities that resistance should be engendered rather than resilience (Joseph 2013). Earlier nursing studies have focused on resistance to stress as an outcome of resilience rather than part of the process so these findings cannot be directly aligned. However, one study (Cope et al. 2015) suggests that upholding of nursing ideals and resisting such workplace "*opposing forces*" are complementary and can be empowering. Resistance may empower nurses, but we have little understanding of the toll of this except perhaps the number of nurses leaving the profession.

From a broader political perspective too much flexibility and not enough resistance by healthcare professionals can unintentionally fuel neo-liberalism (Traynor 2017; Tregoning et al. 2014). This can then perpetuate the criticised culture of overextended nurses being "too resilient" inadvertently "carrying on at any cost". Traynor (2017) theoretically argues that more resistance and less acquiescence in nursing in the form of political lobbying is required. Resistance as political lobbying was not the focus of this study, but these insights imply that everyday resistance is part of these nurses' hidden resilience and is political and that acquiescence is largely discounted. Nevertheless, strategic political lobbying, which could reduce the need for such resistance at the patient level and redirect to patient care is supported. These findings add to our understanding of resistance as a response to adversity.

It was found that certain factors increased these nurses' vulnerability, including experience, accumulative risks, personal adversity, and adversity type (e.g., critical incident, and occupational violence) and support received. Consistent with this study, it has been extensively reported that newly registered nurses are vulnerable, which reflects other emergent enquiry (Hodges 2008; Chesak et al. 2015; Foster et al. 2019; Yu et al. 2019). In contrast, experienced nurses who protect others and have been exposed to accumulative adversities were however revealed as vulnerable if not more. Nurses in management roles were not excluded either, but we know little about their

resilience (Lankshear et al. 2016) as largely frontline nurses have been prioritised. Again, these findings add further weight to the argument that all nurses are vulnerable.

Linked to this it was reported how accumulative multi-level risks (e.g., excessive paperwork, and shortage of nurses) were commonplace leading to increased workloads and the working of extra unpaid hours, which impacted their work life balance and health. Considering the earlier discussion on depletion of the residual capacity of resilience over time this ongoing pattern of discretionary working continues eventually leading to personal risks to the nurse of burnout, and possibly leading to also patient care risks. It is known that negative experiences tend to cluster and be interrelated (Rutter 1999). Certainly, the recognised overspill of occupational stress into home and vice versa was expected, but the overspill of personal adversity into work was also shown (e.g., personal bereavement). For some this had contributed to their personal growth whilst others described their struggles. The social-ecological lens enabled this home and work interface to emerge, to see these professionals also as people. How nurses simultaneously cope sometimes painfully to invest this learning into their work cannot be compared to any previous research, which increases our understanding.

In this study it was found that the type of adversity experienced, (such as critical incidents, bereavement care, and occupational violence), increased these nurses' vulnerability, which is understandable. A critical incident is defined as:

> *"a sudden unexpected event that has an emotional impact sufficient to overwhelm the usually effective coping skills of an individual and cause significant psychological stress" (de Boer et al. 2011 p. 316)*

Critical incidents can be life changing events, the distressing effects can be underestimated (Buhlmann et al. 2020), effecting professional esteem, competence and difficulty remaining in the profession. Supportive workplaces that provide access to more formal support (e.g., counselling) are necessary (Kable et al. 2018) but as shown in this study can vary. Apart from one previous study by Mealer et al. (2012) who found resilience can help ICU nurses deal with critical incidents, we know little about how nurses work through such incidents. Consistent with the findings of this study, the negative effects upon nurses' resilience of moral distress (Holtz et al. 2017; Rushton et al. 2015; 2017) have been increasingly recognised. Some tests associated

with bereavement care were found to be especially morally distressing, compounded by pressurised workplaces, which corresponds with the NHS Staff and Learners Mental Wellbeing Commission (HEE 2019). When caring for dying patients' nurses want them to have the best dignified death possible (Becker et al. 2017), but this cannot always be the case. It was clear however that some situations these nurses experienced went beyond the realms of traditional nursing work.

Likewise, incidents associated with occupational violence were also found to be morally distressing. Occupational violence is commonplace in some settings (A&E), but it was also apparent in non-high-risk settings, reflecting perhaps the increased incidence in the NHS and society generally (DH 2018). Individual safety is core to resilience underpinned by Maslow's hierarchy of needs (Hart et al. 2016). Hence nurses' fundamental human and psychological safety can be threatened but for nurses' professional registration can also be threatened dependent upon their response (Itzaki 2015). Consistent with this study, risks are higher for nurses that are not trained in occupational violence or have security back up (e.g., panic buttons), peer support (Heish et al. 2015; 2017), from experienced teams (Cleary et al. 2014), or when support is unavailable (Rees et al. 2018).

Nurses in this study also showed increased vulnerability related to public risks (complaints, disciplinaries and or health issues) and associated sensitivity shame and guilt. Shame and guilt are known resilience risk factors (Rutter 2005) as individuals are less inclined to reach out for help. Lankshear et al. (2016) has discussed such tests of executive nurses related to public risks, but apart from this other nurses' experiences are rare. What we do know however is that increased scrutiny and risks to nurses' health are workforce realities. These findings support the imperative to mitigate critical incidents and associated moral distress alongside enhanced recognition and support.

It was shown that chain reactions could follow the tests of resilience, a spectrum of individual responses from striving to access resources to restore equilibrium and personal growth. These reactions were positive for some nurses, but for the majority of cases, the chain reactions were not so positive offering unique insights into these nurses' twofold resilience toll (Masten 2014). This means the impact of the initial tests, then striving for resilience and resolve under often continued stress, which has been

generally overlooked in nursing. It was clear that despite these nurses' doggedness to compensate and overcome organisational deficits, to offset risks to their professional registration, many struggled. Structural support often outweighed personal support (Lankshear et al. 2016) further explaining how over-reliance on personal coping mechanisms individual thresholds were reached resulting in tipping, turning points, and career junctures for some making recovery difficult. Critical career transition points are understandable in nursing, but from a lifespan perspective (Masten 2007; Rutter 1999) critical transition points in one's life are recognised as risks to resilience. Marie et al. (2017) does offer important insights in Palestinian MH nurses. Similarly, Hunter and Warren (2013) have identified "critical moments" in midwives but other nurses we have little understanding.

A complex sub-process of hidden resilience has been posed showing how destabilisation of resilience was commonplace for these nurses and what this might mean, and the "red flag" warnings suggested.

8.4.3.1: Atrocity stories

Storytelling can help nurses' resilience (East et al. 2010). There was no doubt about the distressing nature of these nurses' work and sharing their stories with other nurses appeared critical to their resilience, which resonated with the notion of atrocity stories (Dingwall 1977). An atrocity story is:

> *"A straightforward account or slight is transformed into a moral tale inviting all right-thinking persons (the audience) to testify to the worth of the latter against the failings of the other characters in the story" (Dingwall 1977 p. 393).*

Dingwall, in his seminal work investigated the occupational work boundaries of health visitors, concluded that occupational groups could use the stories in two ways. First, to bind a group together to exchange common problems and the mutual reaffirmation of their troublesome nature and secondly, related to the first, the story is a way to assert the character of the storyteller. Dingwall cautions, however, that the term "atrocity" should not mislead us into thinking that the story must contain some disaster. The choice of the dramatic term reflects the drama of the character of the account. Furthermore, that the accounts should not be taken as accurate accounts of reality rather as symbolic narratives aimed at establishing identity and merit. It is with caution then that this theory is used, because often the accounts were real and involved

"disasters". Hence, the stance taken here is that primarily these stories are a useful mechanism of communicating shared difficulties (Bosk 2003) to understand what must be negotiated and overcome for resilience. This endorses the statistically significant links found in this study between the value of debriefs following stressful events and a conversation with a line manager and perceived well-being.

Atrocity stories are commonly utilised by those in less powerful positions to establish their marginalised points of view (Dingwall 1977). Professional power relationships in healthcare are recognised, inter-professional between doctors and nurses (Allen 2001) and intra-professional between midwives (Hunter 2004). Consistent with these studies conflict was found between nurses and doctors and nurses. In contrast, however other conflict was also shown, sometimes this was the public but mostly between nurses and managers that were described by one nurse as *unsupportive and motivated by economics and efficiency rather than patients* and hence perceived could make unsafe decisions. A "them" and "us" depersonalised culture was found with differing ideologies consistent with the known turbulent healthcare climate (Rafferty et al. 2015). Both Hunter (2004) and Allen (2001) chose to interpret their findings associated with conflicting professional ideologies and defence of such ideologies, utilising Gieryn's (1983) theory of boundary work identified as:

> *A political process most often used when there is a desire to expand into another occupation's territory, to monopolise a particular domain or to maintain occupational autonomy" Gieryn (1983 p.781).*

Certainly, professional ideals are vital in nursing, there was no doubt they were a primary motivation of these nurses to face adversity, but of concern the toll of defending such ideals in conflicting workplaces has been shown to test these nurses' resilience. Adversities of healthcare organisations differ to organisations in other sectors (Barrasa et al. 2018). Generally, organisations are exposed to two types of adversities (Gilson et al. 2017): acute and everyday. Acute adversities are isolated transient events with clear boundaries whilst everyday adversities are unpredictable, multiple with fuzzy boundaries, and are connected in complex ways that demand more creative adaption. Healthcare organisations however endure both acute (life and death events) and everyday adversities (Gilson et al. 2017) consistent with this study. It is acknowledged that acute shocks have largely been the focus (e.g., Ebola outbreak) rather than everyday adversities (Gilson et al. 2017). Similarly, this may reflect the

COVID-19 pandemic. These findings suggest interventions that both mitigate these conflicting workplaces and reflect the adversities (acute and everyday) are warranted. From a social-ecological perspective, knowing these risks is key to appropriate often local interventions (Ungar 2011). Nurses' having routine time to share their stories could be one intervention that could go towards nurses feeling that organisations value the distressing conflicting nature of their work; this will be discussed further later.

8.5: Summary discussion theme two

There is a central message here that concerns resilience in remarkably consistent ways that in the most severe circumstances of nurses' resilience and determination to deliver quality care, at the same time build resilience within their workplace. It is apparent that prioritisation of more shared responsibility of the toll of resilience by organisations or prevention in the first place could help the resilience stability of nurses. Peer validation was received by both practitioners and workforce researchers at an international conference[52] which endorsed these concerning findings.

8.6: Discussion theme three: routes to resilience resources and strategies to build resilience in self and others.

Research question 3: What are the range of resilience strategies that nurses adopt to cope with their workplace adversities? Research question 7: What do nurses find helps/hinders their resilience within their environment of care?

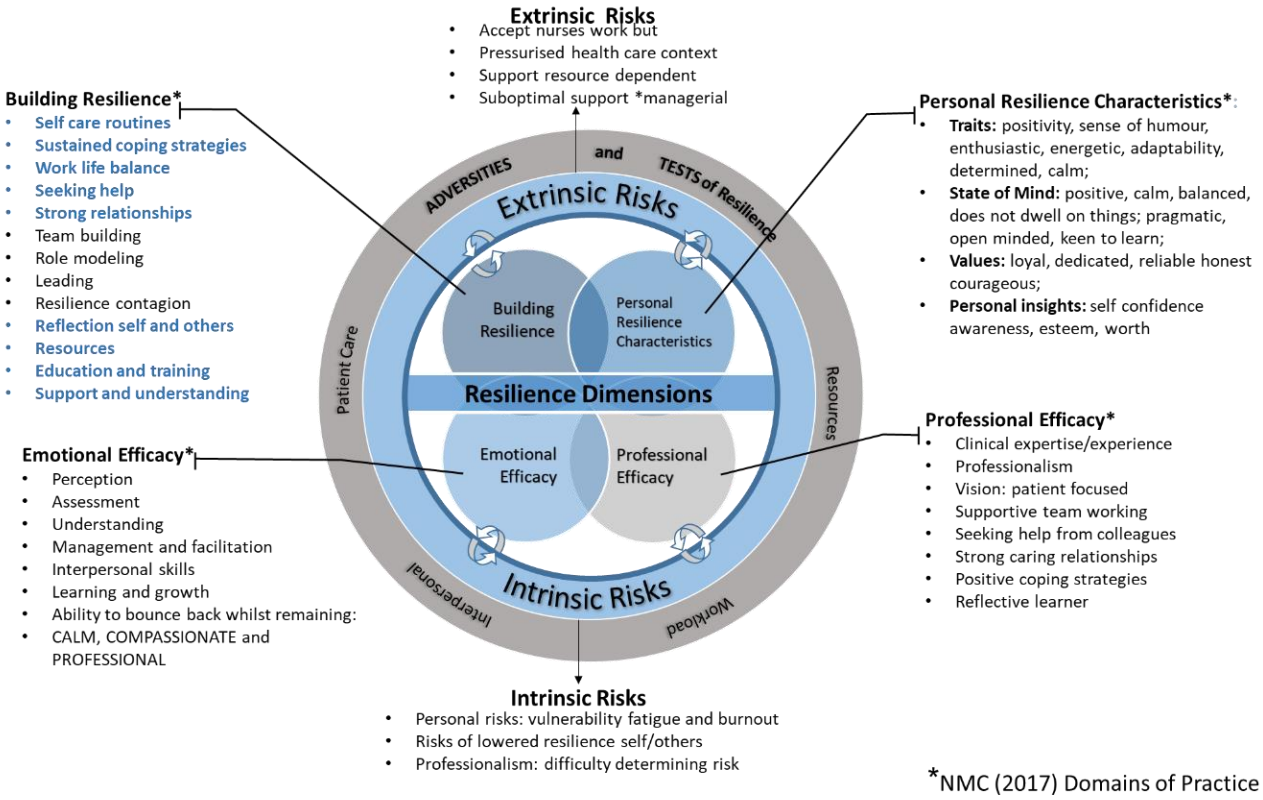
8.6.1:Overview

These nurses' routes to resilience that were found to be built to protect against adversity will be discussed, to help answer the research questions above. Substantial interest (Literature review: wave two) has established that nurses adopt varied positive coping strategies when faced with adversity. Contrary to this positive discourse these nurses showed how building resilience was challenging, for some more than others. Consistent with social-ecological enquiry it is recognised that tensions do exist, that adaption to adversity is complex (Ungar 2011) but the environment will influence all adaptions, environmental influences are underexplored in nursing. Prior international research has prioritised nurses' ways of coping and one-off resilience programmes,

[52] See Appendix 17 Conference paper/international 1

workplace resources has not been prioritised. Understanding context and availability of resources and nurses' actions when resources are available/unavailable is in keeping with a social-ecological perspective (Ungar 2011). It was found that these nurses relied largely upon intrinsic and intra-personal factors at the micro level but what could help their resilience was enhanced organisational factors: resources, education, and support. Likewise, the reverse could hinder resilience. To return to Figure 16, the study's multi-level framework shows how the interaction and interdependence of these complex factors and how they can work together. If the broader influences support the individual level, a more coherent outcome can be anticipated (Baron et al. 2013).

Figure 21: Resilience Dimensions Three



The figure above outlines this final theme and completes the three Resilience Dimension figures. The respondents' self-reports of Building Resilience will be discussed- the section towards the upper left of the figure, in particular the factors in blue font. The discussion brings together the factors formerly discussed related to how

they perceived their colleagues build resilience (black font). Two sections will be presented: What does help and what could help nurses' sense of resilience.

8.6.2:What does help nurses' resilience: individual resources and strategies.

This section describes how these nurses experience resilience confirming and further explaining the *resilience dimensions* [53]. Two sub-themes will be presented, first these nurses' individual resources (strengths) and ways of coping and adaption to adversity, particularly seeking help from colleagues. Then follows their ways of building resilience including self-care and health and well-being strategies. Predominantly, the first two waves of the literature review and broader resilience enquiry will be drawn upon.

8.6.2.1: Individual strengths, coping and adaptation strategies.

Knowing and accessing personal strengths to cope with adversity is a core resilience response (Richardson 2002). Consistent with the resilience characteristics of these nurses discussed (Figure 17) it is known that self-aware competent nurses can access multiple personal strengths in response to adversity (Literature review: wave two). Building on this already important work further important insights emerged. For instance, there was a consensus found that compassion (98% *N*=1442) and empathy were two core strengths, further substantiated by the qualitative findings. Not unexpected of nurses perhaps, empathy is central to nursing practice, likewise empathy is core to resilience and is a precursor of compassion (Rutter 2005). Higher compassion satisfaction scores of nurses have been linked to resilience (Berger et al. 2015).

In contrast, too much empathy is a recognised burnout risk factor (Firth-Cozens and Cornwall 2009). Similarly, empathy was reported as a characteristic of these nurses' colleagues with both most and least resilience (Figure 18). These contradictions could be explained by the fact that resilience protective factors can simultaneously become risk factors. These are important insights that are underexplored in the literature to date, which has tended to oversimplify and dichotomise complex issues such as compassion (e.g., nurses either compassionate or compassion fatigued; resilient or

[53] *Personal Resilience Characteristics, Professional and Emotional Efficacy, Building Resilience and Risks to resilience*

burnt-out). Exploration of links between resilience and empathy could be a fruitful form of enquiry given the criticality of empathy to building nursing relationships.

Linked to compassion there was a point of agreement that motivation was a core strength that these nurses drew upon during unsettled insecure times (their love of nursing, work ethic and responsibility to patients/families and colleagues). Motivation is core to resilience, and many of these nurses' experiences resonated with Richardson's (2002) meta-motivational theory of resilience (Chapter 2) that is the integration of learning into one's sense of self, reflected Maslow's hierarchy of needs (Hart et al. 2016). In addition to "*survivors' pride"* (Wolin and Wolin 2010) that is the satisfaction of accomplishment from persisting in the face of adversity. Nursing can be both stressful yet rewarding, However, Hodges (2004) argues that this bittersweet nature of nursing can receive little attention when the professional context is more deficit than strengths orientated. This is important in that nurses' workplace contexts will inevitably influence how nurses express their resilience.

These motivations are not new, echoing the motivations of many who enter nursing, currently and historically. Regrettably we have already discussed how motivation can be a vulnerable factor for both nurses described as resilient and least resilient (section 8.2.2). What sets these findings apart is that they help explain what can motivate nurses' when care giving is not so rewarding (Gillman et al. 2015). Workplaces where support, resources, and development to do the job were available nurses reported motivation and "thriving". Interestingly, pay campaigns dominate government and union negotiations, but responsibility to earn money was less of a motivator (*N*=80%). Compared to the motivation of responsibility to patients and families (95%) the lowest point of agreement was responsibility to their employer (*N*=73.9%). Motivated nurses who love their work are crucial (WHO 2016), it is vital this "*fire within*" (Grafton et al. 2010) is fuelled, important insights when nurses' motivation is highly debated.

Consistent with the literature review (wave two: e.g., Zander et al. 2013) there was no doubt that nurses in this study could explain varied positive coping strategies when exposed to adversity. These strategies contributed to functioning and conservation of resources (Hobfoll 2011) despite stressors. There was a consensus that working out the problem to find a solution was the strategy of choice adopted over the last year when handling difficult circumstances well. Consciously chosen stress reducing

responses were shown to down regulate their stress responses to in turn mediate “recovery from the stress mitigating chronic stress and maladaptive fatigue” (Lazarus and Folkman 1984). In addition to building psychological strength against further adversity and stress resistance. These findings are consistent with other practitioners (Zwack and Schweitzer 2013) and add to the positive work to date. Nursing studies related to recovery however are rare. The traditional differentiation between resilience and recovery has shifted, recovery is now viewed as a resilience stage (Mertens 2015). In nursing this is important if it is posited that nurses require recovery time following adversity in a time constrained environment.

In contrast to earlier literature (e.g., Zander et al. 2013) it was found that many of the coping strategies reported (productive and non-productive) were developed to offset workplaces deficits. Some nurses also described their unhealthy coping strategies, reinforced by their suggestions for help, which will be revisited later. These findings challenge the common misapprehension that individuals who possess resilience do not experience negative emotions thoughts and attitudes. Processing and coming to terms with situations and moving on could be understandably challenging for some. The quantitative results support this as 14.3% of respondents were undecided and 9.7% disagreed that coming to terms with the situation and moving on was their coping strategy of choice when handling difficult circumstances well. Over time many of these nurses however expressed balancing the negative with the positive. Of concern, a trend was shown that these nurses viewed resilience as their responsibility despite little control over many of the workplace stressors. This could be due to the current individualised conceptualisation of resilience popular in some of the literature and policy.

Certainly, the toll of nurses’ stress has been extensively documented but the toll of adaption where nurses work under often chronic stress, and what this means in a resilience sense we know little about. Consistent with a life span approach positive adaption to adversity earlier in life facilitates a resilient response later, reflecting the notion of steeling effects (Rutter 1999). The seminal work by Moen et al. (1997) established the notion of cumulative resilience including turning points. Applied to nurses this could mean sustaining nurses’ careers through their everyday work and critical career moments to be more positive than negative as formally discussed

(section 8.4.3). Apart from newly registered nurses turning points (Hodges et al. (2008) we know little about such trajectories which appears to conflict with other practitioner evidence such as psychologists (McCann et al. 2013). Career trajectories of resilience could be a fruitful direction of enquiry considering the workforce crisis. These findings provide a more complete picture of how nurses develop longer-term psychological adjustment and reframing their coping strategies.

Consistent with the extant nursing and resilience literature (e.g., Jackson et al. 2014) and other practitioner evidence (e.g., McCann et al. 2013) reflection was found to be a pivotal coping and adaption strategy of these nurses, despite barriers reported. 85.4% agreed that they used reflection when handling difficult circumstances well, substantiated in the qualitative data and validated by the stakeholder group (discussed further later). By listening to personal and others experiences emotional and cognitive understanding and insight for resilience can be developed (Hauser et al. 2006) to help sense making (Jackson et al. 2007) and a community shared critical dialogue (Stacey and Cook 2019). Indeed, the Chief Executives of the statutory regulators of health and care professionals united on a position statement as to the benefits of reflective practice (NMC 2019), in these challenging times. Of concern, in this study it was commonplace that these nurses described having no time to reflect. This was substantiated in the quantitative data that 57% reported reflective practice groups were unavailable or they were unaware of them. This might mean that these nurses understanding of what constitutes a reflective group differed, nonetheless these insights could imply that reflection is not prioritised by organisations. These are worrying findings given the adversities faced by these nurses and high service delivery expectations. Despite the unequivocal cross discipline affirmation and evidence supporting reflection and revalidation (NMC 2017) we still know little about organisational provision for reflection. These findings add weight to the necessity for structural change to ensure nurses have protected reflection time.

8.6.2.2:Seeking help and accessing supportive colleagues, networks, and relationships

Asking for help is a well-recognised resilient response and strength founded upon self-efficacy. Overwhelmingly, next to problem solving, there was a consensus found in this study that the most frequent coping strategy that these nurses utilised to handle

difficult situations was receiving team support. This result confirms motivation to their teams mentioned previously and was further substantiated when there was a consensus found that the most helpful workplace resource was a conversation with a trusted colleague. These important findings are unsurprising as the most frequently reported coping strategy from large scale surveys of nurses is receiving support from colleagues (NHS Survey 2017) corroborated by the stress prevention Cochrane review by Ruotsalainen et al. (2015). These findings are in keeping with other studies in nursing (Lee et al. 2015; Xiao-Xi Liu et al. 2018; Cao and Chen 2019) other practitioners (Hunter and Warren 2013; McFadden 2016; Adamson et al. 2012; Zwack and Schweitzer 2013), and the broader literature (Tusaie and Dyer 2004; Ungar 2011).

Supportive relationships and social networks are core to resilience, individuals who can draw upon others in times of adversity who are open to support can gain support and learn strategies (Dyer and Minton McGuiness 1996). Engendering a sense of belonging and connectedness (Ungar 2012; Rutter 1987), 75.2% of the nurses in this study reported feeling part of a supportive team. The qualitative findings were in keeping with previous research suggesting how when these nurses struggled to cope, they helped each other, through supportive relationships (Marie et al. 2017) fundamentally talking, shared understandings of nursing, problem solving, sharing of responsibilities (Cope et al 2015), role modelling (Mealer et al. 2018), communicating resilience strategies (Perry 2008), and mentoring (Davey et al. 2020). Like Kornhaber and Wilson's (2011) study the team was found to be the greatest asset of nurses for support direction and assistance.

These two-way interactions and social networks can strengthen team resilience and more broadly the profession (Cleary et al. 2014) but have received limited attention. Community resilience is a factor of individual resilience in different contexts and cultures (Zautra et al. 2010). Collaboration, social bonds, and shared identity can buffer the negative effects of stress (Ungar 2012). Although this study did not specifically investigate team resilience its shared nature evolved showing how nurses can act as resilience resources for others suggesting a sense of a contagious resilience flow. Except for one study (Pipe et al. 2012) that mentioned the unexpected effect of team contagion following a pilot resilience programme, no previous study can be aligned to these findings. Relatedly, more recently there has been some recognition

of the importance of bonds between team members (Maben and Bridges 2020), and resilience as a social collective experience (Aburn 2020) also team resilience has been associated with individual nurses' job satisfaction (Son and Ham 2020).

In contrast if was found that 13.2% of these nurses were undecided and 11.7% disagreed that they felt part of a supportive team. These are not unexpected results perhaps given the adversities formally discussed, further suggesting that it is unrealistic to consider reliance on overextended colleagues for support to be sufficient. The criticality of social interactive factors including team working and leadership dominates healthcare workforce debates (e.g., HF 2016; KF 2019). Specifically, for resilience it is recognised that the complexity of healthcare necessitates interdependent closer collaborative relationships (Gittel 2016), which conflicts with pressurised workplaces.

In this study nurses often reported seeking help from family and friends. This finding differs to Hunter and Warren's (2013) study where midwives rarely mentioned partners as a form of support, a much smaller sample compared to this study, but it was thought to be related to keeping home and work separate. It is not clear why family and friends were identified in this study. It may be due to the adversities experienced, to gain a different perspective or due to suboptimal workplace networks. Nevertheless, more often it seemed not out of choice but due to workplace deficits, suggesting a binary notion of separating home and work may not be that simple. These are concerning findings given these nurses work-life balance challenges discussed previously. We know little about how organisations foster social connections for resilience, except two international studies (Manomenidis et al. 2018; Wei et al. 2018), which identified the significance of leadership which will be revisited later. The evidence presented in this study confirms what we know already that nurses seek help from other nurses as their primary coping strategy. These findings went further and showed how flawed this strategy may be due to the workforce crisis. Organisations that value nurses' supportive relationships cannot leave them to chance prioritisation of protected space and time is required.

8.6.3: Individual resilience building factors.

Nurses in this study reported multiple self-care and work life balance skills as important to building their resilience. Self-care can mediate compassion fatigue (Berger et al.

2015) and conserve resources (Hobfoll 2011). Expert nurses have been noted for work-life balance skills (Perry 2009). These findings are consistent with nursing studies (Literature review: wave two) and other practitioners: (Hunter and Warren 2015; Adamson et al. 2012; Zwack and Schweitzer 2013). What made these findings different however were the risks to these skills due to occupational stressors. Prioritising self-care was found to be challenging and could not be assumed, particularly at certain career times. 24% of these nurses disagreed that they looked after their own health and well-being as a coping strategy to deal with difficult circumstances, substantiated by their suggestions for help. The association between high stress levels and negative health behaviours is established (Nyberg et al. 2013). Also, the growing understanding of the "inverse recovery law" (Sonnentag et al. 2017), which suggests that those whose work is most stressful are less likely to engage in recovery activities.

Of concern, only 40.9% of these nurses considered that their work environment supported their health and well-being to cope with adversity and build resilience. Similarly, only 49.3% felt supported to cope with emotional demands of their job. Immense pressure on nurses needs to change rather than nurses' ability to cope was a core finding, suggesting consistency with the social-ecological stance. These findings expose the limited prioritisation of nurses' well-being in workforce policy, whilst the importance of career sustaining behaviours is the norm in high-risk professions such as psychologists (McCann 2013). These complicated findings suggest that wider attention is demanded to both reduce workplace risks and support nurses' self-care so that more than 40.9% in any one cohort of nurses feel their work environment supports their health and well-being.

The second section of this final theme of the discussion will discuss what these nurses considered could help their resilience.

8.6.4: What could help nurses' sense of resilience?

In this study these nurses were asked about various workplace resources that can help their resilience, and they were also asked what three things could improve their

sense of resilience in their working life[54]. Resources, education, and support were the key factors established, likewise the reverse was found could hinder resilience. The question concerning adversities in the questionnaire may have influenced this, but again the consistency of responses suggested the known complexity of resilience that risks can simultaneously be resources and vice versa (Masten 2014). These are important findings as they were all commonplace workplace factors but often less than optimal suggesting enhanced supply and or resource utilisation targeted by organisations could help nurse resilience. Few studies focus upon a combination of positive workplaces factors for resilience; these findings thereby add to the literature. Finding a gap in available resources is key to resilience (Theron and Theron 2010). However, in this thesis, these nurses identified multiple gaps.

8.6.4.1: Resources

A primary finding was that these nurses considered more resources could help their resilience, not change their work per se, particularly more nurses in addition to better well-being and team working conditions. Time and again the quantitative results and findings make this point reflecting the major macro-level challenges. That is the long-standing austerity of the NHS, the often-intractable workforce crisis yet nurses are most in need to cope with the rising demand for provision of quality services (The House of Commons 2017). These findings however went further suggesting that **nurses** need **nurses** for their resilience, a novel finding that cannot be directly aligned to the previous studies reviewed. This adds weight to the imperative for keeping and supporting current nurses not simply recruiting more (NHSI 2019). Furthermore, nurses new to any environment require support, which can impact on the resilience of existing nurses. Again, the findings emphasise the limited time nurses have to not just care but to personally respond and recover. Better well-being and team working conditions including breaks and break facilities these nurses considered could increase their sense of resilience. Well-being facilities (e.g., personal and communal quiet rooms) have been shown to benefit resilience (Grafton et al 2010; Mealer et al 2015). The undeniable merits of breaks have been formally discussed furthermore; breaks provide informal team bonding time, safe spaces to support each other. It is recognised that context and culture can influence breaks not solely resources, and

[54] Final question 63% response (*N*= 920) 2760 comments - 20,152 words.

leadership is considered key to protected breaks (Hart et al. 2013; Lee et al. 2015). Nonetheless these findings suggest urgent investment and structural change are necessary.

8.6.4.2:Education and development

An important finding was that these nurses considered more education and development grounded in practice could help their resilience, broad and some specific aspects will be discussed. It was found that 82.9% agreed learning with and from others was helpful to their resilience, while 65% felt supported to learn and develop in their job. These were not unexpected findings which are comparable to previous literature reviewed (wave two) which has frequently recommended training as well as embedding resilience in undergraduate programmes (Foster et al 2019; Badu 2019), as learning is core to resilience (Rutter 2005). Furthermore, continuous development is a regulatory requirement for nurses (NMC 2017). However, these findings could also be explained by the sub-optimal learning environments formally discussed. Likewise, when asked about their organisational learning and development resources all were reported as helpful, (e.g., in service training) but mixed results were received as to their availability. In fact, to keep up to date it was apparent that often their development was self-directed, sometimes self-financed and in personal time. These findings however must be interpreted with caution as these self-selected nurses may be more receptive to and demanding of learning opportunities than nurses who did not respond. Nonetheless, these combined findings suggest that these nurses were receptive to learning but there could be more opportunities and availability of learning, which reflects the major problem known that often nurses learning opportunities are sacrificed when confronted with clinical demands (NHS Survey 2019; RCN 2019). Nurses however can view development time as personal investment in them by their organisations (HF 2017), hence having a reciprocal benefit. There was a point of agreement that regular protected time for individual, and team proactive not reactive work-based development could help these nurses' resilience.

Consistent with prior research that has investigated one-off resilience programmes (Literature review: wave three) stress management, self-care, and work life balance skills were development areas suggested. These nurses however also suggested other broader aspects aligned to the resilience dimensions and regulatory

requirements (NMC 2017) (see Appendix 20 for more detail). It is acknowledged preventative interventions within a well-being frame and patient care enhancement may offset associated mental health stigma (Johnson 2018). Resilience programmes may lead to healthcare professionals enhanced confidence for, and engagement in healthy lifestyle behaviours (Werneburg 2018). Also, that a positive correlation has been established between nurses' resilience and mindfulness (Harker et al. 2016). Nonetheless, as to programmes that imply nurses need to be more resilient or can raise expectations by depicting resilience as self-care and placing responsibility on the nurse rather than addressing workplace deficits is largely discounted. It is more likely that to enable the resilience process and the adversities shown (acute and everyday) that continuous follow-up, mentoring (Davey et al 2020) and a more comprehensive approach combining individual and organisational interventions is required (Joyce et al. 2018; Cleary et al. 2018; Foster et al. 2018; Henshall et al 2020; Cooper et al. 2020).

An important result from the study was that 61% (*N*=890) of these nurses reported debriefs after a stressful event helpful. Additionally, that debriefs could influence their health and well-being, which was found to be statistically significant, with a moderate effect size (Cohen 1988) across the whole sample. Debriefs have been found to be especially valued for emotional closure time (Lee et al. 2015) (for example bereavement) help resilience (Edward 2005) and encourage a resilience enhancing culture (Hart et al. 2014) but have largely been overlooked. Structured debriefing following adverse events has been used in healthcare as a relatively inexpensive and non-threatening way to discuss unplanned outcomes, realise learning opportunities and rebuild as a group (Rivera-Chiauzzi et al. 2016). They can contribute to decreased turnover, enhanced staff morale and patient care interactions (Berg et al. 2016). Despite this evidence debrief opportunities can be limited (Buhlmann et al. 2020) this was reflected in the variance found in this study. Debriefs were unavailable for 18% (*N*=263), yet stressful events were reported as commonplace. Debriefs are one example of a combined individual and organisational intervention that warrants serious consideration.

Further in relation to debriefs, it was apparent that these nurses valued team time to bond, reflect and share experiences, as discussed, stories can promote resilience

(East et al. 2010). Schwartz Rounds (Maben et al. 2018) are an intervention that employs storytelling across an organisation, introduced following the Francis enquiry (2013) to encourage compassionate healthcare. The merits of this intervention are compelling however, it was apparent these nurses found sharing team experiences important to build their collective learning to transform team practice and help team cohesion due to workforce issues discussed. Indeed, the merits of social support from completing a resilience programme have been noted to be as helpful as the programme itself. In addition, to the benefits of community support to sustain interventions learnt and contribute to cultural change (Foster et al. 2018; McDonald 2015; Fourier et al 2013; Henshall et al. 2020).

Clinical supervision can help nurses to maintain emotional energy (Proctor 2010), resist burnout (e.g., Edward et al. 2005), foster self-efficacy and awareness (McFadden 2016), resilience (Delgado et al. 2019), and be combined with a resilience programme (Foster et al. 2018). An important result in this study was that 50.7% (*N*=740) reported Clinical Supervision as helpful. A safe supportive space to air emotions to develop resilience, underpinned by reflective practice were benefits described. However, 22.6% (*N*=330) reported it unavailable and often the supervision reported was limited. These findings are not new and support the known context laden issues of quality, variability of practices and perceptions of supervision (Cutliffe et al. 2018; McFadden et al. 2016).

Theoretically, supervision should include supportive, pastoral, and restorative elements with managerial and development features (Milne and Martin 2018) but often the supportive elements have been neglected. Hence “restorative” (Wallbank 2007) and “supportive” supervision (Stacey et al. 2017) have evolved. Stacey and colleagues specifically explored resilience and “supportive” supervision in nursing students before and after registration and found that they were able to externalise resource constraints as organisational failings as opposed to personal inadequacy and worked around constraints where possible to maintain personal standards. Similarly, externalising resource deficits has been found helpful to the resilience of Executive Nurses (Lankshear et al. 2016). Certainly, there was overwhelming support at the stakeholders meeting for supervision but without national structural change supervision for all was doubted. Despite supervision being debated extensively it is

not an NMC requirement like midwifery, (and social work) these findings indicate supervision in some form should be.

It is imperative that macro level prioritisation of education and development occurs to support nurse resilience at scale, debriefs are just one intervention that signal opportunity to realise this.

8.6.4.3: Support and understanding

A key finding found across the dataset was that these nurses considered enhanced support and understanding, particularly from management[55] could increase their sense of resilience. This is substantiated repeatedly throughout the study where nurses did not necessarily wish to change their "nursing" work per se but greater understanding valuing and recognition of their difficult work, could help their resilience. Overextended nurses compensating for workplace deficits could be expected to require more support and recognition not less. Management can be influential to the promotion of team working and positive workplace environments. Ways in which respondents felt management could provide this support included supply of nurses, visibility, trusting relationships, feedback training, and overall culture.

Being valued, a sense of belonging, attachment, and strong relationships are core to resilience (Rutter 2005). Overwhelmingly supply and protection of the workforce by management was shown to be core to being valued which extends the study's former findings discussed. Similarly, appropriate staffing Lee et al. (2015) found was the most important ward-based leadership resource. Uncertainty within organisations can be reduced by providing information, communication, team belonging and safety (Garcia and Calvo 2011). Certainly, in this study it could be simple things that made these nurses feel valued as people, such as their manager's visibility, visiting the ward if there had been a critical incident, recognising when a team had experienced difficulties receiving feedback a "pat on the back". This is endorsed by the HEE commission (HEE 2019). Furthermore, the PCF (2014) highlights that healthcare practitioners who exercise control over their work, are listened to and involved in decisions affecting services they deliver, engage in training and development, and who have the physical

[55] Respondents used interchangeable terms e.g., senior, upper management and management.

and emotional impact of caring work recognised seriously are crucial to the delivery of quality care.

These findings were supported by the quantitative results; all supervision and feedback resources were reported as helpful but more mixed lower levels of helpfulness were reported. Many suggested they needed help with raising concerns dealing with management and conflict, 23.1% disagreed that their concerns will be listened and responded to and 23% were undecided. While 60.2% (*N*=878) found a conversation with their line manager to be helpful to their sense of resilience. Further analyses carried out indicated that a line manager conversation could influence these nurses' health and well-being, which was found to be statistically significant with a moderate effect size (Cohen 1988) across the whole sample. Support was found to be an overarching factor for these nurses in Wales and the nuances of different types of support needed were found. Staff support and development has been recognised (Cusak et al 2016) but is under researched.

The need for more support and understanding for these nurses may reflect the reported continuing limited understanding of the emotional labour of nursing work formally discussed. The findings are not unexpected and reflect the macro policy drive for compassionate leadership within healthcare (West 2018). These findings however suggest a gap between policy aspirations and these nurses' everyday experiences. They support the PCF (2017) recommendations that a leadership culture that recognises nurses as individuals is required, if nurses are to be retained and leaders may need people management training (Boorman 2009; NHS Plan 2019).

Supportive open and non-judgemental cultures where emotions and risks to resilience are shared, well-being and individuals are valued were found to be important to these nurses, to role model, mentor, and support others to enable a sense of growth and belonging and access to support services when necessary. Culture can help attach meaning to an adversity (Ungar 2007). How nurses experience resilience however occurs at a local level, so consideration of the complexity of context and culture is critical to any structural intervention. For instance, if nurses are not accustomed to having breaks, they may need permission to expect and prioritise them. In this multiple variation sample, differences in addition to similarities would be expected. Certainly, local hidden strategies embedded in relationships and routines were found for

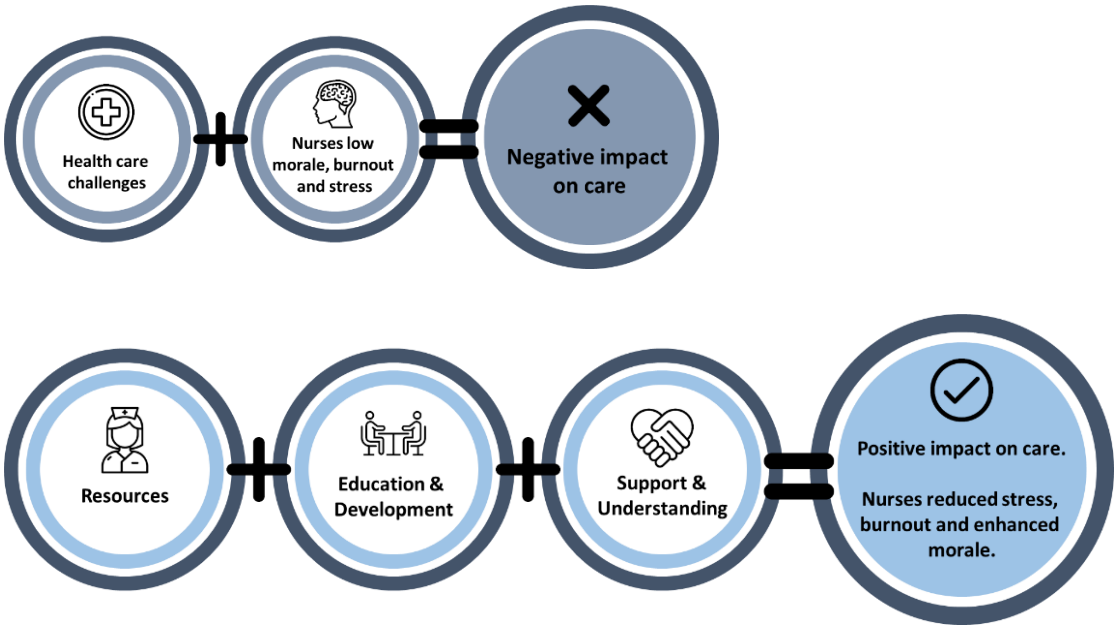
example, CC bereavement practices (Mealer et al. 2015). Except Marie et al.'s (2017) study little is known about how culture and leadership of that culture influences nurses' resilience. Kester and Wei (2018) suggest that nurse leaders are not specifically trained to develop a resilient team, like this study they propose combining education, social support, and meaningful recognition. They acknowledge that meaningful recognition is challenging as individuals interpret recognition differently. How management support and understanding influences resilience warrants further research, and prioritisation by practice.

8.7: Summary discussion theme three

The research problem that motivated this study was the serious workforce stress levels and their contribution to the global nursing workforce crisis and subsequent threat to patient care. The purpose of this research was not to solve these problems but to investigate some enablers for nurses to experience resilience. These findings advance understandings from the problem to suggesting potential workplace factors to do this, particularly resources, education and support, alongside individual factors. Figure 22 below directly links back to Figure 2 that depicted the research problem and set the scene for the study. Situating nurses' resilience in a wider workplace context, highlights how the combined potential of nurses and positive workplace factors can influence the health and well-being of nurses for the benefit of all. Peer support of these findings were received at an international conference[56] (Hall et al. 2019) and are also endorsed by similar recommendations from the survey of the health and well-being of the nursing and midwifery workforce in Wales (Gray et al. 2020). They do however raise questions about differing provision of workplace resources implying inequity, which might go towards explaining the trend shown of nurses' reliance on their personal reserves and support from colleagues. Implying that more national consistency of workplace resources could help nurses' resilience. Some simple things could make a difference be cost effective even cost neutral, but any structural interventions need to be accessible and meaningful to busy nurses. These workplace factors involve sustained long-term measures that will require structural change and commitment, or they could be perceived as lip service, superficial and short term.

[56] See Appendix 8 Conference paper/international 3.

Figure 22: Resilience enablers- resources education and support



8.8: Stakeholders' consultation event

Finally, prior to moving onto the synthesis of the findings in the proposed model, for completeness the stakeholders' consultation event will be reported. The aim of the event is outlined below (Table 26) (see also further information Appendix 15). The stakeholders' important contributions will be outlined, Table 27 overleaf supports the discussion. The three key areas that emerged were: support for the findings, workplace challenges, enablers for resilience and a need for a standardised approach.

Table 26: Stakeholders' consultation event: purpose potential benefits and aim

Purpose:	To engage with relevant stakeholders to inform and receive feedback, concerning the study's main findings.
Potential benefits:	Recognise and value the vital contribution of the stakeholders. Testing of the validity and relevance of the findings; enhanced transparency and robustness of the study and Engagement of the stakeholders at this stage may positively influence engagement at subsequent stages.
Aim	To enable stakeholders to potentially inform the latter stages of the study.

Table 27: Stakeholders consultation event- key contributions aligned to the main findings

<table>
<tr><th colspan="2">What do you think about the study findings? What was surprising?</th></tr>
<tr><td>Study aim design, method, sample results.
What do you think about the study findings?
Design: Survey very powerful method.
Helpful to have evidence on what we know exists.
Questionnaire: potential for other purposes
Sample: Superb response demonstrates importance of the subject to us as a profession. Acute adult nurses voice: visible in findings.
What was surprising?
Sample: Not many male nurses</td><td rowspan="2">Adversities described.
What do you think about the study findings?
Workload: not surprising
Resources: lack of “handover time” due to 12-hour shifts: no time to chat and support staff
Interpersonal: students can experience negativity due to status and capabilities.

Risks described.
What do you think about the study findings?
Nurses being extremely resilient not the answer, high risk, not addressing the environmental problems.
No control over context.
Professional dissonance when you feel out of control of your environment.
Identification with professional “face” and not showing stress to project confidence.
Socialisation of “burnt out nurses” working with juniors- contagious concern.

What was surprising?
Culture “I don’t matter” production line- surprising when there is so much “push” on compassionate values, but results are not surprising either, nurses moved “pillar to post”.
No negative coping mechanisms shared- clarified, that some staff did.</td></tr>
<tr><td>Perceptions of resilience- Resilience dimensions
What do you think about the study findings?
Professional Efficacy: Reflection is core
Emotional Efficacy: we know but seeing it broken down is helpful to see skills- name them</td></tr>
<tr><td>Routes to resilience: What helps?
What do you think about the study findings?
Help from others informal/ formal, work and home:
Relationship are important, can be cathartic.
Role modelling important.
What was surprising?
Clinical supervision “40%” received it.
Clarified that 40% found it helpful.</td><td>Routes to resilience What could help?
What do you think about the study findings?
Support for:
Resources*staff workload and well-being of staff- breaks and facilities: No uniformity, cultures vary particularly well-being of staff.
Protected CPD emphasis on learning from adversities, reflection and EI, *debriefs. Continuous approach to build lifelong skills not “one offs.”: Nurses need support and education.
Understanding management, colleagues, and the public: management: short lived praise</td></tr>
</table>

<table>
<tr><th colspan="2">What ideas do you have?</th></tr>
<tr><td colspan="2">Perceptions of resilience: Alter perceptions of lowered resilience. Nurses are not responsible for NHS deficits.
Routes to resilience: What helps.
Help from others: Having trusted colleagues to confide in; “are my feelings normal?” Clinical supervision for all (current scoping across Wales)
Personal strengths, motivation, coping and adaption strategies: Passion for nursing. Diminishing returns/rewards- self-compassion needs fostering.
Promoting building factors (self-care self and others): Better signposting to support. Options to move staff: emotional should be same as physical issue e.g., bad back</td></tr>
<tr><td>Routes to resilience: What could help.
Staffing: succession planning: make it easy and attractive for retired staff to return.
work on economics- keep staff not recruit more.
Affect culture of highly resilient nurses running risk of burnout by going “above and beyond.
Well-being: ward to board
Part of day-to-day work must treat and protect people who are in post.
Patient safety – staff safety too
Review well-being policy hydration etc.
Protected time: well-being group.
Reduce stigma of not coping, must be able to report it.
Formal structures required, link with Parliamentary review/current evidence</td><td>CPD
Senior management need to sort protected CPD time.
Senior’s mentor junior staff e.g., retiring nurses.
Training that resilience is more than one skill and qualities.
Recommend using Resilience Dimensions for role modelling.
Findings need to be included in pre- registration education.
Students need training to be able to respectfully challenge
Management support
more visibility, listening, compassionate listening.
reinforcing empowerment staff being able to try new things.
sustained praise and feedback, open communication
team working draw on good practice and promote sense of community.</td></tr>
<tr><th colspan="2">Any Questions?</th></tr>
<tr><td>Study design and method
Did the male responses differ to the females?
Were there differences between age, rural and urban?</td><td>Perceptions of resilience
Do nurses learn to be resilient, or do they have it in their DNA?
What questions could be asked of pre-registration applicants?</td></tr>
<tr><td>Adversities and risks experienced.
How do we change the “norm”, currently not addressing the problem?
How do we recognise and define adversity in the workplace?
Do nurses add to their own adversities by doing another person’s work?
Regulatory implications- safe nurse safe patients?</td><td>Routes to resilience
How can clinical supervision be defined/arranged for everyone?
Can we train to be resilient then draw on those skills in adversity?
How can resilience be discussed? What was a good/bad shift? What made the difference? What help do nurses need?
How can well-being be promoted? How do non-clinical staff get positive feedback</td></tr>
</table>

8.8.1: Discussion of stakeholder contributions

Broadly, there was clear support for the rationale of the study and the findings were not refuted, one group wrote.

> *"We relate to all parts of the research".*

Linked to this the challenges of workplace environments exposed were endorsed, indeed questions to try to solve workplace challenges predominated. Hence, reinforcing the complexity of the subject and the value of the social-ecological approach, that it is not simply about the individual nurse. Nurses have resilience capacity but due to current workplace demands this resilience is at risk and nurses require more support, which aligns with the central argument of the thesis.

> *"How resilient nurses are, that's what we felt, we feel humble when we see it".*

The main ideas debated by the group were enablers that fell into the "routes to resilience" theme, specifically well-being promotion underpinned by management support. The value of clinical supervision as a well-being intervention was unanimous, and certainly the idea of "supervision for all" was not dismissed. However, its implementation challenges were acknowledged. It was highlighted that one approach is not necessarily a panacea, also to be realistic and to work within constraints, to respect time, to look for smart quick effective solutions. Indeed, they considered that debriefs could be such an approach, which endorsed a significant study finding. Additionally, there was a message that novel solutions to problems are necessary and that how work is "normalised" may not always be right. That focusing on what goes wrong as well as right is necessary to learn from both. Finally, an important consensus emerged that staff well-being measures were not considered standardised across Wales and if left to local culture and practice the status quo will remain. To enable more consistency structural changes are needed, a key recommendation by the group was that nurses' well-being should be added to the Nurse Staffing Act (WG 2016).

8.9: Introducing a new definition and model of nurse resilience

This section will cover a new definition and model of nurse resilience emanating from the findings[57], including the development, design, challenges of the model and learning gained.

8.9.1: New definition of nurse resilience: a holistic workplace approach

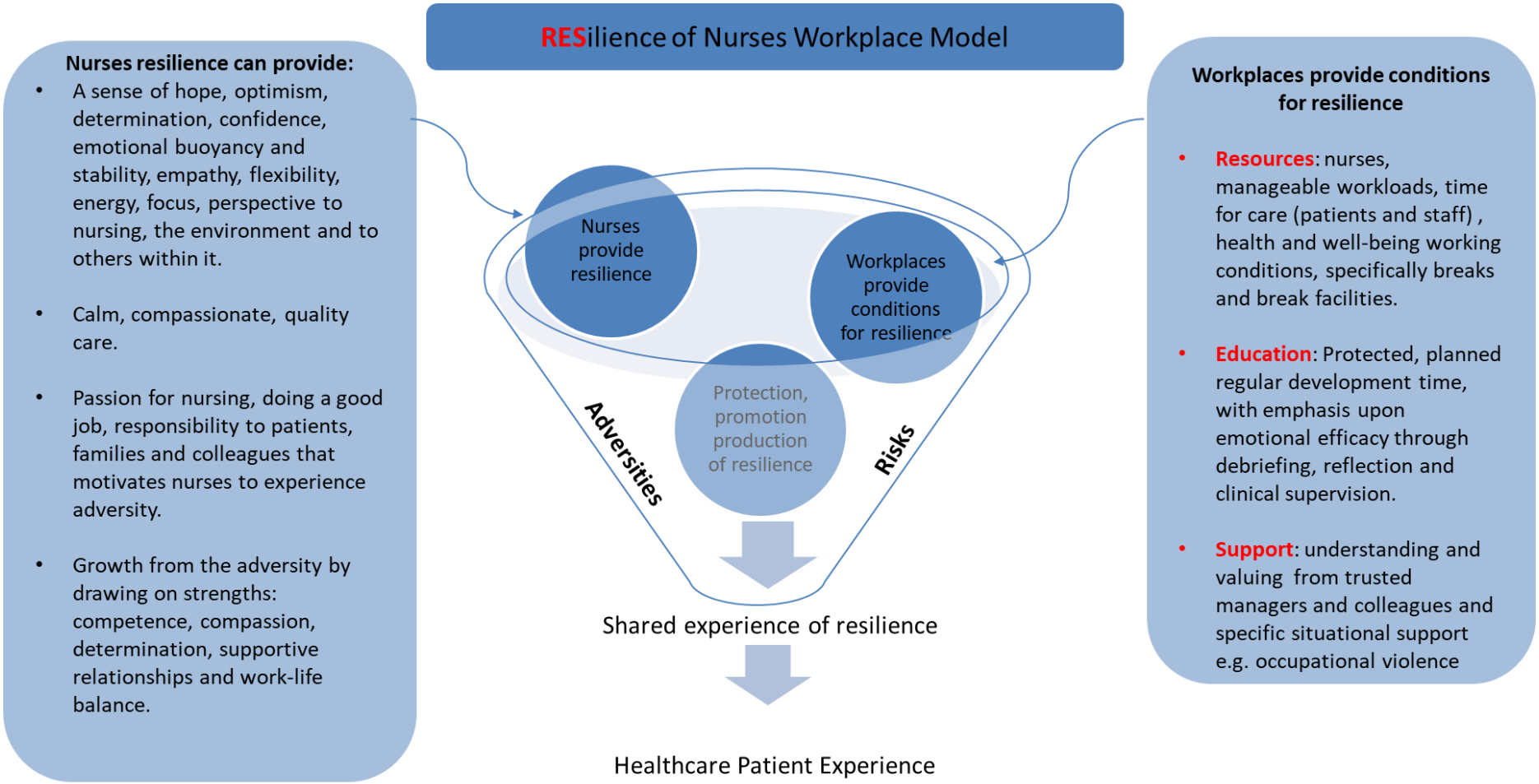
Resilience is a capacity that can help nurses manage occupational stressors, built from exposure to adversities. It is a process that develops over a career that involves interaction between the nurse and numerous workplace factors. Resilience is more than individual in nature positive outcomes can occur for the nurse the patients in their care and the teams they work within. It can fluctuate anytime over a career and be tested; elements of vulnerability and resilience can co-exist. Positive workplace factors can help resilience: resources, education, and support are key, which are underpinned by strong supportive relationships.

8.9.2: New nurse resilience workplace model

This workplace resilience model will illustrate the achievement of the study's aims and synthesis of the findings. As well as having potential practical value for the nursing workforce, which has been an overriding goal of this research. The model is founded upon the study findings. Together with the evolving evidence of resilience, underpinning theory (e.g., Ungar 2011; Cusak et al. 2016; Brigham et al. 2018) as well as the dynamic context. The model adds to the valuable work to date from a social-ecological perspective illustrating intrinsic and extrinsic influences together with the dynamics of those influences within workplace environments. The recent "All-Encompassing" model by Brigham et al. (2018) covers the well-being and resilience of all clinicians not specifically nurses. In addition, the "nucleus" of their model is the patient not the nurse whereas this study's focus is the nurse and the environment where their resilience is experienced (see Figure 23 overleaf).

[57] Building upon the inductive Resilience Dimensions: *Personal Resilience Characteristics, Professional and Emotional Efficacy, Building Resilience and Risks to resilience.*

Figure 23: RES: A new nurse resilience workplace model



8.9.2.1:Model design and development

The model is simply composed of two core elements the workplace environment and the nurse and their integration (Figure 23). Starting on the right with the environment and the provision of the conditions that cultivate resilience- if these are in place resilience can potentially be protected, built, and experienced by the nurse and others within the environment. Then on the left, the resilience that the nurse simultaneously provides. The model reflects the social-ecological assets-based approach. Whereby, he core assets of the environment and the nurse are distilled and brought together in the centre to emphasise their interrelationships and shared potential to manage workplace adversities, risks, and outcomes. However, the model is purposely very different to the social-ecological spherical figures that have foregrounded it in the thesis (Figures 4 and 16). This is as a result of stakeholder engagement throughout the study which have informed various elements of the model in order for it to be simple and user friendly for the workforce.

The design challenge of this model was to strike a balance between holism, specifics, theory and practical value, this meant that various aspects were considered, Brigham et al. (2018) report similar challenges (see Table 28 overleaf). The model's relevance needs further testing. Steps towards this testing have occurred simultaneously during the model development. Confirmatory peer validation has been received from varied local, national, and international audiences in addition to the stakeholder and project steering groups. Producing a model was never an objective of the study yet once it began to develop it became a helpful avenue to convey the spectrum of the respondents' views and stakeholder engagement and particularly helpful as a novice researcher to synthesise the findings.

The key learning gained has been twofold. The model is iterative and has been dependent on personal stages of understanding and synthesis of the data therefore several earlier versions have been subsumed into the latest version. Earlier versions were more linear reflecting data analysis stages linked to the research questions (Appendix 21).

This abstraction of the study findings can help us understand how resilience can moderate nurses' occupational stressors, workplace conditions to cultivate resilience and what resilience of nurses means for the healthcare environment more broadly.

Table 28: Model Development key challenges and considerations adapted from Brigham et al.2018

Model Development: Key Challenges	
1	The dynamic multi-layered complexity of the phenomena and the interrelated relationships of the components without oversimplification.
2	A professional workforce model that differs to psychological “lay” models.
3	Factors that help or hinder resilience, not a tool to measure resilience.
4	External environment factors to be given emphasis in addition to personal factors to avoid reinforcement of personal responsibility and burnout stigma, without forgetting resilience is within the individual.
5	Resilience is not merely a personal innate skill or ability more a capacity that has potential to fluctuate dependent upon personal and external resources.
6	The effects of resilience can be experienced by others, shared, and modelled: the sum is greater than its parts. It can be contagious.
7	To strike a balance between presenting factors that can hinder resilience with factors that can help to convey opportunity for change and rethinking of support for nurses. Individual and structural change
8	The implications for patients and healthcare systems are represented but do not detract from the nurse implications.
9	The focus of the model is both the environment where resilience is learnt and the nurse not the patient or broader health outcomes.
10	Resilience is a process that can fluctuate at any career stage and that elements of vulnerability and resilience can co-exist. Sensitivity to language to avoid implication that it needs to go up (enhanced) implying nurses need to work harder .
11	Sensitivity of language to reinforce assets-based approach and to avoid reinforcing deficits, burnout, and mental health stigma.
12	The diversity of nurses’ roles and practice environments.
13	Comprehensiveness and accuracy of the study findings yet potential for stakeholders to determine the relevance for themselves or local practice environments and potential interventions.
14	Consistency of language over a period of time.
15	Visual impact and ease of understanding, whilst balancing detail from the sub-models of the resilience dimensions. Various shapes trialled (e.g., a sphere to be true to social-ecological theoretical origins) but useable for practising nurses yet not intervention focused.

8.10: Implications of the study findings

This study has found that resilience can help moderate occupational stressors of these nurses. There was no doubt that the nurses were able to build resilience in themselves and others, despite most adverse situations and workplace deficits. Indeed, the workplace environment was found to be the adversity itself often unable to protect the nurses' resilience to be able to care for vulnerable others, which is inherently stressful in its own right. It cannot be assumed that nurses are resilient, instead this study has shown that resilience is not fixed but fluctuates and that supportive positive workplaces factors are required.

Disparities in workplaces were found resulting in nurses over relying on their personal resources that can become eroded, which is of serious concern and unsustainable. These findings reflect a cohort of all bands, fields, sectors, urban and rural regions of nurses in Wales with extensive experience. A radical need to review workplaces is suggested that policy increasingly prioritises workforce well-being outcomes alongside patient outcomes. It is paramount that workplaces are enhanced and researched to help nurses' health and so also the health of the nation of Wales. Macro wide changes demand investment and time to rollout a national approach acknowledging the prevailing nursing shortfall, there are immediate implications at macro levels[58]. Prior to the COVID-19 pandemic these implications were complicated due to NHS growing demand and any interventions needed to be realistic and judicious, but the impact of the pandemic may have shifted them even further as a result.

This study informs policymakers decisions concerning workforce retention in addition to recruitment and the necessity to factor in routine nurse resilience time in workforce projections not solely workload demands. Building resilience may already be part of career development, for some but inequities shown in this study suggest a consistent national approach is needed. Specifically in Wales, this study informs the nursing workforce strategy (HEIW 2020).

The workplace factors that can help resilience shown in this study could inform the future direction of NMC regulation and educational standards towards a more shared

[58] Consistent with a social-ecological approach these implications (and recommendations to follow) emphasise and start at the macro level because if the broader influences support the individual nurse a more collective support of resilience can be anticipated (Davidson et al. 2017) and nurses can have the most effect to shape their own resilience and others.

protective emphasis of resilience, which could help lift individual responsibility and the nature of regulation.

The findings of this study can also help professional organisations such as RCN Wales about how they can continue to influence nurse resilience at various levels. From continued political lobbying of workforce planning (extension of the Nurse Staffing Levels [Wales] Act WG 2016) to further include positive workplace factors identified. Inform representation of members with employment relation issues and professional development.

The findings support the growing recognition by higher education institutions of the value of the subject of resilience to nurses. The model is a more refined presentation that breaks down the notoriously complex concept, which could help simplify the phenomena. The NMC Educational standards (NMC 2018) prioritise building resilience in oneself and others. These findings could offer a more complete picture of protective workplace factors and nurses' roles within them. In addition, the study could inform undergraduate attrition.

This study gives further credence to the plethora of leadership and management research that can help organisations understand the complexities of the workforce. The findings can guide organisational decision-making concerning factors that can help resilience. Developing a resilience/well-being culture requires substantial continuous diligence by those responsible for nurses' workplaces. Trusted supportive relationships were shown to be critical. Some interventions however could be simple to test locally at reasonable cost or even cost neutral. For instance, non-human resources may be more achievable, such as break facilities, which could increase morale, individual nurses' reserves, resilience, reduce stress, and turnover.

Knowing what made up these nurses' resilience within the new workplace model could help practising nurses better understand that resilience is more than individual, it is not fixed, cannot be assumed nor is it easy to both maintain and develop and is not a finite resource. The criticality of positive workplace factors to protect their resilience over their career. These findings could better equip nurses to seek and anticipate the help and support they require to sustain their resilience.

Finally, the study suggests a shift in priority of the enquiry to better understand workplace resources alongside individual could potentially help nurse resilience. Research is required to gather more evidence particularly about the provision of positive workplace factors identified.

8.11: Recommendations

Recommendations based on the study findings can be taken forward in many ways by multiple stakeholders due to the multifactorial nature of resilience and the multi-level research approach taken, they are specific to Wales and can have relevance more broadly (see below). In the wake of the pandemic the landscape is different, and these recommendations may need to change.

Table 27: Study Recommendations

Recommendations for policy makers and workforce planners
To urgently review and fund: • A consistent national approach to support nurse resilience so that nurse well-being is not sacrificed for patient care supported by policy. • Workforce retention and recruitment and the necessity to factor in routine nurse resilience time in workforce projections not solely workload demands.
Recommendations for the NMC
• To review with stakeholders' resilience proficiencies within the standards for education (NMC 2018) in addition to regulation processes towards a more shared protective emphasis of resilience. Also, despite the known constraints, to not discount clinical supervision as a regulatory requirement.
Recommendations for RCN Wales
<u>Policy</u> • To increasingly explore the extension to the Nurse Staffing Act (WG 2016) so that nurses' well-being is prioritised.

- To increasingly include positive workplace factors that can help resilience to any workforce political lobbying.

Workplace environments

- To utilise the positive workplace factors identified that can help resilience to inform future and current workplace campaigns (e.g., Hydration RCN 2018c).
- To explore the evidence-based questionnaire items related to positive workplace factors to develop a workplace evaluation tool.
- To disseminate the study findings to RCN workplace representatives to influence the transfer of knowledge.

Employment relations provision

- To utilise any or all findings to represent members with employment relations issues specifically the “red flag” issues that tested these nurses’ resilience and resolve.

Professional development provision

- To utilise the Dimensions of Resilience to inform future and current RCN work (e.g., Self-care tool kit RCN 2015).
- To utilise any or all findings as a focus for RCN professional development events, a specific priority suggested is the development of nurses’ emotional efficacy skills.

Recommendations for Higher Education Institutions

- To embed a work stream on resilience in undergraduate curricula, that recognises resilience as a fluctuating shared capacity, and includes workplace adversities and potential effects on health and well-being. In addition to how resilience can be protected and built and what students’ role within that may mean (such as help seeking and giving behaviours and speaking up when resources are suboptimal).

- To promote a resilience and well-being culture within HE, and to utilise the findings to inform undergraduate attrition.
- To work collaboratively with the NMC to prioritise a shift to a shared protective emphasis for nurse resilience.

Recommendations for organisations

To convey that resilience is a shared responsibility rather than individual, then working closely with nurses to ensure the provision of positive workplace factors including:

<u>Resources</u>

- Ensure nurse-patient ratios and manageable workloads to enable time for quality care, recovery breaks, self-care, and team relationships.
- Review existing estates and any or new building plans to prioritise nurses break and well-being room facilities and the provision of well-being services (HR, occupational health/psychology).
- Review efficiency of organisational systems, especially HR workforce processes, and how help can be taken to nurses rather than taking them away from their work and team. In addition to other specific processes such as investigations.

<u>Education and development</u>

Provide a comprehensive continuous proactive programme of both team and individual resilience development, grounded in practice within protected mandatory training and working hours. A blended programme of in-person and digital delivery managed at ward/unit level but co-ordinated by the organisation (e.g., staffing). A programme that is flexible to individual and local priorities with time to refresh, reflect and build resilience to include: facilitated debriefs (routine time and following critical incidents), restorative clinical supervision, role modelling, buddying, mentoring, and coaching options.

Support and understanding

- Provide visibility and support from managers/leaders who recognise and value nursing work and who prioritise nurses' well-being, particularly: staffing issues, critical incidents, and return to work from sick/personal leave.
- Model a supportive culture for nurses to perform their work that prioritises supportive relationships at a local level with zero tolerance to bullying and acting upon incidents. Planned confidential resilience conversations with line managers with clear lines of communication to management who listen and act on feedback.
- Review leadership development with an emphasis on supporting pressurised nurses and a recognition that small things at a local level matter, cognisant of policy (Kings Fund 2019; HEIW 2021).
- Items within the evidence-based questionnaire could be developed into an audit tool to help organisations and any or all improvements suggested by the nurses within this study could be considered.

8.12: Study strengths and limitations

Next, the strengths of the social-ecological approach and framework will be discussed. In addition to the study design and research methods utilised to achieve the study's aims. Followed by the limitations of the study.

8.12.1: Strengths of the social-ecological approach

The exploration of the resilience of nurses through a social-ecological lens in differing professional contexts has enabled a conceptual advance of the phenomenon. This is the first study that has adopted this perspective of nurses' resilience in a substantial sample from all fields of nursing in varied settings, encompassing three healthcare sectors. The guiding framework taken through to the discussion of the findings (Figure 16) and then the RES nurse resilience workplace model (Figure 23) enabled the aim of the study to be achieved to explore both intrinsic and extrinsic influences that shape

nurse's resilience. The approach helped to expose the interface and interdependence of complex hidden multi-level factors that can work together to shape nurses' resilience, crucially it was plain to see how the global shortfall of nurses is an insidious risk to nurses' resilience.

The social-ecological working definition (Chapter 2) despite originating in developmental psychology was helpful to enable a more practice-based conceptualisation of resilience to emerge and to see the value of situating nurses' resilience within a wider context. As formerly explained, the approach emphasises both the need for individuals to have the capacity to find resources to sustain well-being and those resources being available in an individually culturally meaningful way. Crucially, it was found that nurses' who practise in a resilient way have the capacity to support each other's resilience and as such are a core variable of the environment. However, workplaces persistently struggled to consistently make available sufficient nurses. These findings together are important professionally and theoretically. From a professional perspective a consistent provision of nurses could help nurses' resilience, by mediating the workforce stress and all that comes with that. Of theoretical importance the dual nature of the nurse was exposed as both an individual and a shared variable of the environment, which contributes to the resilience of the workplace. The overriding culturally meaningful way this resource was perceived was to meet their motivation to provide quality care and in so doing feel valued and empowered. A more integrated holistic view of resilience is offered, thereby advancing the discipline specific nature of resilience.

Previous understandings come from studies located in distinct bodies of literature. These findings are underpinned by broader resilience research, associated concepts and evidence sourced from other health and social care professionals to better understand nurse resilience. For instance, Hobfoll's (2011) conservation of reserves theory was helpful to explain the co-existence of vulnerability and resilience together. Furthermore, the insights between the theory of resilience and the theory of burnout and stress. To date, the job demands resource model of stress (Bakker et al. 2005) has frequently focused upon developing individual resources from a deficit stress point of view. This study adopted a different approach it explored potential workplace resources from a positive stance. The approach made it possible to suggest a shift to

the development of workplace resources alongside individual could potentially help nurses' personal resources and their resilience. A broadening of the enquiry from the individual to the workplace and how both can work together to help resilience has been enabled by this approach.

8.12.2: Strengths of the methodology and methods

The convergent mixed methods study design (Creswell and Plano Clark 2017) enabled the achievement of the research aims. Few prior mixed methods studies had been undertaken, despite the known ability of the approach to be able to integrate multi-level/factorial concepts such as resilience and combine different perspectives such as social-ecology (Plano Clark and Ivankova 2017). Each dataset offset each other's limitations either type on their own would have been insufficient to address the research questions nor provide such a complete understanding of these nurses' resilience. The methodological and data triangulation undertaken strengthened the credibility of the findings. The concurrent approach did not enable follow up but the stakeholders' meeting to a degree offset this limitation.

The survey method effectively, economically, and efficiently secured comprehensive mixed data to inform the research questions. The large data set enabled patterns and trends to be revealed for example the adversities reported. Although the quantitative results lend some statistical credence to the study it is indeed the qualitative data that unfolded to be so meaningful, revealing these nurses' hidden resilience, underscoring the importance of nurses' resilience to Wales and more broadly. The priori questionnaire and analytical framework were helpful for the deductive analysis. The framework approach helped to reduce the range of multi-level qualitative data but ensured it was not lost. The systematic categorisation process also aided the inductive analysis. The pilot was important to test the tool and the development of researcher insights. A bigger pilot however could have offered greater insights. The effectiveness of data collection and the study's unique evidence-based questionnaire speaks for itself.

A particular strength of the method was the recruitment of the substantial sample. The multi-level collaborative pan Wales recruitment strategy was effective, combining both formal and informal processes of the healthcare, professional and higher education organisations. Blending the assets of the various organisations, which may have been

human and material resources such as the RCN's established online survey platform and systems, Cardiff University's research expertise and the healthcare organisations' nursing networks. This resulted in good distribution of the sample in terms of matching the existing workforce in Wales and little chance therefore of over-representation of one group of staff skewing the data. This means that largely all categories of a nation of nurses, with widespread experience can be said to be represented within this study, which helps the potential transferability of the findings. The participation and overall completion-time also suggests this to be an engaged informed cohort that further adds weight to the findings for stakeholder interpretation, to inform how to better support nurses.

How these nurses negotiated and navigated the resources within their multi-level context, towards their route to resilience underpins the social-ecological perspective (Ungar 2008). Their spread of demographics from multiple contexts and wealth of responses enabled contextual understandings of both sameness and difference to be found. These factors could have relevance to other nurses (similar demographics). It is acknowledged that workforce policy in Wales can differ to the rest of the UK or alternatively it could be suggested that most nurses in Wales and the UK work for the overarching organisation the NHS and are NMC registrants.

8.12.3: Limitations

This thesis features several limitations which warrant consideration. Methodologically, it is impossible to always assign causal connections between variables in cross sectional designs. A self-selected sample can also be subject to selection bias. It is possible for example that the nurses had a particular interest in the subject, initially it may have appeared that mainly disillusioned nurses responded hence skewing the results, as over 450 nurses responded in the first two weeks, leading to under or over representation, which can be referred to as respondent bias (Polit and Beck 2014). Further these nurses are representative of a high income (Welsh) nursing context and culture. Reliance on nurses' individual subjective perceptions precludes observation of any behaviours or verifiable with objective data, so could be open to bias, and not representative. Furthermore, self-reports are a snapshot, one moment in time, yet resilience is multifactorial and can fluctuate. In addition, it is impossible to assign any single influence or speculate links. There was no opportunity to follow up the nurses

who did not respond. The stakeholders' event was a "one off" and largely due to pragmatics the stakeholders were prominently from southeast Wales (some worked across Wales and further afield). However, detailed scrutiny of the findings indicates that there is validity to the responses, and that they are consistent with other research, stakeholder, and peer validation. It is suggested that more than a "snapshot" was achieved by the reflective responses of these nurses, the limitations of memory however are acknowledged.

The literature review was based on the search strategy. Another strategy may have resulted in different results, but the diligence and combination of approaches adopted (Appendix 2) suggest this was negated. The questionnaire was developed specifically for this study and had not previously been tested for validity and reliability. However, the survey was thoroughly pilot tested, all the questions were evidence based and the demographic questions had been tried and tested by the RCN extensively in addition to the survey software. Qualitative comments also demonstrate that respondents understood the questions. It is acknowledged that there is a better way of doing most research, but we go with what we have, and it does not invalidate findings (e.g., Question 2 perceptions of lowered resilience).

Whilst the questionnaire was live, it was an intense period of activity in the field simultaneously securing R&D approvals, communicating across Wales, and managing any survey technical issues. R&D support across Wales was clear, but some organisation's processes were swifter than others. It is recognised that more time between ethical and R&D approvals could have allowed more opportunity for recruitment and negotiating these processes but pragmatically this was not possible.

RCN Wales the PhD sponsors had a vested interest in the results of the study rather than being a completely neutral party. However, methodological measures were instigated to offset any potential sponsor bias (e.g., the steering committee) as outlined (Chapter 3).

8.12.4: Dissemination strategy

The dissemination that has occurred throughout the study will be built upon. Extensive collaboration and engagement have occurred from the design to the writing up stage consistent with the study's aim and research questions and have informed the

generation and transfer of knowledge. Evidenced by a range of presentations (local, national, and international) to nurses at varying levels and some cross-discipline audiences suggesting the study's further professional reach than solely nursing (Appendix 17). Presentation to stakeholders at multiple levels will continue, reporting advise from the university's policy department will be sought (e.g., development of an informatic). The publication of articles are planned, building upon initially the presentations undertaken, then new articles (Appendix 22), and continued personal reflexivity (Appendix 23).

8.13: Conclusion

This study makes a novel contribution to nursing knowledge building on previous research which has established that resilience can help moderate the occupational stressors of nursing, predominantly focused upon nurses' personal characteristics and coping strategies. An individual psychological orientated conceptualisation of resilience had underpinned this stance. It was found that workforce policy had not prioritised nurses' resilience. This study was an initial step in advancing nursing knowledge from a social-ecological perspective. A relevant and core component of this work that has enabled nuances of nurses' hidden resilience enmeshed in complex care environments to be revealed. It was found that resilience is more than individual in nature, which shifts the focus to the realities of practice that is less psychologically orientated, and more resource based. We have a better understanding of adversities that nurses face, how the environment can be the adversity itself and despite the most adverse situations nurses can respond in a resilient way. Resilience however is not a fixed finite resource of nurses. The central argument to this thesis is that nurses' resilience and the environment where nurses work, and where they experience changes to their resilience are inseparable. Therefore, consideration of both is required. The alternative approach that is being offered here is that more emphasis on the workplace is required rather than nurses to help ameliorate adversities and offset resilience risks, to enable nurses to deliver quality patient care. More support especially in the form of resources, education and support and understanding is required.

A more discipline-sensitive definition and model of workplace resilience based upon the study findings was presented. The study can help provide understandings of how

resilience can moderate nurses occupational stress, in addition to workplace factors that can help it. The implications for the healthcare environment in Wales, and more broadly. By adding to our understanding of this cohort of nurses in Wales the conceptual understandings of resilience have been advanced. This study has also shown that nurses merit more support to protect their resilience to manage exposure to occupational stressors, it should be the norm for nurses to expect positive workplace factors for their resilience.

This study was conducted before the COVID-19 pandemic but many of these findings have unfolded in its unprecedented devastating events. Sub-optimal workplace resources dominated the media, particularly Personal Protective Equipment (PPE), which is understandable but the complexities of nurses being able to support each other during the crisis, risks to their resilience and how organisations offset these risks received less attention. Despite the most adverse situations and sub-optimal resources nurses' resilience has been unequivocal and driven primarily by motivation to care for vulnerable others. This study, the experiences and consequences of the pandemic magnify the imperative to situate nurses' resilience in a wider context. This study is a foundation to build on further work to understand the acute and routine support nurses need now more than ever such as the study by Couper et al. (2021).

To end with a respondent's extract below that clearly captures the significance of this study. Simply, it suggests resilience is vital to nurses coping with occupational stressors, yet the complexities of nursing practice may not be so simple and that resilience itself needs to be better understood.

> *"Nurses need to recognise the early signs of "burnout" can be the reduction in their levels of resilience. Resilience is vital in nursing, but nurses are human too. Lack of, reduction or lowered levels of resilience doesn't make you a failure at nursing. Nurses feel under a lot of pressure to manage no matter what the circumstances, but recent years have seen these circumstances become ever more demanding……..Coping strategies are brilliant but require clarity to engage them. I believe resilience can be lost personally but can be found again with good mental health. I was a DN for 12 years until 2 yrs ago when my resilience deserted me!" (45903206, RGN, Band 6 Practice Nurse, 16 years' experience [Q4c].*

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Appendix 1: Motivation for the study: waiting in the wings.

My motivation to support nurses to reach their potential and lead rewarding careers is long standing. My RN clinical and academic background is in CC nursing, highly rewarding yet demanding. My resilience was probably central to this but not considered previously. Overtime, while working in an academic leadership role in the School of Healthcare Sciences (HCARE) at Cardiff University (CU), my concerns grew as to how nurses may or may not be coping, support required and the future workforce impact. I experienced numerous triggers which reinforced my interest in the topic, see two memorable ones[59] in Boxes 1 and 2 below.

Box 1: Trigger one: conversation with clinical colleague Tess, Band 6 surgical nurse who had been practising in an acute ward environment for 32 years and had been in her current post for 15 years.

I love my patients. I am a nurse I couldn't see myself doing anything else. I get satisfaction from knowing that the patients are well cared for, but I worry it is going downwards.

But I detest the management and hate the politics. I am fit, but after every shift my "body" physically aches, my knees are throbbing. A 12-hour shift is supposed to finish at 7pm but I'm always there till 9pm. I work one and half hours extra every shift to get the work done, for example my paperwork, if I have been helping others. The work is much more demanding than it used to be, for example caring for a postoperative patient previously would have taken say 20 minutes now with all the patients' co–morbidities it can take about an hour and 20 minutes, if you are lucky and I'm experienced.

It's so hard for the new newly qualified they don't get much support, just have to get on with it, within three months they're on their own. I try to support them as much as I can. I try to engineer avenues of support and teaching and structure for them. I think we need to support the junior nurses more, they are so bright, (brighter than I ever was) but they need help with clinical skills, more structured learning and support, we need to be firing them up not burning them out. I am not convinced about these 12-hour shifts there isn't the time to do the teaching and the mentoring".

This nurse was planning to retire from nursing soon, earlier than planned at 55 but not ready to give up work so she is going to start a new and different job.

[59] To uphold anonymity and confidentiality pseudonyms are utilised.

Box 2: Trigger two: third year student personal tutee conversation
Reflective conversation with Ann, First-Class Honours student prior to registration

I want to be a nurse, that's all I've ever wanted to be, and I've worked so hard to get here. But I'm so anxious that I've made the wrong career choice, I feel so despondent. It really doesn't help at all when mentors and experienced nurses are saying, they don't know what I'm doing coming into nursing, they're desperate to leave.

This student did register but chose not to work locally or in the NHS.

At one end of the spectrum a nurse embarking on her career and the other early retirement, the polarity of these accounts was unsettling, but common. What was going on?

The seemingly increasing demanding clinical context was also impacting more on my work rather than the Higher Education (HE) context. Specifically, the new Undergraduate (UG) NMC standards (NMC 2012) requiring a more values/compassionate based curriculum driven by the known devastating failures in care (Francis 2013). We ran an unprecedented one-off expert panel of local Lead Nurses, so that students and staff could discuss the Francis Report implications. The need for increasing quality and more transparent cultures (NMC 2014) and encouragement of complaints (DH 2014) was reflected in a new Raising Concerns Policy and clinical partners requesting that student clinical evaluations to be communicated to Executive Board level. In addition, a Recruit, Retain and Employ School subcommittee was created in response to student attrition and economic concerns. The threat to the viability of post-registration programmes was also commonplace often due to NHS study leave constraints.

A PhD studentship focusing upon nurses' resilience in Wales was circulated within the School as a collaboration between the university and the Royal College of Nursing Wales (RCN), in response to this evolving context and workforce pressures. A rare opportunity to influence new knowledge about how nurses in Wales cope with their work and potentially contribute to understanding this work to enable enhanced support. I was honoured to be awarded the studentship and was driven to examine this emerging concept that appeared aligned to my professional values. I had

undertaken various academic roles and recently enjoyed a small contribution to a local research study that evaluated an in-service novice nurses training programme. Put together, I cautiously considered I had relevant skills, motivation, and insight to contribute in some way to our understandings of the workforce.

Appendix 2: Literature Search Strategy

1: Systematic literature search

A systematic literature search is a thorough search for evidence to locate all relevant studies that meet pre-determined eligibility criteria to answer the set research questions to be appraised and synthesised within the literature review (JBI 2017; Cochrane 2017). A three-step search strategy was undertaken following the extended guidance on scoping reviews by the JBI (Peters et al. 2015; 2017; 2020). An initial search of the appropriate databases followed by a more detailed search of the chosen databases then the third step a review of the reference lists of the chosen evidence. Supported by continuous tracking throughout the course of the study. The search was undertaken with assistance from the university's Healthcare librarians, Cardiff university's Support Unit for Research Evidence (SURE) with additional advice from RCN Wales librarians and peers experienced in systematic searching. Guidance from research librarians is recommended as literature searching is recognised as a complex learnt skill due to the intricacies of the numerous databases (Tricco et al. 2018). PGR training on systematic searching was also undertaken.

1.1: Step one: Initial search

Initially, prior to searching any databases a broad explosion search was conducted, the priority was to get a prompt sense for the personally foreign topic applied to the global contemporary healthcare context, not limited to Wales. Recognised tools to help devise research/review questions were explored: SPICE (Setting, Perspective, Intervention, Comparison) PCC (Population, Concept, Context and PICO (Population, Interventions Comparisons and Outcomes). These tools help to structure background questions to then formulate more advanced "foreground" questions enabling the question to be divided into its separate components (Holland and Rees 2010). A decision was made to use SPICE rather than PCC (Peters et al. 2017) as advised by SURE, as the tool appeared most aligned to the research questions and can be more appropriate to social science research questions, as in this study. PICO was discounted as it is most useful for formulating focused clinical questions (NICE 2014). The search question asked was: What are the factors that are most effective in promoting coping and resilience of nurses in the workplace? The general browser Google was searched to establish frequently used phrases and words which could be utilised in addition to commonly used language and synonyms (Table 1). The search identified thousands of papers.

Appendix 2, Table 1: SPICE synonyms

Setting (***where***) contemporary nursing healthcare **context** in Wales	Work, workforce, people, place, processes, systems, policies, tasks, human, resources, manpower, employment, occupation, profession, vocation, company, organisation, business, service, NHS, colleagues, teams, staff, personnel, complex infrastructure, culture, climate, socio, political, environment, public media, reviews, inquiries, declining care, structures mergers, framework, resources, layout, hospitals, wards, schemes, programmes, results, targets, community, care homes, caring, technical, dirty, heavy, slog, work, strive, suffer, sweat, grind, frontline, shop floor, patient safety, occupational health, human resources.
Perspective (***for whom)*** of the population the users, potential or stakeholders of the service. Registered nurses	Nurses, healthcare, workforce, newly qualified, new recruits, neophytes, leavers, stayers, attrition, recruitment, registered, NMC, costly, skilled managers, workforce planners.
Intervention ***(what)*** is the action taken for the users, potential users, or stakeholders. Work stressors pressures, adversity (resilience risk factors)	Challenges, obstacles adversity, conflict, friction, hurdles, burdens, tensions, strains concerns, stressors, load, negative, deficits, difficulties, boredom, barriers, hindrance, constraints, frustrations annoyance, obstructions, exasperations bothers, trouble, flak, hassles inconvenience patient safety, compromised standards, concerns, failures, exertion, effort, drain on resources , physical emotional, mental labour, toil, laziness, reluctance, disengagement despondency, depression, low morale, acute, adverse, event, PTSD chronic stress , emotional, psychological , physical stress, tiredness irritability, work functioning reduced performance, lack of concentration decision making sleep, fatigue, compassion fatigue, loss, illness burnout.
Comparison (***what else)*** is the alternative actions or outcomes. Nurses coping positively with work (resilience promoting factors)	Promote, develop, help, build, growth, learn, emotional, well-being, rest, work life balance, energy. Gains, achievements, rewards, motivation, goals, aims, objectives, high performance, coping, functioning, standards, quality of care, positive, passion, motivation, drivers, pursuit, assets, strengths, engagement, enjoyment, rewards, happiness, pleasure, fire in the belly. Facilitators, feedback, help, assistance, support strategies, ease, aid, respect, dignity, appreciation, valuing, negotiation give and take, understanding, faith, hope, meaning, fun, generosity of spirit, give, co-operate.
Evaluation: (***what result*** or ***how well)*** that will determine the success of the intervention. Resilience of nurses.	Strength, endurance, stamina, sustained, staying power, vitality, force, hardiness, toughness, grit, holding-up, patience, persistence, pluck, malleability, agility, flexibility, change, bounce back, will, will power, guts, courage, heart, compassion, self-compassion, self-belief, esteem, resistance, opposition, improvisation, ability to recover recuperate, reenergise, positivity, thrive, flourish, adapt, cope, fight off, immunity, perspective, withstand, counteract, resourceful, meaning.

Then a preliminary search of two databases was completed: BNI and CINAHL, these were chosen as endorsed by the librarians as most appropriate to nursing. Key known papers were returned however despite expert guidance and key search terms being identified and then used in recommended ways the searches proved ambiguous. That "nurse" was embedded in the evidence of other populations (Traynor and Liu 2014) for example: children and adolescents, communities, disaster victims, ageing and patients with life limiting and chronic conditions nursing students and other education, health and social care practitioners (for example teachers and social workers). Following this, Google and Google Scholar were used to identify any grey literature which returned thousands of papers particularly over the last five years.

1.2: Step two: Detailed searching

The next step involved a more detailed search of the database hosts (Table 2) (Proquest, Ovid and Web of Science) to access the various health and social science databases the Cochrane Library, JBI and the ones for unpublished grey material.

Appendix 2, Table 2: Databases searched

Applied Social Sciences and Abstracts (ASSIA)
British Nursing Index (BNI)
Cochrane Library
Cumulative Nursing index to Nursing and Allied Health Literature (CINAHL)
Database of Abstracts of Reviews of Effects (DARE)
Excerpta MedicadataBASE (EMBASE)
Grey literature report
International Prospective Register for Systematic Reviews (Prospero)
JBI
Medline
Psych Info
Scopus
SIGLE (System for Information on Grey literature in Europe
TRIP (formerly Turning Research into Practice)
University/British Library Ethos on-line thesis collection

Both the medical subject headings (MeSH) and text words related to the SPICE terms such as resilience, adaption, psychological were utilised to find the **Key words-** Resilien* or coping or stress or pressures or demands or work or work environments AND Nurs*. The key terms used/modified were *nurse*, *stress*, *resilience, coping* and *workplace practice/clinical environment*. Boolean operators with limited inclusion/exclusion criteria were applied. The key words were then modified for each search engine (see Table 4 below for an example). Numerous individual searches were undertaken of the potential permutations of the search terms and synonyms applied.

Appendix 2, Table 3: Inclusion and exclusion search criteria

Inclusion criteria	**Exclusion criteria**
The primary purpose of the research was resilience of registered nurses	Studies not written in the English language.
Empirical studies of any research design.	Studies that did not include empirical data
Written in English and published prior to December 31st 2015) to best represent a contemporary nursing context.	Studies examining hardiness and coping

Appendix 2, Table 4: Example Medline search January 2015

3	exp Well Being/ or exp *Nurses/ or exp *Occupational Stress/ or exp *"Resilience (Psychological)"	Results
4	or exp *Risk Factors/ or exp *Nursing/ or exp *Health Personnel Attitudes/ or exp *Working Conditions/	108282
5	3 and 4	911
6	resilience of nurses.mp.	14
7	from 6 keep 1	

The initial decision was made to search for *frontline* nurses but despite extensive searching limiting the search to this proved challenging as an agreed definition of “frontline” was not found. The complexity of the overlapping material also did not lend itself to being separated, but it was helpful to broadly consider intrinsic and extrinsic

not solely external factors so that extrinsic could encompass home and work. Also, while an attempt was made to exclude differing concepts such as coping and hardiness it was not possible because of the differing use of the concepts.

The database searches returned extensive evidence (*N*=1395) (see table 5 below). To filter the results the title, abstract and key words were all downloaded, and duplicates were removed (*N*=847) then the remaining papers were excluded either following the screening of the title or abstract, but many required detailed scrutiny of the full paper (Greenhalgh 2010) to focus the evidence (*N*=253). Then these full text articles were assessed for eligibility. If there was any doubt the paper was printed and further scrutinised. This process also enabled a better feel for the known complex topic and navigation of the challenging literature base in its broadest theoretical/historical context. To identify seminal texts. The purpose of this step was to identify original research and unpublished literature on resilience of nurses conducted between any date up to December 31st, 2015. No prior date was set not to miss any early literature.

Appendix 2, Table 5: Database search results

Databases	Initial results **1395**	Detailed database and handsearching **253**	Reference lists back chained and further filtering Total *N*=33
CINAHL	187	81	14
BNI	147	56	8
Medline	273	34	6
Psych Info	14	9	1
Scopus	235	27	
ASSIA	216	17	1
EMBASE	300	15	1
TRIP	6	3	1
DARE	4	2	
Prospero	7	5	
University/British Library Ethos/ORCA online thesis collection	6	4	1

1.3 Step 3 review of the reference lists of the chosen evidence

All eligible studies and literature reviews were read and references back chained, hand searched and snowballing of reference lists for further evidence and mind maps were completed. Also, key journals were hand searched (International Journal of Nursing studies Nursing Enquiry and Journal of Advanced Nursing) some journals emerged as relevant due to their publication of research that had examined resilience of specific nursing populations such as the Australian Journal of Mental Health Nursing, International Journal of Mental Health Nursing, American Journal of CC Nursing, Frontiers of Psychology, Nursing Management and International Journal of Palliative care. Reading the journals also helped to understand the context of the discourse.

The British library was searched for book titles containing the word "resilien*" (*N*= 438 titles). The list was then hand searched for titles including nursing or health/social care professionals cross referenced with the RCN library catalogue (*N*=5). All books were loaned, and cross references exported to EndNote. Other key books on well-being (e.g., Antonovsky) resilience theory and research (Ungar, Hart, and Reich) were loaned from the British Library. Potentially relevant associated psychological theories and studies were back chained. Various books via interlibrary loans were used to inform the nature of nursing work and the sociological contemporary health care context (e.g., Smith, Allen and Latimer). The online British Library ETHOS collection and the university's ORCA thesis database were searched, downloaded and reference lists back chained. Registered systematic reviews were identified and tracked on PROSPERO and DARE. One systematic review (Gillman et al. 2015) was recorded as completed on Prospero but could not be found, the author was emailed, who kindly contacted the publisher (JBI) and promptly the review was published.

In addition, a range of websites and sources were accessed including BPS, APA, WHO, NMC, GMC and government sites (e.g., WG, DH, NHS Workforce and Leadership Academy) and other government funded bodies such as NICE. Twitter was reviewed broadly plus key accounts of individuals (e.g., Professor Debra Jackson) groups (e.g., "workforce") and organisations (Kings Fund; Health Foundation). Fortuitously, in the first year of the study due to the increasing healthcare workforce resilience interest several professional local national and international events occurred. Personal opportunities to attend these events were maximised resulting in

the opening up of varied evidence and networks. The local BPS Wales Post Francis conference (key compassionate healthcare references and resilience interventions-mindfulness and Swartz rounds) and the Welsh Deanery medical conference medical (GMC) sports resilience (Jamie Barker Staffordshire University) and military/police resilience interventions (TRIM). Policy, public health and leadership references and local grey literature/intelligence were gained from participating in the RCN Wales Resilience Leadership summit. The potential relevance of the fourth and fifth waves of resilience research in the broader literature were identified in the “Boingboing” resilience conference and workshop in Brighton university. An invaluable opportunity to network with a community of resilience researchers, experts (Ungar and Hart) and other PhD students” all undertaking community, child/adolescence, and health and social-care practitioner research. Ungar suggested the little-known concept of vicarious resilience could be relevant and he planted the seed to attend the International Resilience conference in the June. This personal explosion of early learning on return from Brighton and the evidence in midwifery was helpfully discussed with the School’s Professor of Midwifery Billie Hunter an expert within the field of midwives’ resilience.

In the June, I was privileged to attend the international resilience conference and hear major authors’ views first-hand and exposed to a further wealth of evidence. Key health/social care practitioner evidence was generously signposted by Paula McFadden (systematic review of social workers resilience). On return, I was invited to present a keynote and spend the day at the CLIC Sargent national conference where further nursing and relevant children’s oncology evidence were identified (for example Monroe and Clarke). Throughout supervisors have helpfully pointed out key authors such as Pam Smith (Emotional Labour) Michael Traynor (Critical Resilience) and Michael West (Leadership). Further evidence and intelligence gathering was sourced through postgraduate forums and networks such as HCARE and the School of Psychology postgraduate communities. Following these activities and extensive searches, an abundance of grey literature (workforce policies, commentaries, editorials, and discussion papers) was returned, which informed Chapters 1 and 2 or were categorised and retained for future reference.

1.3.1: Data extraction

A standardised data extraction form was used to collate and chart the following details of the included studies: study record, year of publication, location, aim, method, design, population setting, outcomes, main findings, additional information, and recommendations. The evidence has been appraised utilising a combination of the relevant JBI and or CASP (2015) tools. The methodological quality of the evidence was not appraised (Peters et al. 2017). The hierarchy of evidence (Melnyk and Fineout-Overholt 2011) however was utilised to inform the review. The charting form helped the reading and re-reading of studies to enable quantitative analysis of the frequency of study characteristics and qualitative content (Bryman 2016) and thematic analysis (Braun and Clarke 2013). Cross themes were established to situate the studies within the broader resilience discourse, support supervisory discussion and build iteratively as the study progressed. The citations were exported and "starred" in Endnote (1-5 in order of importance, 5 being most important). All PDFS were saved in Endnote, printed as to their order of importance, manually categorised into themes then filed alphabetically. Despite the exclusion strategy literature reviews were returned they were not however all rejected as some (*N*=6) were found to be helpful to map the emergent enquiry. Up to June 2019 four more were added though the continuous tracking process resulting in a total of ten. Except for three (two New Zealand and one USA) all of the reviews were from Australia. They could predominantly be aligned to Waves one and two (*N*=5) four wave three and one wave four (see Table 12).

The studies examining other populations or contexts (*N*=50) were found to be critical to inform both the context and the theoretical foundations of resilience. Extensive evidence was categorised and retained for future reference but not included in the review as well as other health and social care practitioners and service professionals (police, teachers and the military).

1.3.2: Results

The sum of these strategies returned 33 empirical studies saturation appeared to have been reached in December 2015. The start date was found to be 1997 a discussion paper by Jacelon. All studies were included to build as complete a map of the research investigating the resilience of nurses as possible. Once the initial searches were completed to ensure the study was continually informed by contemporary evidence

several mechanisms were put in place such as database alerts including monthly "Zetoc" alerts and advanced google scholar key author alerts. Several electronic mailing lists of key organisations (outlined above) were added to personally existing ones (Lancaster University Resilience centre, International Network for Health Workforce Education (INHWE). Such alerts/mailing lists were added to as the study progressed alongside the tracking of other sources (for example news/media, Twitter, blogs, Linkedin and TED talks) and relevant healthcare spokespersons (such as Jocelyn Cornwell and Chris Ham) and resilience researchers (for example Ungar, Hart, Cooper, Jackson and more recently Professor Kim Foster). The search ceased in June 2019 all additional studies that had been returned by the continuous three-stage search process (*N*=34) were added doubling the final review (*N*=67). The process of selecting the studies is outlined below in the flow diagram for Preferred reporting Items for Systematic Review and Meta-Analysis (PRISMA) extended guidance on scoping reviews (Peters et al. 2018). Followed by tables outlining first the characteristics then summaries of each of the studies[60].

In July 2020, a last check was undertaken to ensure any additional returns were not missed and which coincided with the unprecedented surge of interest in the well-being of the workforce associated with the COVID-19 pandemic. A total of eleven items were returned (*N*=8 studies and *N*=3 reviews) (see Table 13), these informed the discussion of the thesis. The most were quantitative (*N*=6) and one mixed methods (published separately: Henshall et al. 2020; Davey et al 2020). This study was the only UK one, apart from a literature review (Stacey et al. 2019) they were all predominantly from Australia (*N*=4) and apart from one they had all been undertaken by Foster and colleagues further investigating MH nurses' resilience. The UK study also investigated MH nurses' resilience.

[60] Abbreviations included within the summaries of the studies are to be found at the end of the summaries: Appendix 2, Table 11.

Appendix 2, Table 6: Definitions of resilience and associated factors within the waves of broader enquiry

Wave one: outcomes focused as a set of individual characteristics.			
	Author	**Concept, associated factors**	**Definition**
1	Wagnild and Young (1993: pg. 165)	Resilience	A personality characteristic that moderates' effects of stress and promotes adaption.
2	O' Dougherty, et al. (2013: pg.16)	Resilience characteristics	Adaptability, coping, faith, hardiness, optimism, patience, self-efficacy/esteem, sense of humour and tolerance, good looks, nature and intelligence" e.g., professional confidence.
3	O' Dougherty, et al. (2013: pg.19)	Protective factors	Quality of a person, or context of their interaction that can protect and predict better outcomes. A "stealing/shielding" affect e.g., a mentor. Cumulative: presence of multiple protective factors, e.g. team working skills and a supportive team.
4	Block and Block (1980) in Luthar (2006: pg. 740).	Ego resiliency	A set of traits accompanied by high levels of energy, optimism curiosity and the ability to detach from problems".
5	Bonanno (2004: pg.27).	Identified adult protective factors	Confidence, purposefulness, adaptability, social support and seeking support.
6	O' Dougherty et al. (2013: pg.17)	Risk factors Vulnerability	Measurable characteristics of an individual or group/situation that predicts negative outcomes on an outcome criterion, (e.g., poverty, parental mental ill-health). An elevated probability (odds) of undesirable outcomes e.g., features of nurses or their environments such as staff shortages which could result in increased stress. Susceptibility of individuals to negative outcomes, e.g., newly registered nurses.
7	O' Dougherty et al. (2013: pg.17)	Proximal Risk Factor	Risk factors/features directly experienced by the individual. e.g., a patient's death.
8	O' Dougherty et al. (2013: pg.17)	Distal Risk Factor	Risk arising from the individual's environment that is offset (mediated) by proximal processes, e.g., blocking use of agency nurses.

9	O' Dougherty et al. (2013: pg.17)	Cumulative risk	Increased risk due to, multiple risk factors/features occurrences of the same risk factor/feature and accumulative effects of ongoing adversity, e.g., staffing issues.
10	Tugade and Fredrickson (2004: pg.320)	Resilience	Psychological resilience is considered to be the ability of an individual to adjust positively to adversity.
11	Hodges et al. (2008: pg. 81).	Nurses protective and risk factors	A dynamic capacity to modulate and monitor one's interactions with ever changing disruptions in the practice environment that results in higher levels of self-efficacy, wisdom transformational energy and expertise, e.g., self-awareness.
12	Holtz, et al. (2017) and others	Interprofessional moral resilience	Characteristics identified: integrity-personal, relational and buoyancy including self-regulation, self-stewardship, and moral efficacy.
Wave two: resilience as protective mechanisms and processes			
13	Luthar (2000: pg.543).	Resilience	A dynamic process encompassing positive adaption within the context of significant adversity.
14	Hunter and Warren (2013*:* pg.7*)*	Resilience of midwives	Resilience is the ability of an individual to respond positively and consistently to adversity, using effective coping strategies, e.g., seeking support of colleagues.
15	Jackson et al. (2007) pg.1	Resilience of nurses	The ability of an individual to positively adjust to an adversity and can be applied to building personal strengths in nurses through strategies such as: building positive and nurturing professional relationships; maintaining positivity; developing emotional insight; achieving life balance and spirituality and becoming more reflective.
16	McLarnon and Rothstein, (2013: pg.65)	Workplace resilience	A process of recovery following adverse events, which involves cognitive, affective, and behavioural self-regulatory responses that support positive adaptation and restoration of psychological well-being and functioning. The self-regulatory responses enable employees to experience less distress, be more considerate of others'

			perspectives and be more resourceful in the face of adversity.
Wave three: resilience as development of assets of individuals and communities			
17	Masten (2001: pg. 228)	Resilience	Resilience is characterised by good outcomes in spite of serious threats to adaptation or development".
18	Windle (2010 pg.163)	Resilience in ageing populations, life span approach.	The process of effectively negotiating adapting to or managing significant sources of stress or trauma. Assets and resources within the individual, their life and environment facilitate this capacity for adaptation and bouncing back in the face of adversity. Across the life course, the experience of resilience will vary.
19	Richardson (2002 pg.307).	Resilience meta-theory	A force within everyone that drives them to seek self-actualisation, altruism, wisdom and be in harmony with spiritual sources of strength".
20	Mc Cann et al. (2013: pg.61).	Practitioner Resilience	The ability to maintain personal and professional well-being in the face of ongoing stress and adversity.
Wave four: Social-ecological perspective culture, and context			
21	Ungar (2008: pg. 225).	Resilience	In the context of exposure to significant adversity, whether psychological, environmental, or both, resilience is both the capacity for the individuals to **navigate** their way to health –sustaining resources, including opportunities to experience feelings of well-being, and a condition of the individual's family, community and culture to provide these health resources and experiences in culturally meaningful ways. [Emphasis in the original]
22	Ungar (2012: pg.14).	Resilience	A set of behaviours over time that reflect the interactions between individuals and their environments, in particular the opportunities for personal growth that are available and accessible".
23	Ungar and Liebenberg (2011: pg. 127).	Resilience	The qualities of both the individual and the individual's environment potentiate positive development.

	Wave five: social justice, participatory action research		
24	Seccombe (2002: pg.385).	Resilience	Resilience cannot be understood or improved in significant ways by merely focusing on individual level factors. Instead, careful attention must be paid to the structural deficiencies in our society and to the social policies that families need in order to become stronger, more competent and better functioning in adverse situations.
25	Roisman et al (2002: pg. 1216)	Resilience	"An emergent property of a hierarchically organised set of protective systems that cumulatively buffer the effects of adversity and can therefore rarely, if ever, be regarded as an intrinsic property of individuals.

Appendix 2, Table 7: Characteristics of the studies

Research Methods		
Quantitative	*N*=42	Gillespie et al. (2007), Gito, et al. (2013), Rushton et al. (2015) Brown et al.(2018), Hudgins(2015), Larrabee et al. (2010), Matos et al. (2010), Öksüz et al. (2018), Pannel et al. (2017), Wei and Taormina (2014), Zhimin, et al. (2017), Simoni et al. (2004), Zou et al. (2016), Ang et al. (2018), Garcia-Izquierdo, et al. (2017), Garcia and Calvo (2011), Simoni et al. (2004), Gito (2017), Arrogante and Aparicio-Zaldivar (2017), Mealer et al. (2012a), (2016), (2017); Gillespie et al. (2009), Guo et al. (2016), Koen (2011), Carpio (2018), Itzhaki et al. (2015), Hsieh et al. (2015), Rees et al. (2018), Lanz and Bruk-Lee (2017), Tabakakis et al. (2019), McGarry et al. (2013), Russo et al. (2018), Manomenidis et al. (2018), Babanataj et al. (2018), Chesak et al. (2015), Craigie et al. (2016), Magitbay et al. (2017), Mealer et al. (2012; 2014), Pipe et al. (2012), Potter et al. (2013), Slatyer et al. (2018a), Steinberg et al. (2017), Foster et al. (2018a)
Qualitative	*N*=21	Ablett and Jones (2007), Edward (2005), Imani et al. (2018), Mealer et al. (2012b), Tubbert (2016), Cameron and Brownie (2010); Lankshear et al. (2016); Jackson et al. (2018); Zander et al. (2013), Hodges et al. (2008), Prosser et al. (2017), Kornhaber and Wilson (2011), Mealer et al. (2018), Slatyer et al. (2018b), Wei et al. (2018), Cope et al. (2015), McDonald et al. (2013), Foster et al. (2018b). Marie et al. (2016), (2017).
Mixed Methods	*N*=4	Fourier et al. (2013), Tarantino et al. (2013), Mealer et al. (2014) Lee et al. 2015.
Intervention	*N*=13	Babanataj et al (2018), Chesak et al. (2015), Craigie et al. (2016), Fourier et al. (2013), McDonald et al. (2013), Magtibay et al. (2017), Mealer et al. (2014), Pipe et al. (2012), Potter (2013), Slatyer et al. (2018b), Steinberg et al. (2017), Tarantino et al. (2013), Foster et. al. (2018a).
Qualitative approaches		

Phenomenology	*N*=7	Ablett and Jones (2007), Edward (2005), Imani et al. (2018), Cameron and Brownie (2010), Hodges et al. (2008), Prosser et al. (2017), Kornhaber and Wilson (2011).
Other qualitative approaches		
Constructivist, grounded theory	*N*=4	Constructivist (Mealer et al. 2012b), grounded constructivist (Lankshear et al. (2016) grounded theory (Jackson et al. 2018); Shimoinabla et al. 2015).
Interpretative	*N*=3	Mealer et al. (2018) Marie et al. (2016, 2017) interpretative portraiture (Cope et al. 2015)
Case study	*N*=2	Zander et al. 2013; McDonald et al. 2013)
Descriptive	*N* = 2	Slatyer et al. (2018b), Wei et al. (2018)
Inductive exploratory design	*N*=1	Foster et al. (2018b)
Qualitative	*N*=1	Tubbert (2016).
Clinical settings		
Setting	**Sub-totals**	**Authors**
Mixed Settings	*N*=31	Imani et al. (2018), Brown et al. (2018), Hudgins (2015), Larrabee et al. (2010), Öksüz.et al. (2018), Pannell et al. (2017), Wei and Taormina (2014), Ang et al. (2018), Garcia-Izquierdo et al. (2017), Garcia and Calvo (2011), Simoni et al. (2004), Zou et al. (2016), Guo et al. (2016), Koen (2011), Carpio (2018), Rees et al. (2018), Lanz and Bruk-Lee (2017), Lankshear et al. (2016), Tabakakis et al. (2019), McGarry et al. (2013), Russo et al. (2018), Hodges et al. (2008), Manomenidis et al. (2018), Chesak et al. (2015) Craigie et al. (2016), Fourier et al. (2013), Slatyer *et al* (2018ab), Tarantino et al. (2013), Wei et al. (2018), Cope et al. (2015), McDonald et al. (2015).
CC (ICU/ITU)	*N*=13	Mealer et al. (*N*=6 2007, 2012a, 2014, 2016, 2017, 2018), Rushton et al. (2015), Pannell et al. (2017), Steinberg et al. (2017), Arrogante and Aparicio-Zaldivar (2017), Jackson et al. (2018), Babanataj et al. (2018), Lee et al. (2015).
MH	*N*=11	Edward (2005), Gito (2013), Matos *et al* (2010), Itzhaki et al. (2015), Zhimin (2017), Prosser et al. (2017), Foster et al. (2018ab), Marie et al. (2016, 2017), Lee et al. (2015) [ICU/Paediatrics].
Oncology/cancer/ palliative care	*N*=5	Ablett and Jones (2007), Pipe et al. (2011), Potter et al. (2013) Shimoinabla et al. (2015), Zander et al. (2013) [Paediatrics]
A&E (ED)	*N*=2	Hsieh et al. (2015), Tubbert (2016).
OR/ Theatres	*N*=2	Gillespie et al. (2007; 2009).
Others:	*N*=3	Burns: Kornhaber and Wilson (2011) Elderly care: Cameron and Brownie (2010)

		Transplant: Magitbay et al. (2017).
Study Populations		
Population	**Sub-totals**	**Authors**
CC	*N*=13	Mealer et al. (N=6-2007, 2012a, 2014, 2016, 2017, 2018), Rushton et al. (2015), Pannell et al. (2017), Steinberg et al. (2017), Arrogante and Aparicio-Zaldivar (2017), Jackson et al. (2018), Babanataj et al. (2018), Lee et al. (2015).
MH	*N*=11	Edward (2005), Gito (2013), Matos *et al* (2010), Itzhaki et al. (2015), Zhimin (2017), Prosser et al. (2017), Foster et al. (2018ab), Marie et al. (2016, 2017), Lee et al. (2015) [ICU/Paediatrics].
Oncology/cancer/ palliative care	*N*=5	Ablett and Jones (2007), Pipe et al. (2011), Potter et al. (2013) Shimoinabla et al. (2015), Zander et al. (2013) [Paediatrics]
Nurse Managers/Leaders	*N*=5	Carpio (2018), Hudgins (2015), Craigie et al. (2016), Magitbay et al. (2017), Lankshear et al. (2016) [Executive Nurses]
Children & Young People/ Paediatrics	*N*=3	McGarry et al. (2013) [2 units: rehabilitation following severe acquired brain injury and burns] Zander et al. (2013) [Oncology] Lee et al. (2015) (Neonatal ICU)
Newly registered	*N*=2	Hodges et al. (2008) Chesak et al. (2015)
Oncology/cancer/ palliative care	*N*=5	Ablett and Jones (2007), Pipe et al. (2011), Potter et al. (2013) Shimoinabla et al. (2015), Zander et al. (2013) [Paediatrics]
A&E (ED)	*N*=2	Hsieh et al. (2015), Tubbert (2016).
OR/ Theatres	*N*=2	Gillespie et al. (2007, 2009).
Others	*N*=19	Various grades roles, and specialities
Country of origin (*N* =15)		
Country	**Sub-totals**	**Authors**
USA	*N*=28	Mealer et al. (2012) (2007, 2012b, 2014, 2016, 2017 2018) Rushton (2015), Tubbert (2016), Brown, (2018), Hudgins (2015), Larrabee et al. (2010), Matos et al. (2010), Pannell et al. (2017), Simoni et al. (2004),Carpio (2018), Lanz and Bruk-Lee (2017), Jackson et al. (2018), Russo et al. (2018), Hodges et al. (2008), Chesak et al. (2015), Magitbay et al. (2017), Pipe *et al* (2012), Potter et al. (2013), Steinberg *et al* (2017), Tarantino et al. (2013), Wei et al. (2018), Lee *et al* (2015).
Australia	*N*=17	Edward (2005), Gillespie et al. (2007, 2009) Cameron and Brownie (2010) Zander et al. (2013), Tahghighi et al. (2017)

		Kornhaber and Wilson (2011), McGarry (2013), Craigie, et al (2016), Fourier et al. (2013), McDonald et al. (2013), Rees et al. (2018) Slatyer et al. (2018ab) Cope et al. (2015), Foster (2018 ab).
China	*N*=5	Guo et al. (2016), Wei and Taormina (2014) Xiao-Xi Lu et al. (2018), Zou et al. (2016), Wei et al. (2018).
Spain	*N*=3	Garcia and Calvo et al.(2011) Garcia-Izquierdo et al. (2017), Arrogante and Aparicio-Zaldivar (2017)
Iran	*N*=2	Imani et al. (2018) Babanataj et al. (2018)
UK	*N*=2	Ablett and Jones (2007), Lankshear et al. (2016)
Singapore	*N*=2	Zhimin (2017) Ang et al. (2018) [Singapore and Canada].
Others	*N*=8	Canada: Prosser et al. (2017), Japan: Gito (2013), Taiwan: Hsieh et al. 2015), Israel: Itzhaki et al. (2015), New Zealand: Tabakakis et al. (2019), Turkey: Öksüz.et al. (2018), Palestine: Marie et al. (2016, 2017). Greece: Manomenidis et al. (2018)

Appendix 2, Table 8: Conceptual definition of resilience within the studies appraised

Author and date		**Conceptual definition of resilience**
WAVE ONE PROTECTIVE INTRINSIC ATTRIBUTES, TRAITS AND OR CHARACTERISTICS		
Theme 1 Resilience individual characteristics		
1	Ablett and Jones (2007)	Rutter (1985 pg. 608). Referred to as the promotion of resilience does not lie in avoidance of stress but rather in encountering stress in a time and way that allows self-confidence and social competence to increase through mastery and appropriate responsibility.
2	Edward (2005)	Brodkin and Coleman (1996) and Henderson (1998) defined as the ability of an individual to bounce back from adversity, persevere through difficult times, and return to state of internal equilibrium/state of healthy being.
3	Gillespie et al. (2007)	Tusaie and Dyer (2004) defined as a dynamic process that results in adaptation in the context of significant adversity. Mallack (1998) in the workplace, resilience has been described in terms of mitigating the effects of stress through the use of behaviours that facilitate adaptation and allow individuals to function above the norm in spite of significant stress.
4	Gito, et al. (2013)	Jacelon (1997) and Jackson et al. (2007) defined as the ability of an individual to adjust positively to adversity.
5	Imani et al. (2018)	Garcia-Dia *et al* (2013) defined as a method to measure nurses' ability to cope with stressor and mental health threats so much to the extent that resilient people are emotionally calmer and more capable of coping with catastrophic conditions.

6	Mealer (2012b)	Charney (2004) defined as the ability to maintain healthy and stable psychological functioning despite exposure to extreme stressors.
7	Rushton et al. (2015)	Mallack (1998) defined as the ability to adapt coping strategies to minimise distress.
8	Tubbert (2016)	Everly (2012) defined as the art of bouncing back from adversity.
Theme 2: Resilience and links with job satisfaction		
9	Brown et al. (2018)	Conor and Davidson (2003) defined as a trait that enables individuals to thrive in the face of adversity and in the workplace.
10	Hudgins (2015)	Polk (1997) defined as the ability to transform disaster into a growth experience and move forward.
11	Larrabee et al. (2010)	Resilience not defined. Psychological empowerment defined (Thomas and Tymon 1995) as the capacity to realistically envision future tasks or events, focusing on solutions, opportunities and the enjoyment of accomplishment to choose freely among options and deal effectively with contingencies. And to appreciate one's own abilities, skills, strengths and competences as well as those of others.
12	Matos et al. (2010)	Curtis and Cicchetti (2003) defined as a positive outcome resulting from experience of adversity.
13	Öksüz.et al. (2018)	Lim *et al* (2015) [Chinese] defined as personal coping and adapting ability.
14	Pannel et al (2017)	Jackson et al. (2007) see study 4.
15	Wei and Taormina (2014)	Authors own definition: a person's determination and ability to endure, to be adaptable and to recover from adversity. Acknowledgment that resilience should be studied as a multi-dimensional construct (Ungar 2008).
16	Zhimin et al. (2017)	Caplan (1990) defined as adaptive behaviour repeated mastery.
WAVE TWO Adaptive Mechanisms strategies and processes that protect resilience		
Theme 1: Protection from stressors		
17	Ang et al. (2018)	Luthar *et al* (2000) defined as a dynamic process encompassing positive adaption within the context of significant adversity. Tested Rees *et al* (2015) theoretical model.
18	Garcia-Izquierdo (2017).	Jackson et al. (2007) see studies 4 and 14.
19	Garcia and Calvo et al. (2011)	Masten (2001) defined as resistance to trauma and positive socially adapted evolution. A common phenomenon among people who face adversity.
20	Simoni et al. (2004)	Resilience not defined. Thomas and Tymon (1995) psychological empowerment defined see study 11.

21	Zou et al. (2016)	Richardson (2002) metatheory, defined as reintegration processing and return to well function via the support of protective factors after exposure to severe stressor.
Subcategory 1: CC Nurses		
22	Arrogante and Aparicio-Zaldivar, (2017)	Fletcher and Sarkar (2013) defined as the ability to achieve an adequate and positive adjustment to adversity.
23	Mealer et al. (2012a)	Charney (2004) Connor and Davidson (2003) defined as the multi-dimensional characteristic that embodies the personal qualities to thrive in adversity.
24	Mealer et al. (2016)	Richardson (2002) metatheory see study 21.
25	Mealer et al. (2017)	Earvolino- Ramirez (2007) and others cited, defined as the ability to bounce back.
Subcategory 2: Levels of resilience		
26	Gillespie et al. (2009)	Garmezy (1993) defined as an individual's ability to recover and return once again to those former behaviours of adaptation that characterised the individual before period of disruption.
27	Guo et al (2016)	Rutter (2012) Fletcher and Sarkar (2013) defined as revolving around two components significant adversity and positive adaption.
28	Koen et al (2011)	Garmezy (1991) see study 26.
29	Carpio (2018)	Windle (2010) defined as the capacity to positively adapt and cope despite adversity. Winwood (2013) a measure of recovery (from work demands), a measurement of engagement at work, a measure of physical health and 4) measures of chronic fatigue and poor sleep.
Theme 2: Adversities		
Subcategory adversities associated with direct care: occupational violence.		
30	Cameron and Brownie (2010)	McAllister (2008) An attribute that can assist nurses to adapt successfully to the demanding physical, mental, and emotional nature of their profession.
31	Itzhaki et al. (2015)	Luthar et al. (2000) and Tugade and Fredrickson (2004) defined as bouncing back or positive adaptation of individuals following an experience or trauma. Study considered resilience from a group perspective (Clearly et al. 2014).
32	Hsieh et al. (2015)	Di Corcia and Tronick (2011) Schetter and Dolbier (2011) defined as the capacity to withstand regulate and cope with ongoing life challenges and succeed in maintaining equilibrium despite negative effects.
33	Rees et al. (2018)	Definition not clear.

Subcategory adversities associated with workplace environments.		
34	Lanz and Bruk-Lee (2017)	Ong et al. (2009 pg. 1777) defined as positive adaption in the context of significant risk or adversity.
35	Lankshear et al. (2016)	Hart (2014) defined as the ability of individuals to bounce back or to cope successfully despite adverse circumstances.
36	Jackson (2018)	Jackson et al. (2007) see studies 4, 14 and 18.
37	Tabakakis et al. (2019)	Craigie et al. (2016) defined as the positive adjustment to adversity.
Theme 3: Coping Strategies and mechanisms		
Subcategory 1: Coping Strategies		
38	McGarry et al. (2013)	Windle (2010) see study 29.
39	Russo et al. (2018)	Connor & Davidson (2003) see study 9.
Subcategory 2: other resilience mechanisms including relationships and social support		
40	Hodges et al. (2008)	Specific for the study: defined as a dynamic capacity to modulate and monitor one's interactions with ever changing disruptions in practice that results in higher levels self-efficacy, wisdom transformational energy and expertise (pg. 81).
41	Manomenidis et al (2018)	Epstein and Krasner (2013) defined as the capacity to respond to stress in a healthy way such that goals are achieved with minimal psychological and physical cost.
42	Prosser et al. 2017	Coleman and Ganong (2002) defined as the ability to adapt and overcome adversity.
43	Shimoinabla et al. (2015)	Tugade and Fredrickson (2004:320) defined as the ability to overcome negative situations, or the effective coping and adaption (when) faced with loss, hardship or adversity).
44	Zander et al. (2013)	Tugade & Fredrickson (2004:320) see study 43 above.
WAVE THREE: resilience as development of assets of individuals and communities		
Theme 1: Individual level		
45	Kornhaber and Wilson (2011)	Jackson et al. (2007) see studies 4, 14 18 and 36.
Theme 2: Organisational level		
Subcategory: Resilience Training Programmes		

46	Babanataj et al. (2018)	Scholes (2008) defined as an individual's positive capacity to cope with stresses and catastrophes that involve the individual's ability to restore the initial balance after an interruption or failure.
47	Chesak et al. (2015)	Not defined
48	Craigie et al. (2016)	APA (2015 p.1) the process of adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress.
49	Foureur et al. (2013)	Grafton *et al* (2010 p. 700) defined as a motivating life force within the individual to cope with adversity, learn from experience and engage in cognitive transformations.
50	McDonald et al. (2013)	Jackson et al. (2007) see studies 4, 14 18 36 and 45.
51	Magtibay et al. (2017)	Wieczorek (2014) defined as the ability to overcome challenges and to bounce back stronger and wiser.
52	Mealer et al. (2014)	Charney (2004) see studies 6 and 23
53	Mealer et al. (2017)	Charney (2004) see studies 6, 23 and 52.
54	Pipe et al. (2012)	Tugade & Fredrickson (2004) see studies 43 and 44 above.
55	Potter et al. (2013)	Not defined
56	Slatyer et al. (2018a)	APA (2015) see study 48. Also, Rees' (2015) model
57	Slatyer et al. (2018b)	APA (2015) see studies 48 and 56.
58	Steinberg et al. (2017)	Not defined
59	Tarantino (2013)	Not defined
Subcategory: Other organisational level strategies		
60	Wei et al. (2018)	APA (2015) see studies 49 and 60. Also, Kester and Wei (2018).
WAVE FOUR **Consistent with social-ecological enquiry (Ungar 2011) that resilience is built by the interaction of individual assets and the assets of the environment and the relationships between those assets.**		
61	Cope et al. (2015)	Ungar (2008 p.225) defined as in the context of exposure to significant adversity, resilience is both the capacity of individuals to navigate their way to the psychological, social; cultural and physical resources that sustain their well-being and their capacity individually and collectively to negotiate for these resources to be provided in culturally meaningful ways.

62	Foster et al. (2018a)	Robertson et al. (2015): a multi-dimensional capacity that develops and fluctuates over time and in the context of person environment interactions.
63	Foster et al. (2018b)	Jackson et al. (2007) see studies 4 14 18 36 and 45. Also, Ungar (2008) see study 61.
64	Lee et al. (2015)	Jackson et al. (2007) see studies 4 14 18 36 45 and 63.
65	McDonald et al. 2015	Jackson et al. (2007) 4 14 18 36 45 63 and 64. Also, Ungar (2011) see studies 61 and 63.
66 67	Marie et al. 2016 2017)	Ungar (2011) see studies 61 63 and 65.

Appendix 2, Table 9: Summaries of research studies included.

WAVE ONE: PROTECTIVE INTRINSIC ATTRIBUTES, TRAITS AND OR CHARACTERISTICS THEME 1 RESILIENCE INDIVIDUAL CHARACTERISTICS					
	Author, date, country setting	**Study focus aligned to research questions.**	**Conceptual definition, research method, and ethical considerations.**	**Sample, recruitment strategy and response rate if applicable.**	**Key research outcomes**
1.	Ablett and Jones (2007) UK English hospice	Aim to describe factors that promote resilience and mitigate effects of workplace stress and explore processes that keep nurses working in palliative care and maintain sense of well-being. Research questions:1 and 3	Definition: Rutter (1985) included. Qualitative phenomenology. Ethical approval gained.	*N*=10 bedside nurses. majority female) age education, years of practice not reported. Purposive sample. Recruitment strategy unclear.	Interpersonal/personality factors compared with hardiness and sense of coherence. High levels of commitment and sense of meaning and purpose to their work Emphasis upon rewards of nursing/team working. Recommended: training and sensitivity during change. Potential bias: first author unit clinical psychologist and was known to the participants but did not provide any clinical input during the study.
2.	Edward (2005) Australia MH crisis care	To explore personal management of stresses, complexities and demands of crisis care mental health clinicians. Research question: 1	Definition: Brodkin and Coleman (1996); Henderson (1998). Qualitative phenomenology. Colaizzi's (1978b) data analysis method. Ethical approval gained and considerations stated.	*N*=6 (4 female nurses,1 allied health and 1 doctor). Purposive sampling recruited through professional networking.	Themes: sense of self, faith and hope, insight, and self-care. Recommendations: train recruit staff: debriefing and humour.
3.	Gillespie et al. (2007) (Australia) operating room (OR)	To examine the relationship of perceived competence, collaboration, control, self-efficacy, hope	Definition: Tusaie & Dyer (2004) and Mallack (1998) Quantitative correlational-cross sectional design. Measures: PCS CMSS CANS MSS GSE ADH Ways of Coping scale and CD-RISC.	*N*=735 91.6% female 40% graduates, 50% full time. 52% employed 0-6years 80% clinical. 53.9% response rate.	Outcomes: hope, self-efficacy, coping, control, and competence explained 60% of the variance in resilience. Hope strongest unique contributor, age, experience, education, and years of

		coping, age, experience education and years of employment. Research questions: 1 and 3	Statistics: Descriptive Pearson's r, and two multiple regression analytic models. Ethical approval gained and considerations stated.	53.9% response rate. Recruitment: 1430 ACORN members randomly sorted and mailed survey packs.	employment were not statistically significant. Recommendations: progressive CPD to build resilience and self-efficacy. Potential bias all in same professional association.
4.	Gito et al. (2013). Japan MH setting	To examine the resilience of psychiatric nurses in Japan. Research questions: 1 and 3	Definition: Jacelon (1997); Jackson et al. (2007). Quantitative correlation study. Measures: BO, Hardiness, and self-esteem. Ethical approval gained and considerations stated.	*N*=313 MH nurses. 81% female, 50% over 20 years' experience. Recruitment: surveys distributed and returned via nurse manager 95% response rate.	Outcomes- 3 main characteristics identified positivity, interpersonal skills, and adaptability. Found modest positive correlations between resilience, depression, BO, and self-esteem. Generally positive correlations: hardiness most positive.
5.	Imani et al. (2018) Iran Mixed hospital settings	To explore Iranian hospital lived experiences of intelligent resilience. Research questions: 1 and 4	Definition: Garcia-Dia *et al* (2013). Qualitative phenomenology. Husserlian Colaizzi data analysis method. Ethical approval gained and considerations stated.	*N* = 10 (6 male 4 female) ages 34-52 years and 11 -28-year experience. Recruitment strategy unclear.	Nurses' resilience attributes: four main themes two sub-themes. Patience, wisdom, reverence patients and staff, situational self-control, and religiosity. Sample limited to experienced mature nurses and Christian culture.
6.	Mealer et al. (2012b) USA CC	To identify mechanisms employed by highly resilient ICU nurse to develop preventative therapies to obviate the development of PTSD. Research questions: 1 and 3	Definition: Charney (2004) Qualitative constructivist framework. Ethical approval gained and considerations stated.	*N*=27 (*N*=13 highly resilient nurses mean age 48 years *N*=14 PTSD mean age 44). Majority female. Recruited via previous survey arm of study.	4 domains: world view, social network, cognitive flexibility, and self-care/balance. Highly resilient nurses identified spirituality, supportive social network optimism and having resilient role models as characteristics. PTSD reversed. Coping skills and characteristics identified could be used to develop interventions to prevent PTSD.

7.	Rushton et al (2015) USA CC	To determine demographics of nurses in high intensity settings and the relationships to moral distress, stress, resilience meaning and hope. Research questions: 1 and 3	Definition: Mallack (1998) Quantitative correlation study. Measures (6): MBI-HSS, Moral distress Scale, Perceived stress Scale, CD-RISC, Meaning and State Hope Scales. Statistics: Multiple linear regression. Ethical approval gained and considerations stated.	*N*=114 mean age 32 years, majority female 59% graduates. Recruitment strategy unclear.	Confirmed strong association between BO and resilience. No significant associations with resilience and age. High scores on BO but still felt personal accomplishment. Nurses with spiritual well-being, hope, resilience, and higher scores with meaning of patient care were protected against BO. Moral Distress (MD) significant predictor of all 3 aspects of BO. MD increased with age. Confirmed CC nurses are at high risk of BO.
8.	Tubbert et al. (2016) USA A & E	To explore the resilience characteristics of emergency nurses. Research questions: 1 and 3	Definition: Everly (2012). Qualitative stated but methods unclear. Phone interviews directed content analysis using Everly's 7 characteristics: flexible creative thinking, decisive action, tenacity, interpersonal connectedness honesty, self-control and optimism. Ethical approval gained and considerations stated.	*N*=16 majority female. Average age 50 years or older, 50% graduates. 40% 30 years' experience. Recruitment: members of an A & E chapter emailed then snowballing technique.	All 7 characteristics identified in addition to a further characteristic: resetting. A purposeful ability to identify the stressor mentally or psychologically through self-awareness and then change the behaviour and move forward.
	THEME 2 RESILIENCE LINKS WITH JOB SATISFACTION				
9.	Brown et al. (2018). USA Mixed hospital settings	To examine relationships between change fatigue, resilience and job satisfaction between novice and "seasoned" hospital staff. Research questions: 1 and 3	Definition: Conor & Davidson (2003) (Jackson et al. 2007). Quantitative correlational-cross sectional survey. Measures: Change fatigue, CD-RISC and MMSS. Statistics: bivariate analysis, correlations (Pearson's R & T) & multiple regression. Ethical approval not stated.	*N*=521 hospital staff. Majority female.33% 25-35 years. 60% graduates. 67% more than 2 years' experience. Recruited via email through state board of nursing.	Correlations found between job satisfaction and resilience. Education was significant predictor of resilience, but age was not. Magnet designation was significant predictor of job satisfaction. Cross sectional limitations.

10.	Hudgins et al. (2015) USA Mixed hospital settings	To identify relationships between resilience job satisfaction and anticipated nurse turnover in nurse leaders Research questions: 1 and 3	Definition: Polk (1997) and utilised as theoretical framework. Quantitative correlational cross-sectional survey. Measures: CD-RISC, single item job satisfaction and ATS. Statistics: Pearson's R and multiple regression. Ethical approval gained and considerations stated.	*N*=89 nurse leaders multi hospital healthcare system. 17% response rate. Recruited by email invitation.	Statistically significant relationship established between job satisfaction and resilience. Limited to single satisfaction survey question.
11.	Larrabee et al. (2010) USA Four rural one acute urban Mixed settings	To evaluate the influence of stress resiliency on job stress, psychological empowerment, job satisfaction, and intent to stay RQ: 1	Definition: not defined Quantitative predictive survey. Measures: Stress resiliency (SRP) (Thomas and Tymon 1995). Statistics: ANOVA and causal modelling. Limited ethical details.	*N*=464 naval nurses. Majority female. Mean age 39 years. 40% graduates. 48% more than 10 years' experience. Research packs distributed to randomly selected nurses' onsite mailboxes. 55% response rate.	The more experienced the nurses the higher the sub scales. High level of stress increased the nurses' "*intent to leave"*. Coping strategies suggested as a product/outcome of individual interpretative styles. Recommended combination of individual and systems interventions. Further validity of stress resiliency tool required. Potential sample bias all navy nurses
12.	Matos et al. (2010) USA "Magnet" MH in patient	An exploratory study of resilience and job satisfaction among MH nurses. Research question: 1	Definition: Curtis & Cicchetti (2003). Quantitative descriptive, correlational. Statistics: Pearson r product moment co-efficient used to determine relationship between resilience and job satisfaction. Ethical approval gained and considerations stated.	*N*=32 MH, majority female, 68.8% aged between 40 and 60 years. 60% graduates 50% 11–25 years' experience. 76% response rate. Surveys hand distributed.	High level of resilience correlations with job satisfaction and subscale of professional status physician–nurse interaction subscale the lowest. Levels of job satisfaction not related to years of experience or years as MH nurse. Small sample. Limited reference to environmental factors.
13.	Öksüz et al. (2018) Turkey	To investigate the factors that contribute to resilience, and relationship with	Definition: Lim et al. (2015). Quantitative descriptive correlational design.	*N*=242 from 3 hospitals, majority female 27.7% aged 36-40. 70% graduates.30% 11=20 years' experience. 92% clinical nurses.	The resilience perceived social support, and job satisfaction of participating nurses were moderate. Significant factors: were age, gender, mother's educational level,

	Mixed hospital settings	perceptions of social support and job satisfaction. Research questions: 1 and 2	Measures: RSA, MSPSS and MJSS. Statistics: T tests and Pearson's correlation. Ethical approval gained.	Surveys hand distributed in coffee rooms.	work experience, working hours, perceived social support and job satisfaction. Recommend managers take heed.
14.	Pannell et al. (2017) USA Neonatal CC	To identify a pre-intervention measure of perceived stress resiliency and ranking of interpretive styles. Research questions: 1 and 3	Definition: Jackson et al. (2007) but referred to as stress resilience. Quantitative cross-sectional correlational design. Measure: SRP (Thomas & Tymon 1995). Statistics: associations between ages, years of experience, and resiliency. Ethical approval gained and considerations stated.	*N*=48 neonatal, nurses faced with change in practice environment. Recruitment: email and verbal invitations during daily shift announcements.	Participants greater than 5 years of NICU experience revealed low to moderate levels of resiliency. Skill recognition significantly lower than expected in participants over 40 years. Suggest interventions targeting interpretative styles known to enhance resiliency may promote positive coping and baseline resiliency data can guide change management.
15.	Wei and Taormina (2014) China Mixed settings two hospitals.	To refine the concept of resilience and develop 4 valid and reliable sub scales to measure resilience. Research questions: 1 and 7	Definition: study specific definition with acknowledgment that resilience should be studied as a multi-dimensional construct (Ungar 2008). Quantitative cross-sectional correlational survey. Measures: *endurance determination, adaptability and recuperability*: Statistics: regression analysis. Ethics: head doctors of the hospitals gave permission for the distribution of the questionnaires.	*N*=244. 169 female, 75 males. "many" from the army. Recruitment: questionnaires distributed by the researchers during nurses break times. Potential participants were informed: purpose of the study, that it was about nurses' attitudes toward work, voluntary and anonymous. Completed in their own time could stop at any time and completed questionnaires placed in box provided, boxes collected after two weeks.	The hypothesised correlations with the organisational and personality variable were statistically significant and in the predicted directions. The regression analysis confirmed the relationships. That organisational socialisation factors can facilitate resilience and that resilience engenders career success. Recommended nurse management proactive rather than reactive approach.
16.	Zhimin, et al. (2017)	To explore job satisfaction among MH nurses working in	Definition: Caplan (1990). Quantitative, descriptive correlational survey.	*N*=748. 89% clinical nurses. Majority female. 38% 31-45	Moderately low levels of resilience obtained. Positive relationships established between job satisfaction and

	Singapore MH	tertiary mental health hospital in Singapore. Research question: 1	Measures: WY, McCloskey and Mueller Scale. Statistics: Bivariate analysis, correlations & multiple regression. Ethical approval gained and considerations stated.	years.43% graduates. 85.6% response rate. The surveys were hand distributed to all nurses working in the hospital.	resilience (*p*= 0.001). Suggested job satisfaction and resilience influenced by other work factors (non- clinical nurses more satisfied). Cannot assume that adversity helps to strengthen resilience. Cross sectional limitations.
	WAVE TWO: RESILIENCE AS ADAPTIVE MECHANISMS STRATEGIES AND PROCESSES THAT PROTECT RESILIENCE				
	THEME 1 PROTECTION FROM STRESSORS				
17.	Ang et al. (2018) Singapore and Canada Mixed hospital settings	To evaluate a theoretical model of the impact of resilience on psychological outcomes by comparing results between nurses in Canada and Singapore. Research questions: 1 and 2	Definition: Luthar *et al* (2000). Quantitative correlational cross-sectional survey. Measures: CD-RISC, MBI, STS and ProQol. Tested. Rees *et al* (2015) theoretical model. Statistics: confirmatory factor analyses (CFA) structural equation modelling (SEM). Ethical approval gained and considerations stated.	Singapore *N*=1338. Recruitment via e-mail. 28% response Rate. Canada *N*=303 30% response rate. Recruitment via posters in clinical areas.	Resilience found to exert significant negative direct impact on STS and BO. Singapore nurses found to have lower levels of resilience than Canadian attributed to known lower levels of empathy. Recommend training and developing interpersonal skills. Limited demographics of Canadian nurses. Settings unclear, differences in sample sizes.
18.	Garcia-Izquierdo et al. (2017). Spain three public hospitals Mixed settings	To analyse the role of resilience and BO and the psychological health of acute care nurses Research questions: 1 and 3	Definition: Jackson et al. (2007). Quantitative correlational-cross sectional survey. Measures: CD-RISC MBI and GHQ. Statistics: stepwise multiple regression. Ethical approval gained and considerations stated.	*N*=537, convenience sample, majority female, average age 41 years. Average experience 14 years. 67.3% response rate. Recruitment and procedure unclear, (e.g., online, or hard copy survey) participants were informed of the purpose of the study and its voluntary anonymous nature.	Nurses who expressed a higher level of resilience experienced better psychological health even if they perceived high levels of emotional exhaustion and cynicism compared to those with lower levels of resilience and high emotional exhaustion and cynicism. Recommended training to increase resilience as personal resource of nurses against BO.
19.	Garcia and Calvo (2011) Spain	To study the influence of emotional annoyance (EA) and resilience on the	Definition: reference to Masten (2001) Quantitative: Cross sectional survey Explanatory model- explored resilience and	*N* = 200 convenience sample (60% private 40% public hospitals. The majority were men (75%). All cared for an average of	Significant association between emotional annoyance and emotional exhaustion (β = -0.26, *p* =0.020). Resilience appeared to be protective

	mixed settings five private and public hospitals	emotional exhaustion level of nursing staff Research question: 1	EA links to professional efficacy, cynicism, and emotional exhaustion. Measures: BO EA and CD-RISC. Survey piloted with 10 nurses in one hospital. Statistics: structural equation analysis. Ethical approval gained and considerations stated.	30 patients for 75% of their time per day. 40% response rate. Recruitment: Nurse supervisors distributed and received the surveys anonymously by mail.	against emotional exhaustion (β =-0.22 *p* = 0.004). Emotional annoyance maybe a primary BO factor, resilience protects against emotional exhaustion. Recommended "free" stress management and conflict/aggression courses and that stress is inevitable was a broad message. Potential bias: nurse supervisors distributed the surveys which may have influenced the response rate.
20.	Simoni et al. (2004) USA Two hospitals four nursing units in mixed settings.	To describe the influence of three interpretative styles of stress resiliency o psychological empowerment, has been identified as a primary predictor of RN job satisfaction. Research questions: 1 and 3	Definition: psychological empowerment (Thomas and Tymon 1995). Quantitative predictive design: SRP, psychological empowerment, stress reduction and job satisfaction. Measurements: deficiency focusing, necessitating and skill recognition. Statistics: regression analysis stated. Ethical considerations not reported.	*N*=142 randomly selected majority female. 47% graduates average age 35.4 years 42% working for less than 5 years. 61% in present position less than10 years. Administrative staff distributed surveys. Inducement of raffle to win $20 dollar gift card. Response rate not reported. Recruitment: unclear	All three interpretive styles were predictors of psychological empowerment. Suggested that nurses who believed that they are more effective were more psychologically empowered and subsequently resilient. Interventions aimed at developing interpretative styles of stress suggested. Potential bias: inducement of raffle to win $20 dollar gift card.
21.	Zou et al. (2016). China public hospital mixed settings	To investigate the associations between resilience, BO and psychological distress (PD). Research questions: 1 2 and 3	Definition: Richardson (2002) Quantitative cross-sectional survey. Measures: MBI, PD and CD RISC. Statistics: Liner regression models relationship and mediating effects between constructs.	*N*=366 (163 formal contract 203 informal contract) 52% registered less than 3 years. 93.6% response rate. Recruitment strategy not reported.	85.5% nurses experienced psychological distress. Resilience negatively related to psychological distress and BO whereas BO positively associated with psychological distress. Mediation analysis showed that resilience, could partially mediate the relationship between emotional exhaustion,

			Ethical approval gained and considerations stated.		depersonalisation, and psychological distress. Resilience training suggested.
	Subcategory: CC nurses				
22.	Arrogante and Aparicio-Zaldivar, (2017) Spain one CC unit.	To analyse the mediational role of resilience in relationships between BO and health in CC professionals. Research question: 1	Definition: Fletcher and Sarkar (2013). Quantitative correlational-cross sectional survey. Measures: CD-RISC, MBI-HSS and SF-12. Statistics: Mann Whitney U Kruskal –Wallis, Pearson's Co-efficient and SEM. Ethical approval gained and considerations stated.	*N*=52 CC professionals. local unit [*N* = 30/58% nurses]. 87% response rate. Recruitment: information meetings and posters in clinical areas. Surveys personally distributed by lead researcher and deposited in a box in the staff room.	Confirmed strong association between BO and resilience. No correlations between age and years' experience or professional groups. Recommend resilience training to promote "self-development" of nurses' resilience. Limited small mixed sample. Percentage's misleading based on small sample
23.	Mealer et al. (2012a) USA CC	To determine if resilience was associated with better psychological profiles in ICU nurses. Research questions: 1 and 2	Definition: Charney (2004); Connor and Davidson 2003. Quantitative: descriptive, correlational. Measures CD-RISC, SR, MBI, HADS and PTSD. Ethical approval gained and considerations stated.	*N*=744 ICU nurses. Majority female, average age 44 years 60% graduates. Recruitment: survey mailed (reminder after 2 weeks and a second survey 1 month after the first) to 3500 randomly selected members of AACCN.	Those rated higher resilience had lower scores on the psychological disorders scales. High PTSD and BO in sample only 22% found to be highly resilient. Recommended resilience training to "thrive" for extended periods at the bedside and identify nurses with lowered resilience for interventions. Reduction of stressors not the focus.
24.	Mealer et al. (2016) USA CC	To investigate the factor structure of the CD-RISC in CC nurses. Research question: 1	Definition: Richardson (2002) Quantitative: secondary analysis of 2012a data above. Confirmatory factor analysis of CD-RISC.	*N*=744 CC nurses (above).	3-factor structure determined (personal competence perseverance and leadership) provided best fit for the abridged version of the scale. Acknowledged that potentially important protective factors were not included: faith social support and self-care.
25.	Mealer et al. (2017) USA CC	To identify factors that affect resilience and to determine if the factors have direct or		*N* = 744 ICU nurses (above).	Concluded that differing ICUs and education status of the nurses may make them more likely to develop PTSD.

		indirect effects on resilience development of PTSD. Research questions: 1 and 3	Definition: Earvolino- Ramirez (2007) and others cited. Quantitative secondary analysis of 2012 data with statistical modelling programme M plus. Measures: PTS CD-RISC		
	Subcategory 2: Levels of resilience				
26.	Gillespie et al. (2009) Australia OR	To identify the level of resilience, and investigate whether age, experience and education contribute to resilience in an Australian sample of OR nurses. Research questions: 1 and 3	Definition: Garmezy (1993). Quantitative predictive survey. Measures: CD-RISC. Statistics: Descriptive Pearson's correlations, regression analysis model. Ethical approval gained and considerations stated.	*N*=735 majority female 42% graduate average years OR experience 17.8 years. 51.4% response rate. Recruitment: 1430 ACORN members randomly sorted and mailed survey packs.	Relatively high levels of resilience. Modest statistically significant associations between age and years of OR experience and resilience. No relationship between education and resilience years of OR experience only predicted 3.1% of the variance in resilience. Large proportion of variance in resilience unexplained, acknowledged contextual factors not measured. Recommended qualitative study. Potential bias all in the same professional association.
27.	Guo et al. (2016) China Three general hospital settings	To explore the state of resilience and its predictors among nurses in China and investigate its influencing factors. Research questions: 1 and 3	Definition: Rutter (2012) Fletcher and Sarkar (2013). Quantitative: cross sectional survey. Measures: CD-RISC GSE TCSQ. Statistics: multiple linear regression. Ethical approval gained and considerations stated.	*N*=1061 direct care nurses from medical surgical and other settings. Majority female 76% graduate. Experience unclear. Recruitment: Head nurses and directors from each hospital invited nurses to participate.	Moderate levels of resilience. Self-efficacy, education, positive coping styles, exercising regularly, not smoking predicted resilience ($p<0.01$). Recommended workforce interventions: rotas to guarantee leisure time, help to exercise and stop smoking. Education: CBT, simulation, education programmes and rewards for academic achievement.

28.	Koen et al. (2011) South African Private public healthcare five urban settings	To determine the prevalence of resilience in a group of nurses to determine whether there are significant differences in levels of psychosocial well-being and resilience between private/public health care facilities, to obtain indication of the views of their profession and the resilience there in. Research questions: 1 6 and 7	Definition: Garmezy (1991) Quantitative cross-sectional survey: 7 Measures and 3 open ended questions RS, MHC-SF, CSE, SOC, HS, LOT-R and GHQ-12 Open questions: How do you feel about your profession? Would you think of leaving your job and why? Do you think you are resilient and why? 30 minutes to complete survey. Piloted with 10 participants. Statistics: descriptive and inferential. Ethical approval gained.	*N*=312 (*N* = 269 Chief Nurses) majority female 72% over 40 years. 48% response rate. Recruitment: information meetings to management and supervising professional nurses. Surveys distributed by supervising nurses and the lead author.	43% high resilience 47% moderate 10% low. Many wanted to leave profession (*N* = 116/30%). Concluded that resilient nurses are "*precious"*. Recommended follow up qualitative work and exploration of healthy work environments. Surveys in English, second or third language for some participants. Mature sample.
29.	Carpio (2018) USA Mixed hospital settings	To explore the assessment of resilience among first line nurse managers (NM) Research questions: 1 and 3	Definition: Windle (2010); Winwood (2013). Quantitative descriptive cross-sectional design. Measures: RAW Statistics: Descriptive and Spearman rank correlation coefficients used to examine relationships between RAW scores and demographics. Cronbach's Alpha test was used to measure reliability of the scale. Ethical approval gained.	*N*=77 NMs 6 hospitals convenience sample majority female. 62% response rate. Recruitment: information meetings then follow up emails.	Overall RAW mean score of 4.2 although lower than that generally reported by non-nursing managers was relatively positive. Analysis showed significant correlations ($p < 0.05$) between total years as NM and 3 RAW scores: (1) overall RAW mean score (P = .02), (2) maintaining perspective subscale score (P = .03), and (3) staying healthy subscale score (P = .04). Highest reported sub-scale: living authentically lowest was maintaining perspective total years as NM related to overall RAW maintaining perspective and staying healthy. 4 of 7 subscales demonstrated low reliability: living authentically (α= .47), maintaining perspective (α= .63),

					interacting cooperatively (α= .45), and building networks (α= .56). Recommended further research to develop focused support for NMs to maintain perspective and test RAW 's reliability.
	THEME 2: ADVERSITIES				
	Subcategory: adversities associated with direct care- occupational violence				
30.	Cameron and Brownie (2010) Australia Residential elderly care	To identify the factors that impact the resilience of registered aged care nurses. Research questions: 1 **2** 6 and 7	Definition: McAllister (2008) Qualitative phenomenology. Participants given time to reflect on above definition then 30/90-minute semi- structured interviews. Data analysis: Colaizzi's (1978). Ethical approval gained and considerations stated.	*N*=9 female ages from 24-60 years and had 2-30 years' experience in aged care. Mean ranges not stated. Recruitment strategy unclear.	Resilience developed through clinical exposure, increasing professional competence and identity. Positive attitude, work life balance, sense of purpose and making a difference. Resilience enhanced when able to maintain long-term, meaningful relationships with residents. Collegial support to debrief and validate. experiences as well as the use of humour and team camaraderie. Outcome of experience: ability to manage time/crises insight/ability to recognise stressors employ effective strategies.
31.	Itzhaki et al. (2015) Israel MH one ward	To explore the effects of exposure to violence, job stress, staff resilience, and PTG on the life satisfaction of mental health nurses. in Israel. Research questions: 1 **2** 6 and 7	Definition: Luthar et al. (2000); Tugade and Fredrickson (2004), focused upon resilience from a group perspective (Clearly et al. 2014). Quantitative descriptive, cross-sectional survey. Piloted survey with 13 nurses. Measures: scales adapted: LS, CD-RISC, and PTG. Statistics Pearson correlations T tests and Linear regression.	*N*=118 from one large MH centre. 64% female 40% graduates 71% staff nurses. 28% worked in the acute and forensics ward. 72% had completed an in-service training programme to cope with violence. 51.3% response rate Recruitment: participants recruited by three nurses who worked at the hospital and were members of the hospital research committee.	Verbal violence reported by 88.1% and 58.4% experienced physical violence in the past year. Occupational violence towards nurses was correlated with job stress, and life satisfaction was correlated with PTG and staff resilience. But life satisfaction was mainly affected by PTG, staff resilience, and job stress, and less by exposure to verbal and physical violence. PTG found to be above moderate. Recommended implementing interventions that

			Ethical approval gained and considerations stated.		contribute to PTG and staff resilience, and those that reduce jobs stress.
32.	Hsieh et al. (2015) Taiwan A & E four units	To investigate the relationship among personality traits, social network integration and resilience in nurses who had suffered from physical or verbal violence by patients or their families. Research questions: 1 **2** 6 and 7	Definition: Di Corcia and Tronick (2011); Schetter and Dolbier (2011). Quantitative descriptive, cross-sectional survey. Measures: SNI EPQ RS. Statistics: T Tests chi-square and multivariate hierarchical linear regression. Ethical approval gained and considerations stated.	*N*=187 from 4 units. Mean age 30 years, 67% graduates. No other demographics stated. 100% response rate. Recruitment: principal investigator approached eligible participants individually.	Those found that had occupational violence concluded that greater resilience was associated with increased peer support and extraversion. Neuroticism was inversely related. Religion did not play an important part.
33.	Rees et al. (2018) Australia mixed settings	To explore occupational violence (OV) Linked to high rates of BO. Research questions:1 **2** 6 and 7	Definition not clear. Quantitative cross-sectional survey. Online nursing union general working life survey taken every three years repeat of 2013 with OV questions added. Measures: D-RISC, ProQol, NWI-R Statistics: T test and multiple regression. Ethical approval gained and considerations stated.	*N*=1838 RNs/ENs [76.7% total *N*= 2397 nurse/midwives and non-registered]. Total *N* unclear it appears to be 94.4%. Breakdown of RN/ENs per sector also unclear. 57% worked part time 50% gained their first nursing qualifications less than 15 years previously. 14% response rate. Recruitment: random selection of equal number of members from each sector invited to participate via email.	Last 3 months, 53% of respondents had experienced OV had significantly higher rates of BO and lower resilience and rated the practice environment lower than their counterparts who had not experienced violence. The experience of OV significantly impacts nurses' resilience and levels of BO. Unsupportive leadership and incidents were rarely acted upon. Fear of repercussions by managers, where nurses felt they became the problem, was also a barrier.
	Subcategory 2: Adversities associated with workplace environments				
34.	Lanz and Bruk-Lee (2017)	To examine relative effects of interpersonal conflict and workload on job outcomes and	Definition: Ong et al. (2009). Quantitative two wave survey two-week window used to try to draw causal conclusions of theoretical framework-	*N*=97 randomly selected sample via Qualtrics Panels. 59% response rate at both times. Nurses were compensated $8-10	Interpersonal conflict predicted turnover intentions and BO workload predicted injuries. Low resilience increased the magnitude of the indirect effects of work conflict. Recommended attention given to

	USA mixed settings	determine if resilience moderates the indirect effects of conflict and workload on job outcomes via job related negative effects. Research questions: 1 **2** 6 and 7	Emotion centred model Occupational Stress. Measures: WY, MBI JAWS, Conflict at work scale, Workload Inventory, Michigan Organisational Scale, Physical injuries Nordic Questionnaire. Statistics: correlations regressions and boot strapping method. Ethical approval gained and considerations stated.	for each survey they completed dependent upon agreement with Qualtrics. Majority female average age 46.5 years (22 - **82** years of age). Various settings (27.8% outpatient and clinics and 26.8 % assisted living). Recruitment: via Qualtrics Panels.	social working conditions and job characteristics. Small numbers in sample.
35.	Lankshear et al. (2016) UK ENDs various organisations.	To explore the stressors experienced by executive nurse directors (ENDs) and strategies employed to maintain resilience. Research questions: 1 **2 3** 4 5 6 and 7	Definition: Hart et al. (2014). Qualitative, grounded constructivist study. Semi structured telephone interviews. Ethical approval gained and considerations stated.	*N*=40 ENDs from Wales and England. All save two were in substantive posts and had worked at that level for a mean of 5.35 years (three months to 15 years). Two held the nurse staffing budget and direct responsibility for the management of care Recruitment: participants invited to participate at a END meeting (Wales) and via the newsletter of the CNO for England supplemented by voluntary snowballing sampling.	Stressors chronic and acute. Resilience required the support of fellow executives, peers, family, and mentors and could be enhanced by self-discipline, good preparations for the post and on-going coaching. Increasing size of organisations, limited resources devoted to quality combined with poorly defined limits of responsibility major stressors. Clear strategies needed to maintain resilience. Naturally resilient, but levels of stress high. Various structural stressors but no built-in aids to resilience. The intensity of quality monitoring may detract from quality assurance.
36.	Jackson et al. (2018) USA one CC unit	To better understand nurse BO and resilience in response to workplace adversity in CC. Research questions: 1 **2 3** 4 5 6 and 7	Definition: Jackson et al. (2007). Qualitative grounded theory approach. Ethical approval gained and considerations stated.	*N*=11 female with1 - 30+ years' experience. Purposive convenience sample minimum one-year CC experience. via Recruitment: posters and emails were distributed by nurse educators in the setting who had access to the target population	Three multi-level categories of adversities identified: micro (interpersonal) meso (staffing) and macro (systems). All identified as toxic, cumulative, and harmful. Concluded awareness of workplace adversity key to recognising impact: organisational policies and leader interventions

				but did not have the authority to impact an individual's employment status.	recommended. Managing exposure theory- "how" nurses address workplace adversity using variety of techniques: Protecting, Processing, Decontamination Distancing. Indictors of process: thriving, resilience, survival, and BO, not necessarily on a continuum connected. Organisational policies can help.
37.	Tabakakis et al. (2019) New Zealand mixed settings	To investigate the impact of workplace factors specifically bullying on resilience of nurses. Research questions: 1 **2 3** 4 5 6 and 7	Definition: Craigie et al. (2016). Quantitative, cross sectional survey. Measures: CD-RISC, PES-NWI and NAQ-R. Statistics: multiple linear regression. Ethical approval gained and considerations stated.	*N*=586 majority female 77% graduates 49% full time average years employed as a nurse 20.87 years. 58.7% employed by district health board and others non-district health board. 18% response rate. Recruitment: professional association online survey	Nurses who were bullied had lower mean resilience scores than nurses who were not bullied. About 25% experienced bullying. Suggested comparably higher resilience scores (29.7) than other studies. Practice environment and perceived exposure to bullying play a significant role in shaping resilience. Potential bias sample all in same professional association.
	THEME 3: COPING AND RESILIENCE STRATEGIES				
	Subcategory 1: Coping strategies				
38.	McGarry et al. (2013) Australia Mixed settings Paediatrics	To investigate the impact of regular exposure to paediatric medical trauma on multi-disciplinary teams in a paediatric hospital and the relationships between psychological distress, resilience, and coping skills. Research questions: 1 2 and 3	Definition: Windle (2010). Quantitative correlational survey. Measures: CD-RISC PTSD, IERS, STS, BO CS, ProQol, CSA and Depression Anxiety Scale. Statistics: Kruskal- Wallis and one-way anova. Ethical approval gained.	*N*=54 health professionals (42% nurses (*N*=23) from two different teams either in the rehabilitation unit (following severe acquired brain injury) or burns unit. Majority female worked full time, mean length of employment 5 years.40% aged 25-34 years. 4 professionals reported previous diagnosed mental illness. 80% response rate. Recruitment: all staff invited to participate limited other information.	Participants experienced more symptoms of STS less resilience and CF, more use of optimism and sharing as coping strategies and less use of dealing with the problem and non-productive coping strategies than comparative groups. Non-productive coping was associated with more STS, anxiety, depression and stress, resilience was positively associated with optimism. Participants <25 years used more non-productive coping strategies. Paediatric work can adversely affect health professionals'

					well-being, (particularly <25 years). Recommended using findings to develop well-being interventions. Limited small sample.
39.	Russo et al. (2018) USA three hospitals mixed settings	To explore the relationship between resilience and coping in frontline nurses working in a healthcare system that has recently undergone a merger. Research questions: 1 2 **3** in addition to 5 6 and 7**.**	Definition: Connor & Davidson (2003). Quantitative Cross-sectional survey. Measures: COPE, CD-RISC. Statistics: descriptive & inferential Pearson's product moment correlation performed to determine relationships between some Measures. Ethical approval gained.	*N*=353 from three hospital systems different campuses. Mean experience 21 years. Majority female. 72% frontline and 36% on a clinical ladder. 14% response rate (RR) across three campuses. Individual campuses varied. Hospital 1 RR 52% - emailed directly. Hospital 2 had changes in leadership. 19% response rate. Hospital 3 -27%. Recruitment: not all had emails informed of the study via flyers and were asked to use link on hospital intranet.	Generally, the results showed that, when nurses reported adopting positive coping strategies, they reported higher levels of resilience. Levels of resilience varied between campuses. The highest levels of resilience were reported for the smallest campus which had been through two mergers. Recommended nurses receive support to foster positive coping strategies: role modelling, coaching, sharing coping strategies and simulation verses didactic approaches. Resilience levels of staff could be considered as the "*vital signs" of an organisation".*
Subcategory 2: other resilience mechanisms including relationships and social support					
40.	Hodges et al. (2008) (USA) mixed hospital settings	To explore the nature of professional resilience in NQ nurses in acute care settings. Research questions: 1 2 **3** 4 5 and 6	Definition: specific to the study. Qualitative, phenomenology theoretical and inductive focus groups, individual interviews and critical incident questions. Giogi and Gogi (2003) data analysis method. Ethical approval gained and considerations stated.	*N*=11 graduates' qualified: 12–18 months aged 23–31 years majority female. Purposive and networking sampling. Recruitment: participants invited by letter.	Developing resilience: three themes and sub themes: Learning the milieu (culture RN skill sets), Discerning fit (sensing discrepancies reconciliation) and Moving through (**turning points**, street smarts) Critical reflection and reconciliation in the "tumultuous journey" to professional identity and the realities of "volatile unpredictable" practice. Not necessarily technical skills. Critical process could typically fallout of the usual orientation time frame. Recommended extending collegial culture well beyond initial orientation period. Emphasis upon

					positive thinking can overcome adversity versus developing insight as to the causes to the adversity.
41.	Manomenidis et al. (2018) Greece eight hospitals mixed settings	To examine and compare the impact of individual characteristics, external factors and coping strategies on nurses' resilience specifically mental preparation strategies. Research questions: 1 2 **3** 5 6 and 7**.**	Definition: Epstein and Krasner (2013). Quantitative, cross-sectional survey. Measures: RS HADS and MPSS Ethical approval gained.	*N*=1,012 majority female 45% aged 40-49 years38% 11-20 years' experience 59% tertiary education? 75% worked in 67.6% worked in second level hospital medicine setting. 77.8% response rate Recruitment: poster displays in nursing stations. All nurses that had at least 1 year of experience and were employed full time "received" questionnaire and asked to return in anonymous envelope to the nurses' station.	Educational level, anxiety and the overall use of mental preparation strategies were the main predictors of nurse's resilience ([*F* = 52.781, *p* = 0.000, *R*2 = 0.139, Adjusted *R*2 = 0.137]). Resilient nurses were better educated {(b = 0.094. 95% confidence interval [CI] 0.038, 0.162)}, had lower anxiety ([b = −0.449, 95% CI −0.526−0.372]) and used more often mental preparation strategies before the beginning of their shift ([b = 0.101, 95% CI 0.016, 0.061]). Recommended leadership interventions to enhance social support. Managers encouraged to give nurses space prior to the shift to prepare mentally.
42.	Prosser et al. (2017) Canada Acute MH	To understand how RNs in acute psychiatric settings develop resilience to sustain practice. Research questions: 1 **3** and 4	Definition: Coleman and Ganong (2002) Qualitative, IPA, single semi-structured face to face interviews 60-90 mins. Ethical approval gained and considerations stated.	*N* = 4 experience in acute psychiatric setting from two to sixteen years. Recruitment: invited by letters and posters.	Four themes: development of self: maintaining a "vast" perspective, becoming an "expert" of self, clarifying "belief systems", being "present". Suggested that resilience maybe a matter of self-development.
43.	Shimoinabla et al. (2015) Japan Palliative care	To explore the nature of nurses' resilience and the way it is developed. Research questions: 1 **3** 4 5 6 and 7.	Definition: Tugade & Fredrickson (2004). Qualitative, grounded theory 18 interviews. Ethical approval gained and considerations stated.	*N*=13 purposive sampling, mean age 37.8 years all female 7-26 years' experience (mean 15.5 years) 2-8 years palliative care nursing experience (mean 15.5 years). Recruitment: invitation letter sent to each PCU and nurses who	Self-nurturing (protection) in various ways were found. Blend of individual responsibility and gaining support from others. Concluded that both good self-protection and supportive workplaces are necessary. Links between two not explored. Recommended support and education required to develop resilience.

				were interested contacted the researcher.	Importance of dealing with experience of loss and grief in addition to learning about experiences noted as important. These nurses demonstrated nurturing ability however it cannot be assumed.
44.	Zander et al. (2013) Australia Paediatrics oncology	To explore the concept of resilience specific to paediatric oncology nurses. Research questions: 1 **3** 4 5 6 and 7	Definition: Tugade & Fredrickson (2004). Qualitative case study. Semi- structured 1-hour interviews. Ethical approval gained and considerations stated. Detailed audit trail respondent validation.	*N*=5 bedside nurses greater than 12 months post-registration experience. Tertiary paediatric hospital 8 bed inpatient unit/ adjoining outpatient paediatric/oncology unit. Recruitment: 20 nurses were anonymously sent a study information sheet.	Major aspects of forming resilience: Individual conceptualisation of resilience, challenges faced by nurses, actions and strategies, support, insight, overtime themselves and life generally, processing situations through reflection. Diverse strategies: health and energy necessary. Clinical and collegial support vital. Support recommended: flexible equitable shift work, support for family and friends. More support for experienced staff, supervision orientation programme for new staff. Reflection time.
WAVE THREE **Resilience as motivating inner force building assets of individuals and communities to maintain and develop resilience.**					
INDIVIDUAL LEVEL					
45.	Kornhaber and Wilson (2011) Australia Burns unit.	To explore the concept of building resilience as a strategy for responding to adversity experienced by burns nurses - personal attributes and coping processes that develop overtime.	Definition: Jackson et al. 2007 Qualitative phenomenology. Ethical approval gained and considerations reported.	*N*=7 large, acute care, public hospital – 6 bedded unit. All females. Ages 25-58 years mean age 38.4 years. 5 graduates. Recruitment: all nurses who met criteria (minimum 3 years full time experience) approached by first author.	Various categories identified protective and promoting factors: toughening up, natural selection, emotional toughness (survival of the fittest attitude), coping with the challenges (humour, teamwork, timeout -tearoom) Regrouping, recharging and emotional detachment. *I think if you are a burns nurse you are a burns nurse"* – "*in their blood*". Team greatest asset for support direction and assistance to provide competent care. *Can anyone else truly understand?*

		All research questions.			
ORGANISATIONAL LEVEL					
RESILIENCE TRAINING PROGRAMMES					
46.	Babanataj et al. (2018) Iran CC	To determine the effect of training for resilience on the ICU nurses' occupational stress and resilience level. Type of programme: local resilience and stress management based. Research questions: **3 4** and **5**	Definition: Scholes (2008) Quantitative quasi- experimental intervention Pre-test-post-test design. Intervention: resilience training, 5 sessions between 90-120 minutes each. Unclear, where, who, when the intervention was conducted. 2 measure points before and 2 weeks post intervention. Measures: CD- RISC, ENNS. Statistics: Descriptive and inferential, paired *t*-tests used to compare scores. Ethical approval gained and considerations stated.	*N*=30 convenience sample: graduate nurses working in 7 different CC units in one hospital. Majority female 53.3% more than 10 years' experience 40% 10-20 years. Recruitment: unclear.	All nurses completed the programme. The mean scores of occupational stress decreased significantly after the intervention (*P* = .001), and the mean scores of resilience increased significantly after the intervention (*P* = .001). Concluded: "practicable" and acceptable way to reduce nurses' occupational stress. Brief quantitative reporting, no qualitative evaluation.
47.	Chesak et al. (2015) USA Mixed settings	To examine outcomes of the implementation of a brief resilience training programme. Type of programme: stress management and resilience training (SMART) Research questions: **3 4** and **5**	Definition: unclear. Quantitative RCT pilot intervention study. Intervention: 90-minute session then 4 weeks following 1 hour follow up session offered. 2 measure points baseline and 12 weeks post intervention. Measures: PSS, MAAS, GAD-7 CD-RISC. Statistics: descriptive and inferential, paired *t* tests used to compare scores. Programme evaluation/survey	*N*=40 NR convenience sample 73% response rate, majority female, average age 28.2 years 80% graduates. Recruitment unclear.	Mindfulness and resilience scores increased in experiment group and declined in control. Stress and anxiety scores decreased in the intervention group. No statistically significant results but in the hypothesised direction – larger sample needed. Only 4 participants did the follow up session and perhaps the evaluation. Intervention easy to recruit to protected time required to complete follow up. Potential bias, in house programme and journal.

			unclear but comments utilised in the discussion. Ethical approval gained.		
48.	Craigie et al. (2016) Australia Mixed hospital settings	To evaluate MSCR intervention aimed at reducing compassion fatigue and improving emotional well-being. Type of programme: mixed mindfulness and CBT Research questions: **3 4** and **5**	Definition: APA (2015). Quantitative intervention quasi experiment single-arm, pre-post-test design. Intervention: 12-hours:1-day CF workshop resilience and mindfulness, then weekly mindfulness skills seminars for 4 weeks and CF Workshop. 3 measure points: pre, post and 1 month follow up. Measures: CD-RISC-10 Patient Health Questionnaire- 9, PHQ-9, SSSP, CAGE PTSD, ProQOL-5, DASS-21 STAI-Y2 and PWS. Statistics: descriptive and inferential. Ethical approval gained.	*N*=21 convenience sample, majority female, 81% full time 40% graduates 57% senior nurses 47% in- patient wards. Recruited via an advertisement in the hospital that outlined the programme.	*N* = 21 commenced the programme 20 completed. No significant improvements in resilience scores at any point. There were however significant improvements across a number of domains following the intervention. Suggested that the senior nurses may have had elevated scores on the constructs anyway. The small numbers and shortened CD-RISC 10 may not have detected modest effects. A brief intervention also may not sufficiently address protective character-based resilience factors. Environmental factors not considered. Percentages of small numbers misleading.
49.	Fourier et al. (2013) Australia Mixed hospital settings	To examine an adapted MBSR programme on the psychological well-being and work stress of nurses and midwives Type of programme: Mindfulness Research questions: **3 4** and **5**	Definition: Grafton *et al* (2010). Mixed methods intervention pilot evaluation. Intervention: 1-day MBSR programme with daily mindfulness practices for 8 weeks. Log provided to note practices. Taught by psychologist, daily mindfulness practice CD recorded by the primary facilitator. 2 measure points before and 4-8 weeks post intervention. Measures: GHQ-12 SOC and DASS. Qualitative focus groups.	*N*=31 female nurses (40 nurses/midwives). Majority clinical (1 educator and 8 managers) some abbreviations not explained. Experience/clinical settings not offered. Convenience sample. Participants sought across two hospitals, management support was required to attend off-site workshop and time for interviews/focus groups. Limited other	Stress levels, orientation to life, general health significantly improved. Log (50%) focus groups (35%) improved stress levels and ability to relax, 1 mentioned difficulty incorporating into normal routine. Findings related to the acceptability and feasibility of the intervention- participation in the workshop and regular mediation practice. Behavioural change is hard to change long term habits, working in groups could help this short term and to sustain culture community of support following the programmes. Small sample. Resilience not measured.

			Statistics: descriptive and inferential. Qualitative: content analysis. Ethical approval gained.	information regarding recruitment strategy.	
50.	McDonald et al. (2013) Australia Mixed settings	To evaluate an intervention to facilitate positive responses to workplace adversity. Type of programme: resilience and stress management based. Research questions: **3 4** and **5**	Definition: Jackson *et al* (2007) Qualitative case study Intervention: six one day workshops plus one to one 6 months mentoring from a senior/retired nurse /midwife. Evaluated through interviews, 3 points pre, immediately post and 6 months. Thematic analysis in addition to workshop evaluations. Ethical approval gained and considerations discussed due to the sensitive topic of their known workplace adversity and the pre-existing low morale in the case setting.	*N*=14 nurses and midwives' clinicians volunteered- not specified how many were nurses, convenience sample. Prompted by pre -existing low morale on the case setting. Recruitment: how potential participants informed about the study unclear.	Programme positively received. Personal and professional benefits and enhanced resilience reported. Professional gains included: closer group dynamic, more supportive communication, increased assertiveness, and confidence in clinical setting. The findings indicated increased knowledge of resilience, a readiness to monitor and maintain resilience strategies both individually and with their peers. The intervention was found to be successful in improving supportive professional relationships amongst the participants and in facilitating resilience through self-reflection, (repertoire) self-care and improved communication skills. No indication who delivered the workshops.
51.	Magitbay et al. (2017) USA) Transplant	To assess efficacy of blended learning to decrease stress and BO among nurses through use of the CBT SMART programme Type of programme: mixed Mindfulness and CBT Research questions: **3 4** and **5**	Definition: Wieczorek (2014) Quantitative single arm, pre-post-test intervention design. Intervention: Blended learning, participants chose format to meet learning styles/goals- web-based, independent reading, facilitated discussions. 12 modules over 8 weeks- additional two in-person (weeks 8 and 12) and two telephone (weeks 16, and 20) discussion sessions.	*N*=50 majority female, transplant nurses: clinical (*N*=28) leadership roles *N*=18) and other) *N*=8) ages: 24–63 Convenience sample self-selected no other recruitment details reported.	Improvements in stress, anxiety, resilience, mindfulness, happiness, and BO occurred as early as week 8. At week 24 the largest decrease was in anxiety (45.2% $p<.001$). Other measures were encouraging stress (29.8% $p<.001$) personal BO (33.6% $p<.001$) work BO (32.6% $p<.001$) client BO (38.5% $p<.001$). Increase in happiness and mindful attention ($p<.001$). Participants who completed surveys at earlier weeks numbered 45 and 33 at week 24. Small sample one healthcare organisation.

			5 measure points baseline, post-intervention week 8, week 12, 24 and 33 Measures: CD-RISC, PSS, SHS, GAD-7, MAAS, and CBI. Statistics: descriptive and inferential, paired *t*-tests to compare scores. Ethical approval gained and considerations reported.		
52.	Mealer et al. (2014) USA CC	To determine if a multimodal resilience training program for ICU nurses was feasible to perform and acceptable to the study participants. Research questions: **3 4** and **5** Type Mixed Mindfulness and CBT	Definition: Charney (2004) Mixed methods RCT 12-week intervention. Intervention: 2-day CBT and mindfulness workshop in addition: • Protocoled aerobic exercise regimen- 3 free month membership of gym. • Event triggered counselling sessions-CBT experienced social worker. 2 measure points before and after intervention. Measures: CD-RISC HADS PDS MBI and CSQ-8 Nurses in intervention arm also completed satisfaction surveys for each component. Statistics: Descriptive and inferential (Wilcoxon rank sum test and X^2). Interpretative approach taken for qualitative data. Ethical approval gained.	*N*=27 ICU nurses graduates, majority female from one academic institution. Age not stated. Mean years working in ICU 4.88 years. Self-selected no other recruitment details reported. Criteria: currently worked 20 hours clinically in ICU, had no underlying medical conditions to contraindicate exercise and a CD-RISC score of 82 or less. 4 nurses excluded because CD-RISC scores too high.	Multi-modal resilience training programme was feasible and acceptable. High rate of BO-81%. Depression scores significantly reduced in experiment arm, but PTSD reduced in both groups. Larger sample needed to determine any significant results and reason for control group results, potential contamination as they all worked together. 1.) Written exposure sessions themes: patient centric, cognitive processing, working conditions, and workplace relationships. 2.) Event triggered counselling sessions CBT: reinforced supportive networks and resilience strategies. 3. Exercise: little reported. Evaluation:1) 2-day workshop too long but content important suggest spread over longer period. 2.) Supportive network important, suggest monthly group booster sessions. 3.) Preferred scheduled session rather than waiting for an incident to occur. Limitations: complex, costly intervention, unclear control results and limited small sample selection criteria based upon CD-RISC scores.

53.	Mealer et al. (2018) USA CC	To gain data on previous pilot resilience intervention to see if the intervention programme would be feasible and acceptable to reduce BO in ICU nurses and if any modifications were necessary. Research questions: **3 4** and **5**	Definition: Charney (2004) Qualitative interpretative design, 11 focus-groups by video conference (45- 60 minutes in length). Manual thematic analysis till saturation reached. Ethical approval gained.	*N*=33 female purposive sample AACN age and years of experience not reported. Recruitment: advertisement in the electronic weekly newsletter, interested nurses asked to contact the researchers.	4 themes: barriers to adherence (time/face-face) incentives for adherence on-line) preferred qualifications of instructors (experienced ICU nurses), and ICU specific issues (workplace stressors specially – lack of debriefing following patient deaths, "sub-optimal care, noise of monitor alarms emotional injuries). Modifications made to programme. No single design recommended suggested institutions need understanding of the barriers and concerns relevant to their local ICU nurses. Potential bias all participants in the same professional association.
54.	Pipe et al. (2012) USA Oncology	To evaluate a pilot study to reduce staff stress and improve team working and communication. Programme Type: resilience and stress management based. Research questions: **3 4** and **5**	Definition: Tugade & Fredrickson (2004). Quantitative descriptive intervention pilot study that built on a previous study. Pre-and post-test design. Conceptual framework: Watson' theory (2009) of human caring. Intervention: 2 workshops 5 weeks apart. 2 measure points baseline and at seven months Measures: PQAR. No specific measure of resilience. Statistics: descriptive and inferential, paired *t*-tests. Baseline questionnaires completed in the classroom and placed in envelopes at the back of the room. Follow up questionnaires sent out by	*N*=44 (29 clinical nurses and 15 nurse leaders). Majority female aged 41-50 years; clinical nurses evenly spread nurse leaders = 52%. Purposive sample: clinical nurses. Recruitment: by emails newsletters and informational presentations, nurse leaders were selected, how they were selected is not stated.	Individual and organisational outcomes indicator of stress decreased in the expected direction in both groups. Individual: benefits related to positive coping strategies and enhanced well-being, particularly in the clinical nurses. Organisational: improved turnover, employee and patient satisfaction, cautious interpretation other initiatives simultaneously in place. Implications- Leaders roles: to empower staff to adopt positive coping mechanisms, provide healthy work environments, teamwork, communication, decision making and patients safety. Organisational: sustaining culture of positive coping and resilience required. Major lesson-improved outcomes when participants took workshops with colleagues which helped to build and sustain intervention, community

			hospital mail and returned to centralised location. Direct quotes from workshops utilised in the discussion. Ethical approval gained.		and culture. Watson' theory linked to contagion of resilience. Monthly refreshers requested but staff must not be coerced.
55.	Potter et al. (2013) USA Cancer Institute	To evaluate a resiliency programme designed to educate nurses about compassion fatigue. Programme Type: resilience and stress management based. Research questions: **3 4** and **5**	Not defined. Quantitative descriptive pilot study. A six month pre-and post-test intervention design. Intervention: an accelerated 5-week recovery programme (Gentry & Baranowsky 1998) 90-minute sessions on CF resiliency. 4 measure points, before, immediately three- and six-months post intervention. Measures: ProQOL IV, MBI IES-R and NJSS. Statistics: mixed model repeated measure analysis used to compare the outcome measures. Ethical approval gained.	*N*=13 nurses from an outpatient infusion centre. Convenience sample, self-selected majority female graduates average age 43.9 (28-61) years in nursing 15.4 (5-29). Recruited through information via the patient care unit in-services and information through their work mail boxes. Follow up questionnaires sent out by hospital mail and returned to centralised location. Direct quotes from workshops utilised in the discussion.	Total scores improved significantly overall and for each of the post intervention time points. Participants evaluated the programme positively related to their ability to apply and benefit from resiliency techniques. Also not being alone and being able share difficulties was particularly helpful. Length could eb a brier so reduced to one day. Earliest reported study to show promising benefits from a CF resiliency intervention programme. Limitations: small sample one unit, evaluation method not reported. Resilience not measured.
56.	Slatyer et al. (2018a) Australia Mixed hospital settings	To trial the effectiveness of MSCR (Craigie 2016) for nurses working in a tertiary hospital compared to nurses in a wait list control condition. Programme Type: Mixed mindfulness and CBT	Definition: APA (2015) Quantitative: experimental pre and post-test intervention design (extension of Craigie's (2016) pilot study). Intervention one day workshop followed up by three weekly mindfulness practice sessions. 3 measurement points: pre, post and 6 months intervention.	*N*=91 (65 intervention 21 control) convenience sample one tertiary hospital, majority female, mean age 47 years. Recruitment: information prior to the programme given but method unclear. Consent to participate in the research and or only the programme completed by researcher not involved in the delivery of the programme. Control group	Compared to the control group the intervention group had significant reductions in BO and depression scores in addition to improved levels of CS, self- compassion, and subjective quality of life. The effects were generally small to moderate in size and were still significant at the 6-month point for most variables. Promising results for a brief intervention but limited to small nonrandomised numbers and one setting.

		Research questions: **3 4** and **5**	Measures: ProQol5, DASS21, CD-RISC10, GSES, SCS-SF, WHO five. Statistics: descriptive and inferential, T tests within generalised linear mixed modelling (GLMM). Ethical approval gained and considerations reported.	able to complete programme following the control period. Flow of participants through study reported.	
57.	Slatyer et al. (2018 b) Australia Mixed hospital settings	To explore nurses' responses to the MSCR (Craigie 2016 above) programme including its perceived feasibility, acceptability and applicability Research questions: **3 4** and **5**	Definition: APA (2015) Qualitative descriptive design, in-depth unstructured interviews (*N* = 5 by telephone) utilising thematic analysis. Ethical approval gained and considerations reported	*N*=16 all-female mainly in senior positions (*N*=11) majority aged 40-59 years (*N*=13). 80% response rate Recruitment: email invitation 4 weeks after the programme.	5 themes: gaining perspective and insight; developing feelings of inner calm; taking time for self-care; feasibility and acceptability of the MSCR program; and using self-care strategies. Fifteen nurses (94%) reported using mindful awareness and self-regulation following the programme suggesting the feasibility of the strategies. Regular refreshers suggested where participants could reconnect and benchmark themselves, would help sustain their resilience practice (Chesak et al. 2015).
58.	Steinberg et al. (2017) USA ICU	Pilot study to evaluate the feasibility of a workplace intervention for increasing resilience to stress. Programme Type: Mixed mindfulness and CBT. Research questions: **3 4** and **5**	Definition: not defined per se Mealer's work referenced. Pilot intervention quantitative RCT. Intervention: group format 1 hour a week for 8 weeks during work hours, on the unit between 2-3pm. Participants asked to perform 20 min. individual daily practices at home (CD). Frequency kept in diaries. 2 measure points, 1 week before and 1 week after intervention. Measures: MBI-HSS	*N*=32 surgical ICU staff (44 bedded unit) 70% nurses. Convenience sample randomly assigned to two groups. Mean age 44 years, mean age on the job 14 years. The number were determined for practical reasons: delivery of the intervention and for personnel coverage. Recruitment: notices flyers and communication at staff meetings. Supervisors were	Significant increases in work satisfaction scores and negative correlations with BO in the intervention group with no change in the control group. No significant results in other measures but in the hypothesised direction. The programme was well received- 97% overall retention rate 100% in the intervention group. Only **7** participants responded to the follow-up survey, 100% considered the programme very important; 86% considered the person conducting the programme to be very important and 71% considered conducting the programme with co-workers very important. The main

			ProQOL UWES and biological stress markers. Statistics: 2 tailed T test and Pearson correlation. Ethical approval gained and considerations reported.	informed of the project at various meetings.	benefits of the intervention reported were recognising their stress response, learning mindfulness, and knowing co-workers in a different way. The diary data suggested that most participants followed the recommended mindfulness practice, and some exceeded them. Some considered that their colleagues and unit also benefited from them completing the programme. Covering staff to attend and be on time for the sessions, was the most challenging element reported. Recommended institutional support critical. Percentages of small numbers misleading.
59.	Tarantino et al. (2013) USA two Medical centres mixed setting	To evaluate a pilot integrative programme – Healing pathways to foster empowerment and resilience. Research questions: **3 4** and **5**	Definition: not defined Mixed methods intervention pre and post-test design Intervention: 8-week programme- six 3-hour training sessions CBT and mediation, Reiki was taught in two separate full days (10 hours). Upon completion, participants received 3 additional hours of mentoring to help incorporation of new skills into their lives and the challenge of transitioning the skills from a wellness centre to stressful work environments. 2 measure points: end of programme and 12 months. Measures: PSS Scale, CSA and 12 item qualitative survey – 3 vignettes developed. Ethical approval and considerations unclear.	*N*=82 self-selected nurses (type not specified appears to be mixed settings) 10% other HC practitioners, 6 cohorts over a three-year period. Recruitment: series of presentations to administration, nursing Grand Rounds and postings on the organisations' websites, staff emails and advertisement flyers posted on nursing units. and presentations were delivered at in-service meetings.	Promising statistically significant results, but potential bias- descriptive evaluation undertaken by programme providers Qualitative findings unclear- vignettes developed from what appears to be three participants. Researchers acknowledged challenges of generalisability and internal validity as the project was initially developed as a pilot programme, and not a research study (e.g. participant self-selection likely to be more interested in the training than typical healthcare staff and were in some cases associates of programme staff).

OTHER ORGANISATIONAL LEVEL STRATEGIES					
60.	Wei (2018) USA, one tertiary hospital mixed settings	To identify nurse leaders' strategies to cultivate nurse resilience. Research questions: **3 4** and **5**	Definition: APA and (Kester & Wei 2018). Qualitative descriptive with a phenomenological overcast. In depth face to face interviews (45-75 min). Analysis: Colaizzi (1978). Ethical approval obtained and considerations reported.	*N*=20 nurse leaders (8 charge nurses 8 nurse managers 4 nurse executives) majority female, purposive sample. Recruitment: emails that included purpose of the study and contact information of first author. On receipt of enquiry email meeting set up with potential participants to explain the study, if the individual agreed to participate informed consent obtained then time/place of interview agreed.	7 strategies identified largely based on positive psychology - facilitating social connections, promoting positivity, capitalising on nurses' strengths, nurturing nurses' growth, encouraging nurses' self-care, fostering mindfulness practice and conveying altruism. Concluded that nurse managers are crucial in building a resilient workforce, need to find ways to recognise nurses needs and help them. That fostering resilience is an ongoing effort. Strategies identified could also improve patient outcomes. Simple strategies that can be easily implemented in any settings. Nurse managers have an obligation to model and enable evidence-based strategies to promote resilience. Not that simple if resource depleted e.g., lack of nurses, time and self-care facilities.
WAVE FOUR **Consistent with social-ecological enquiry (Ungar 2011) that resilience is built by the interaction of individual assets and the assets of the environment and the relationships between those assets.**					
61.	Cope et al. (2015) Australia Mixed hospital settings	To explore why nurses', choose to remain in the workforce and to develop insights into the role of resilience of nurses and identify the key characteristics of resilience displayed by these nurses.	Definition: Ungar (2015) Qualitative interpretative portraiture methodology. The method draws attention to the goodness of the participants and an environment that serves to provide patient care and yet is an environment often overshadowed by the dysfunctions of strained system.	*N*=9 (3 elderly care; 3 academics, 3 nurse managers acute care setting. More than five years' experience Recruitment: unclear.	Hallmarks of resilience painted Key themes- 1. Social support to bear mantle of responsibility (leadership). 2. Pride in work 3. Altruism. 4. Humour 5. Love of nursing 6. Needs of patients foremost. Combination of assets of environments and nurses together despite disarray of healthcare environments.

		All research questions.	Ethical approval obtained and considerations reported.		
62.	Foster *et al* (2018a) Australia MH	To evaluate the feasibility of the Promoting Adult Resilience Programme (PAR) a workplace resilience programme for nurses in high acuity adult MH settings. Research questions: 3 4 5 **6** and **7**	Definition: Jackson et al. (2007) Quantitative pre/post-test intervention design. Intervention: 2 days face to face workshops for 3 weeks by two trained facilitators in a peer group setting adapted from 7 weekly modules (Shochet 2011). Measures: DASS-21, SLS SPWB, SWLS, CSA, SWW, WRI and programme fidelity checklist and participant satisfaction survey. 3 measure points: pre, immediately post and 3 months. Statistics: inferential and descriptive. Ethical approval obtained and some considerations reported.	*N*=24 purposive sampling of MH nurses in high acuity settings in one service. Majority female had specialist MH qualification. worked full time and had 10 years or more experience. 60% aged 40 years or over. Recruitment strategy unclear.	High fidelity of the programme and participant satisfaction reported. Significant improvement in coping self-efficacy and decreasing anxiety and stress symptoms and clinically significant improvement in cognitive subscales of WRI reported, suggesting that MH nurses improved their control of negative and ineffective thoughts and behaviours. Researchers stress that the success of programme depends upon organisational resources and support. Novel to this study was the inclusion of the WRI a process-based measure of workplace resilience that measures individual and environmental factors. Limited small number of experienced nurses from one service. Findings may not be transferable to other settings. Percentages of small numbers misleading. Also, at the 3-month measuring point there was attrition of 8 participants.
63.	Foster et al. (2018b) Australia MH	To explore perspectives of MH nurses in a MH service-initiated resilience programme (PAR) (above) Research questions: 3 4 5 **6** and **7**	Definition: Jackson et al. (2007) and Ungar (2008). Qualitative, inductive exploratory design. Open ended participant survey data (*N* = 24) and 1 focus group (*N* = 3) and 4 telephone interviews. Prior and after the 2nd and 3 months follow up. Focus group (*N* = 5).	*N*=29 MH nurses 21 female 8 male, 16 RMN and 13 in senior roles. 2 groups participants who had completed the programme (*N* = 24) and facilitators (*N* = 5). Recruitment strategy unclear.	4 themes: 1.) Being confronted by adversity (emotionally charged situations including occupational violence) 2.) reinforcing understandings of resilience (coping with stressful situations, managing emotions and moving on) 3.) strengthening resilience (reaffirming their skills putting names to their practice, personal growth and need for self-care). 4.) Applying resilience skills at work. (positive self-talk, managing negative self-talk, detaching from stressful situations,

			Ethical approval obtained and some considerations reported.		managing emotions and showing more empathy to address workplaces challenges. Respondents recommended peer support during and after the programme, sustaining and building resilience through incorporation of resilience strategies into clinical supervision/reflective practice models. Recognised only one strategy to promote structural in addition to individual change to reduce workplace adversity and its effects. Limitations experienced clinicians from one service. Findings may not be transferable to other settings.
64.	Lee et al. 2015 USA paediatric ICUs	To describe the availability, usage and helpfulness of resilience promoting resources and identify an intervention to implement across multiple paediatric ICUs Research questions: 3 4 5 6 and 7	Definition: Jackson et al. (2007) Two phase mixed methods descriptive study collecting data on availability utilisation and impact of resilience resources from leadership teams (Phase 1) individual staff members in paediatric ICU's, along with resilience scores and teamwork climates scores (Phase 2). Measures: Specific Leadership survey for the study, RS-14 and SAQ Ethical approval obtained and considerations reported.	Phase 1: *N*=25 surveys, completed, 30% response rate. Phase 2: *N*=1066 staff, (*N*=893 nurses), mean years of experience 5 years (2.5 - 12). 51% response rate. 20 units from 19 institutions that participated in phase 1 participated in phase 2. Recruitment: Phase 1- surveys emailed to nurse managers at member institutions of the Children's Hospital Association. Phase 2 – voluntary anonymous surveys (and 2 reminders) emailed to potential participants by a designated site co-ordinator.	Quantitative: the two most used and impactful resources were one-one discussions with colleagues in and out of work. Other resources (e.g., breaks from stressful patients) were highly impactful but underused. Utilisation and impact of resources differed significantly between professions, those with higher and lower resilience and between individual units with low versus high teamwork climate. Qualitative:3 domains: 1. Institution based leadership- consistent provision of support and services. 2. Unit based leadership- respectful staffing, organised discussions also emotional and intellectual closure opportunities. 3. Peer individual-self-care, communication, teamwork one -one discussions and social opportunities. Unmet needs went beyond leadership themes, related to chromic stress, barriers to unmet needs included lack of problem recognition, time and finances. Conclusions:

					organisations could enable peer discussions and social interactions to promote resilience. Highly impactful resources with low utilisation could be targeted. Varied interventions necessary to reach all individuals. If the unit climate/culture context not aligned to interventions usage and impact will be affected. One size does not fit all local context is important. Limitations: participating institutions members of one hospital association.
65.	McDonald et al. (2015) Mixed settings	To investigate personal resilience of 16 nurses and midwives prior to a work-based intervention including workshops and mentoring. Who perceived themselves as resilient. Research questions: 3 4 5 **6 and 7**	Definition: Jackson et al. (2007) and Ungar (2011). Case study prior to an intervention, in depth interviews, thematic analysis. Ethical approval obtained and considerations reported.	*N*=16 nurses and midwives Recruitment: flyers and posters in the case study setting.	Negative effects of nursing recognised. Three major resilience influences: 1) support networks: colleagues (talk download and "insider" knowledge of the work and organisation) and external support 2) Personal characteristics contributed to competence and wellness (self-care [outside of work] and motivation) 3) Ability to organise work for personal resilience and intrinsic rewards. Climate of little formal acknowledgement. Initiatives for colleagues to reflect/share strategies to build cohesive professional identity of resilience and culture. Peer mentoring and tailored work options to increase autonomy for newly registered. UG experiences also related to resilience and burnout.
66	Marie et al. (2016) Palestinian war-torn West Bank	To observe and describe the environment and sources of resilience for CMHNs.	Definition: Ungar (2008) Methods: Qualitative interpretative design. 32 hours of observations of day to day working environment and workplace routines. Analysis of multiple policy documents and	*N*=15 7 male 8 female (total population of CMHN West bank *N*=17) purposive sampling from 12 Observations: 2 community settings (1 non & 1 governmental). Recruitment:	Four themes: 1) Samud Islamic culture 2) Supportive relationships 3) Making use of available resources 4) Personal capacity What commonly transpired was the lack of workplace resources leading to depletion of nurses personal coping reserves and risks of

67	CMH settings. (2017)	Research questions: 3 4 5 **6 and 7** To observe and describe the environment and challenges to resilience for CMHNs. Research questions: 2, 6 and 7	15 face to face in depth interviews. Ethical approval obtained and considerations reported. See above	unclear, but participants had an opportunity to discuss the study. See above	burnout, indiscriminate of nurses' experience. Distressing candid accounts. Four themes: 1) Context of turmoil and unrest- lack of safety, freedom, support, and inconsistency of care services delivery 2) Stigma toward mental illness 3) Lack of resources- funding, managing psychiatric symptoms 4) Organisational challenges- gaps between theory and practice and interprofessional challenges.

Appendix 2, Table 10: Abbreviations and measuring tools within the included research studies

ACCN - American Association of Critical-Care Nurses.
ACORN - Australian College of Operating Room (OR) Nurses
ADH - Adult Dispositional Hope Scale
ATS - Anticipated Turnover Scale
BO - burnout
CAGE - alcohol questionnaire
CANS - Cohesion Among Nurses scales
CD-RISC - Connor Davison Resilience Scale
CF- Compassion Fatigue
CFS - Change Fatigue Scale
CMSS- Collaboration with Medical Staff
CBI - Copenhagen Burnout Inventory
CNO - Chief Nursing Officer
COPE- COPE inventories
CSA- Coping Scale for Adults
DASS- Depression Anxiety Stress Scale
EA - Emotional Annoyance Scale
ECIRI - Empathic Concern Interpersonal Reactivity Index
ENNS - Expanded Nursing Stress Scale
GAD-7- Generalised Anxiety Disorder Scale
GHQ-12 - General Health questionnaire
GSES - General Self-Efficacy scale
HADS - Hospital Anxiety and Depression Scale
IERS - Impact of Events Scale
LS - Life satisfaction,
MAAS - Mindful Attention Awareness Scale
MBS - Mind-body skills
MBSR - Mindfulness based stress reduction
MBST- Mind-body skills training
MPSS - Mental Preparation Strategies Scale
MBI-HSS - Maslach BO inventory Human Services survey
MJSS - Minnesota Job Satisfaction Scale
MSCR - Mindful Self-care and Resiliency

MSPSS - Multidimensional Scale of Perceived Social Support
MSS - Managing Stressful Situations scale
NAQ - Negative Acts Questionnaire revised
NR - newly registered
NWI-R - Practice Environment Scale Nursing Work index
NJSC - Nursing Job Satisfaction Scale
OV - Occupational Violence
PWS - Passion for Work Scale
PCS - Perceived Competence Scale
POQA-R Personal and Organisational Quality Assessment Revised
PD - Psychological Distress,
PES - NWI-Practice Environment Scale for the Nursing Working index
ProQol - Professional quality of life scale
PSS - Perceived Stress Scale
PTG - post traumatic growth
RS - Resilience Scale
RAW - Resilience at Work Scale
SAQ - Safety Attitudes Questionnaire
SCS-SF- Self-compassion short scale
SWLS - Satisfaction with Life Scale
SOC - Sense of coherence orientation to life questionnaire
SPWB- Ryffs Scale of Psychological Well-being
SSSP - Short Screening Scale for DSM-IV PTSD
STAI-Y2 - Spielberger State-Trait Anxiety Inventory form
STS - Secondary traumatic stress
SWW - Satisfaction with work
TCSQ - Trait Coping Style Questionnaire
UWES - Utrecht Work Engagement Scale
WHO five - WHO Well-being Index
WRI - Workplace Resilience inventory

Appendix 2, Table 11: Outline of Literature reviews included

Literature Reviews				
	Author, date & country	Aim	Type	Conclusions
Waves one and two				
1	Jackson et al. (2007) Australia	Explore personal resilience as a strategy to responding to workplace adversity and to identify strategies to enhance resilience.	Review 50 articles	Various personal resilience strategies to survive external pressure identified (relationships, positivity, emotional insight, life balance, spirituality becoming more reflective) recommended resilience building in UG programmes and mentorship outsides nurses' immediate workplaces.
2	Zander et al. (2010) Australia	Investigate what is known about cooping and its relationship to resilience in paediatric oncology nurses.	Review 30 articles	Myriad of strategies identified but as to the relationship between coping and resilience little known, recommended more research, and building resilience into UG programmes.
3	McCann et al. (2013) New Zealand	Determine both individual and contextual qualities associated with resilience in 5 health professions	Review 61 articles	Some factors were found to relate to more than one profession, but apart from gender, work-life balance was the only factor to consistently relate across all professions. Noted inconsistencies between studies, ambiguity of the concept, similarities and differences between professions. Relationship between resilience and professional culture questioned.
4	Gillman et al. (2015) Australia	Identify personal and organisational strategies that promote coping and resilience in oncology &	Systematic review 24 studies	Strategies identified included fostering team connections, training in stress management training, aiding recovery, processing of emotions and learning from experience. Personal responsibility recognised in addition to organisational support.

		palliative care nurses		
5	Delgado et al. (2017) Australia	Investigate the state of knowledge on resilience in the context of emotional labour in nursing.	Integrative review 27 studies	Emotional labour core to nurses' work, limited understanding related to resilience promoting interventions to especially address emotional labour.
Wave three				
6	McAllister & McKinnon (2009) New Zealand	Discusses resilience and the application of resilience research to education.	Not stated.	In addition to recommending that resilience should be part of UG programmes they recommended that organisations could do more to enable team reflection and role modelling.
9	Hart et al. (2014) USA	Describe nursing research that has been conducted to understand the phenomenon of resilience in nurses.	Integrative 7 studies	Framed findings to build resilience at individual group and organisational level emphasis upon positive work environments and organisational/management responsibilities.
8	Joyce et al. (2018) Australia	Synthesise the available evidence on interventions to improve individual resilience.	Systematic review & meta-analysis. 17 studies	Combination of CBT and mindfulness techniques could have a positive effect on resilience. More robust research required including not merely self-reporting of the impact of the intervention.
7	Cleary et al. (2018) Australia	Assess the effectiveness of resilience interventions in improving resilience outcomes among	Systematic review 33 studies	Brief varied interventions and evaluations. Continuous sustained effort to support ongoing practice recommended to improve resilience among health professionals. More robust research with larger samples required.

		health professionals.		
Wave four				
10	Foster et al. (2019) Australia	Examined understandings and perspectives on resilience and explored and synthesised the state of knowledge on resilience in MH nursing.	Integrative review 12 studies	Resilience can be strengthened through a range of strategies. Consistently the review identified it was the responsibility of employers and organisations to provide strategies to sustain MHN resilience. Recommendations to strengthen MHN resilience synthesised according to the social-ecological approach.

Appendix 2, Table 12: Outline of literature returned from June 2019-July 2020

Author date, country	Focus	Method	Enquiry Wave	Sample	Key research outcomes
Cao and Chen China (2019)	Describe levels of work engagement and analysis of the reciprocal relationships between social support, empathy resilience and work engagement.	Quantitative cross-sectional survey	One	Haemodialysis nurses (*N*=345)	Resilience was found to be the strongest positive indicator of work engagement, followed by support from, others and perspective taking.
Delgado et al. (2019) Australia	Describe levels of workplace resilience and emotional labour, to explore relationship between emotional labour and resilience, identify those aspects of emotional labour that were most strongly associated with resilience.	Quantitative cross-sectional survey	Four	MHN (*N*=4)	Strong negative relationship between resilience and surface acting and positive association between resilience frequency of emotional labour and clinical supervision found.
Foster et al. (2019) Australia	Describe MH nurses most challenging workplace stressors and their psychological well-being, workplace resilience, and level of caring behaviours, explore relationships between these factors and describe differences in workplace resilience for sociodemographic characteristics.	Quantitative descriptive correlational study survey	Two	MHN various roles *(N*=498)	Found positive relationships between well-being and resilience, with lower resilience in younger less experienced nurses. Consumer/carer related stressors found most stressful challenge. Resilience building in UG programmes recommended.
Tahghigi et al. (2019) Australia	Impact of shift work on nurse resilience.	Quantitative cross-sectional survey	Two	Mixed sample (*N*=1369)	Shift work not associated with less resilience.
Henshall et al. (2020) UK	Implement and evaluate a work-based resilience intervention. Based upon earlier programme	Mixed methods case	Three	Forensic MH one	Self-reported levels of resilience were significantly higher than pre programme and marked improvement on self-confidence,

	(McDonald et al. 2013) but re-named "*Taking care of yourself to take care of others*" due to sometimes negative implications of the term resilience.	study, survey and interviews.		UK Trust *N*=31 (*N*= 29 nurse mentees *N*= 22 nurse mentors).	awareness and professional relationships. Suggest benefits of nurturing relationships to consolidate resilience levels.
Davey et al. (2020) UK	Evaluate a mentoring programme embedded within a work-based resilience intervention. As above.	Qualitative data. Framework analysis.	Three	As above	Benefits of mentorship endorsed themes identified: maintenance, time, rapport commitment and impact of relationships.
Walpita and Arambepola (2020) Sri Lanka (2020)	Find out how resilience level is related to work performance.	Quantitative cross-sectional survey.	Two	Nurses from varied hospital settings (*N*= 213).	Found resilience at work is associate with better work performance in self reports.
Son and Ham (2020) Korea	Examine whether individual and organisational factors of ecological systems theory are associated with job satisfaction.		Two, three and four	Nurses in tertiary settings (*N*= 438)	Links between individual factors (job satisfaction work-life balance marital status) to resilience. The group mean resilience score was significantly associated with job satisfaction (p <.0.5). Group and individual interventions recommended.
Literature reviews					
Yu et al. (2019) New Zealand	Identify the associated personal and work-related factors of nurse resilience.	Systematic Quantitative	Two and three	*N*=38 articles	Findings correspond with previous evidence, resilience can help nurses buffer stress, self-efficacy, coping skills and social support essential job resources to increase inner energy to buffer stressors. Interventions could develop these factors. Demographics inclusive but supportive work environments for less experienced nurses could enhance resilience. Consistent tool to measure resilience required.

Badu et al. (2019) Australia	To identify and synthesise evidence on workplace stress and resilience in the Australian work force.	Integrative qualitative and quantitative	Three / Four	*N*= 41 studies	Confirmed nurses experience moderate to high levels of stress and adopt various strategies to cope. Focus has been upon individual attributes and organisational resources for resilience, recommended research attention upon educational interventions.
Stacey and Cook (2019) UK	Explore how conceptualisations of resilience influence educational interventions designed to increase resilience in nurses and nursing students	Scoping review	Four	*N*=16 studies	Found interventions generally focused upon individual level recommended interventions should be developed as part of a community, shared critical dialogue, supportive relationships and enable reflective discussion.

Appendix 3: Broader influencing healthcare and workforce factors

Broader Influencing Healthcare and Workforce Factors (Edmonstone 2013; WF 2010)	
GLOBAL HEALTH	
Advances in health science of advanced market economies	Increased life expectancy, chronic diseases, co-morbidities self-generated disease (e.g., obesity, diabetes, smoking and addictions) increased incidence of mental ill-health and the shift in demand for elderly care from the cure medical model and increased demand for nursing (e.g., increased incidence of dementia). Complexity of care and subsequent cost tensions.
POPULATION	
Ageing population	Wales- it is estimated that by 2026 (WG, 2012) 6 out of 10 people will have at least one chronic condition, most two. By 2037, the population is projected to increase by 8 per cent to 3.32 million; 65 years and over to increase by 50%.
Wales: geographical specific challenges	High levels of deprivation (Welsh index of Multiple Deprivation) in South Wales Valleys, North Wales coast; also, pockets within Cardiff and Swansea.
EMPLOYMENT	
Increased intensification of work	Partly due to technology, communication of data is faster. Significantly, technology has enabled work to be completed beyond the confinements of typical '9 to 5 work, while not officially "on the job" contributing to the complexity of the pace of life inside and out of work. Secondary to this, there is a greater sense of surveillance; autonomy can seem undermined. The “job for life” gone bringing job insecurity and career prospects yet expectation that employees are flexible, cope with change, and embrace ambiguity, within employment rhetoric.
Work life balance tensions	UK has the dubious claim of the longest working hours compared to most EU counterparts. Yet average working hours are shorter because many work part-time because full time jobs are unavailable. Increase in single parents/dual earner couples and workers with caring responsibilities yet reduced family network.
Global recession	Changed personal career prospects, the job for life has gone more job insecurity yet global job market exists. Feelings of insecurity are norm employees are encouraged to embrace ambiguity/ employment rhetoric.
UK longest working hours in Europe	Yet average working hours are shorter because many individuals work part-time who want full time jobs but they are not available.
Ageing population - shrinking younger workforce	Multigenerational workforce:(4 generations) own unique but different set of generational values

The Millennials/Generation Y [61] are becoming the largest workforce generation.	Millennials known orientation to WLB and "job hopping" could add further workforce retention risks when nurses stress is known to be linked to work-life imbalance. "
Snowflake generation"[62]	Questioned whether this generation has less resilience than previous, broadly attributed to more parental support received. However, their positive traits, particularly valued in nursing, (e.g., flexibility, confidence, and social justice) reflect resilience protective factors, which appear contradictory. Population generalisations must be interpreted with caution. Conversely, the millennials could be the generation to enable workforce reforms driven by their positive traits, collaborative social justice standpoints.
Expansion of career choices for women, including careers, which were previously exclusively male domains	Until fairly recently nursing was one of the few professions easily accessible to women. Despite increasing graduate status nursing is classified as a "lower professional and technical occupation" (Office of national statistics 2001), similar to primary school teachers.
Technology	Multiple ways of communicating- e.g., emails sometimes can cause unnecessary distraction. Less in person communication less opportunity for socialising and informal support.
ECONOMIC and POLITICAL	
Global recession and Neo-liberalism principles	Drive to increase quality and efficiency for less with less public spending, increased emphasis on individual responsibility, principles of consumerism and necessity to "work" exist. resulting in people working longer and harder with less security.
SOCIAL and CULTURAL	
Growth of consumerism-expectations	Changing attitude of the public towards Public Sector organisations a more informed public, with higher expectations, greater transparency reflected in greater scrutiny, nurses can be confronted with daily.
Western society more fragmented and break down of the community	Work increasingly seen as a community and where connections are made with others. Yet isolation and pressure to conform in work, can be compounded by little scope and time for support.

[61] Millennials/ Generation Y: The generation born 1980 to 1996, described various ways, positively: educated, adventurous, ambitious, confident, conscious, collaborative, idealistic, tech-savvy multi taskers. Negatively: "Me generation" self-absorbed, lazy, dependent and inclined to "job hop". Contradictions maybe due to rise in neo-liberalism and known work intensity. Common workforce traits: tech- experts/communicators family/friends- centric (flexible work life balance orientated), achievement driven, feedback seeking, and team orientated, (https://www.pewresearch.org/).

[62] Snowflake generation: One of Collins Dictionary's 2016 words of the year. A derogatory slang term for young adults of the 2010s, broadly viewed as being less resilient and more prone to taking offence than previous generations, (https://www.collinsdictionary.com/dictionary/english/snowflake-generation).

Emphasis on diversity and equality and justice in society yet	Changing attitudes towards ethically sensitive topics such as abortion, HIV, and obesity. More complex social/cultural needs of the public and subsequent patient care.
Increased substance abuse and violence in society	More complex patient care needs, and potentially challenging vulnerable situation faced by staff.
Contemporary lives outside and within work are known to be more complex and stressful.	Increased incidence in the workplace of common mental ill health problems such as stress, depression and anxiety.

Appendix 4: Stress and associated concepts linked to resilience outlined.

Stress is the feeling of being overwhelmed or unable to cope with mental or emotional pressure (MHF 2015). Work related stress arises from work demands that exceed the person's capacity and capability to cope (HSE 2015). Some stress that is perceived as challenging not overwhelming can indeed contribute to positive growth. However too much can cause negative effects which long term can affect physical and mental ill-health. The stress response involves complex interrelated nervous system mechanisms that account for the effects of stress (see below), it is not an illness, but it effects most areas of health (Grant and Kinman 2014). The dynamic interactive perspective-reactions to stress are not isolated events, but the outcome of what has gone before (HSE 2015).

Appendix 4, Table 1: The stress response and stress mechanisms

The Stress Response		
Acute Response		**Chronic Response**
Release of hormones (adrenaline and nor-adrenaline) that initiate a rapid cascade of "fight and "flight" reactions including increased heart rate, blood pressure, respiration, sweating as well as suppression of digestion and muscle tension.		When the threat reduces, the response should return to normal however when the stress becomes chronic profound effects can spiral.
Physical	Nervous: headaches, concentration, memory problems, sleep disturbances, mental ill health (e.g., anxiety, depression, panic attacks). Cardiac: increased heart rate, blood pressure, increased risk of coronary artery disease and hypertension. Digestive/Endocrine: gastric problems (e.g., nausea, heartburn stomach-ache, and diarrhoea, constipation, and weight gain/loss appetite changes), increased risk of diabetes and obesity. Reproduction: reduced libido, for women irregular painful periods, for men, impotence, and low sperm count. Other: muscular disorders, skin problems (e.g., acne and impaired immunity).	
Psychological	Feelings of despair, lack of control, apprehension, fear, sadness, frustration, discontentment, disengagement, increased self-medication (e.g., alcohol/smoking), reduced motivation for healthy behaviours such as exercise and heathy eating.	
Social/relational	Interpersonal conflict and social withdrawal (to preserve resources) impaired relationships in and out of work.	
Adapted from various website resources (e.g., NHS Employers; RCN) and Grant and Kinman (2014)		

Stress Mechanisms			
	Author	**Theory**	**Description**
1	Karesk and Theorell (1990: pg. 31)	Demands support control [DCS]	Jobs that are highly demanding will not inevitably damage well-being provided control (decision, authority and skill discretion) and social[63] support exist.
2	Siegrest (1996: pg. 29)	Effort reward imbalance [ERI]	An interactional model that proposes that efforts expounded should be matched by rewards.
3	Lazuraus and Folkman (1984: pg. 141)	Transactional theory of stress and coping	Characterises stress as a changing process between a person and their environment.
4	Fletcher and Sarkar (2013: pg. 14)	Coping	Coping is what we do to make a bad situation better or to make us feel better, that serves a dual role, first a process following on from appraisal of the stressor and secondly individual differences.

Appendix 4, Table 2: Associated concepts to resilience outlined

	Author	**Theory/Concept**	**Description**
1	Clouston (2015; pg. 2)	Rust-out	A state characterised by demotivation and sense of routinisation, most importantly a loss of creativity and meaningful engagement, personal stimulation and interest in work.
2	Figley (1995: pg. 7)	Burnout	The psychological strain of working with difficult populations and is a progressive state of fatigue and/or apathy. Stages of burnout: lack of enthusiasm, stagnation, frustration, and apathy.
3	Figley (1995: pg.1) La Roew (2005: pg. 21)	Compassion Fatigue	A debilitating weariness that is brought about by repetitive, empathic responses to pain and suffering of others. Cost of caring, vicarious or secondary traumatisation “Heavy heart”

[63] Social support in work refers to perceived quality of relationships with colleagues.

Commonalties of compassion fatigue and burnout: emotional exhaustion, reduced sense of personal accomplishment or meaning in work, mental exhaustion, decreased interactions with others (isolation), depersonalization (symptoms disconnected from real causes), physical exhaustion. Both syndromes can relate to other psychological disorders. **Differences between compassion fatigue and burnout:** the distress and symptoms of both can co-exist, compassion fatigue has a more rapid onset while burnout emerges over time, it has a faster recovery if identified and managed early (McCann and Pearlman 1990; Figley 1995).			
4	Mealer et al. (2012)	Post-traumatic stress Disorder PTSD	An anxiety disorder caused by stressful, frightening, or distressing events. Symptoms: Individuals relive the experience through nightmares, flashbacks, may experience feelings of isolation, irritability and guilt, problems sleeping and concentrating. These symptoms can be severe and impact on day-to-day life.
	Oxford Dictionary online Jackson (2007; pg. 3)	Adversity Nurses' workplace adversity	A state or instance of serious or continued difficulty or misfortune". Any negative stressful, traumatic or difficult situation or episode of hardship that is encountered in the occupational setting"
5	Dewe and Kompier, (2008; pg.7)	Well-being	A positive dynamic fluid sense of self where the individual feels able to develop their potential at home and work, achieve a strong sense of purpose in society, strong relationships and contribute to their community"
6	Warr (1999; pg.393)	Well-being in work	An individual's subjective experience and functioning at work, incorporating elements such as job satisfaction, motivation, individual and workplace demands and resources.
7	Oxford Dictionary online (2015) Kobasa et al., (1982; pg.169)	Hardiness	The ability to endure difficult conditions- a hardy plant. A constellation of personality characteristics that function as a resistance resource in the encounter with stressful life events, involving three characteristics- commitment, control and challenge. Commitment refers to a sense of purpose in life; control a sense of autonomy and challenge refers to an appetite for life, which encourages individuals to view change as positive".
8	Antonovsky (1996; pg.10)	Sense of coherence	An integrated perception of one's life as being manageable, comprehensible and meaningful. Manageability concerns the extent to which individuals believe themselves to have the internal and external resources, available to meet demands placed upon them. Comprehensibility refers to a cognitive component, where an individual interprets their life as rational, understandable structured ordered and predictable. Meaningfulness refers to

			a motivational element whereby demands are appraised as challenges worth investment and engagement, a stress resistance resource.
9	Calhoun and Tedeschi (2014; pg.17)	Post Traumatic Growth (PTG)	A subjective experience of positive psychological change, a higher level of functioning reported by an individual as a consequence of struggling with stressful events, trauma or highly challenging life situations" Enhanced self-esteem, greater perspective on life, meaningful personal relationships, adoption of new coping skills and a richer spiritual life are attributed to the "life changing" psychological shifts.
10	Bonanno, (2004: pg. 20)	Recovery	A disruption from normal functioning which can take at least a month or so to return to normal functioning, which differs to resilience which suggests maintenance of stability and equilibrium.
11	Fredrickson et al. (2005 pg.678)	Flourishing	A descriptor of positive mental health, flourishing is living within an optimal range of human functioning, one that connotes goodness, generativity, growth, and resilience
12	Baumeister et al. (2007 pg.351)	Self-control	The capacity for altering one's own response, especially to bring them in line with standards such as ideals, values, morals, and social expectations and to support the pursuit of long-term goals. …….to restrain or override a response, thereby making a different response possible. Associated with willpower, which implies a kind of strength or energy…..the exertion of self- control appears to depend on limited resources short term depletion can occur, like a muscle getting tired. Blood glucose is an important component.
13	Stajkovic and Luthans (1998)	Self-efficacy in the workplace	A personal judgment of how well one can execute course of action required to deal with prospective situations that will determine an individual's initiation of coping behaviour, (Bandura 1982:122). How much task related effort will be expanded, and how long that effort will be sustained despite disconfirming evidence (Bandura 1982). High self-efficacy results in activating sufficient effort that if well executed, produces successful outcomes whereas those who perceive low efficacy are likely to cease their efforts prematurely and fail on the task (Bandura and Walters 1986). Considered a temporary state rather than fixed personal trait.

Appendix 5: Recruitment, Communication and data collection strategy

Survey- Recruitment and data collection strategy
Information regarding the study and direct link to the questionnaire will be three pronged via both University and RCN websites as well as professional networks.
Email invitation will be via RCN Wales membership services, the School and other Healthcare Science Schools' Alumni offices across Wales;
Participants will receive an email from RCN Wales, then after about 4 weeks non responders will receive a reminder. Then snowballing.

Communication strategy		
	Strategy/ actions	Population/ rationale
Pilot Questionnaire		
	Invite participation from post registration students: • Monthly mentor training (at least 20 individuals). • Health Visiting (HV) (about 25) • Director of PG, HV Programme manager and Mentorship module leaders agreed in principle. • Practical arrangements secured and • Introductory communication with pilot groups.	• Mentorship training – range of qualified nurses, from both sectors and fields across S.E. Wales- experienced, engaged, good "fit with the module learning outcomes. • Health Visiting (HV) students- engaged registered nurses that will not be eligible to participate in the study but will have recent nursing care experience
Questionnaire		
1	<u>University</u> • Inform HCARE current final module UG and post-registration students e.g., via LC • Participation invite: e.g., enrolment/ evaluation of modules, supported by face-to-face communication professional networks/ Learning Central/ flyers on noticeboards/reception areas along with paper copies of questionnaire.	All current part- and full-time post-registration and Alumni students working within Wales from the 4 Healthcare Science Schools potentially with a degree of roots in Wales. Potential snowballing may occur.
2.	<u>Clinical</u> • Apply to NHS R&D departments across Wales to approve the questionnaire. • Dependent upon approval communicate through organisation's preferred approach such as face to face, notice boards and organisational intranets. • Inform nurse directors to new graduates, link lecturer practice facilitators, R&D offices as well as e.g. flyers in clinical areas	Potential interest and investment in the future of nursing in Wales. Potential snowballing may occur.

	• Electronic University and School details about the study and alumni profile of myself were disseminated in December to all HCARE alumni nursing graduates/ diplomats. Follow up email with link to be sent to all alumni. • Existing professional collaborative networks eg CC/ patient safety • Healthcare Science Schools across Wales- secure access processes to their Alumni. Inform Heads of School, staff and students via professional networks e.g. Cyngor, All Wales Pre Registration group.	
3.	<u>RCN Wales</u> • Via RCN Direct Membership Lead - sophistication of processes determined direct email to members agreed within RCN parameters • Branches- communication via dedicated Ty Maeth staff • Professional Forums- communication via dedicated Ty Maeth staff e.g., Occupational health forum • Face to face events to include: • Learning Representatives/Activists conferences and Ty Maeth 50th/Nurse of the year celebrations. • RCN Bulletin- profile picture to include invite to participate/link to questionnaire. • Produce hard copy postcards/flyers with details/link to questionnaire; make available in the reception of Ty Maeth • Communicate through RCN/CU social media e.g., Twitter Independent sector- University networks to supplement RCN networks	All RCN Wales members, in both sectors, It is anticipated because they potentially have a degree of loyalty to the RCN and investment in the future of nursing in Wales, potential snowballing will occur through social networks and forums.
4	<u>Independent sector</u> • Meeting held with HCARE lead for independent sector pre-registration placements (*N*=31), • Partnership Board representative (Director of large independent sector organisation) meeting held. • Independent sector representatives and appropriate link lecturers	Independent sector nurses pan Wales- to ensure broad comprehensive sample

Appendix 6: Questionnaire

School of Healthcare Sciences

Exploring Resilience of Nurses in Wales: - PhD Research Study

What helps you cope with the emotional demands of your work?
I'm interested in how you cope, the idea of resilience, and how this can be applied more widely to influence the health and well-being of nurses and so in turn, their patients. I am a registered nurse and lecturer undertaking a PhD funded by RCN Wales and The School of Healthcare Sciences Cardiff University.
You've been invited to take part in this Wales wide study because you are a registered nurse working in Wales providing or contributing to patient care as part of a multi-disciplinary team. Nurses working in non-clinically related roles and Higher Education (e.g. lecturer/researchers) as well as midwives and health visitors are excluded from this particular study.
This anonymous questionnaire will take no more than 15 minutes to complete. As the questions are intended to encourage you to self-reflect you may choose to use this learning activity as counting towards your NMC revalidation evidence.
Your contribution to the study is really valued and I hope it will benefit you, other nurses and the delivery of patient care in Wales.

The questionnaire closes on November 13th 2016

A Welsh language version of this questionnaire can be provided on request.

To complete the questionnaire please go to the next section over the page: - "Advice on completing the questionnaire".

Or you may choose to complete the questionnaire online, see the OR code below.

If you choose not to complete the questionnaire, thank you for your time and consideration.

A summary of the study will be available via RCN Wales and Cardiff University.

If you have any queries or wish to discuss the study further please contact me directly either ring: - ..... or email .....

Kind regards,

Judith Benbow

Advice on completing the questionnaire

Thank you for agreeing to take part in this study exploring resilience of nurses in Wales. Generally, we think of a resilient person as being able to “pick themselves up and dust themselves down” from life’s adversities and become stronger emotionally by the experiences. There are three sections to the questionnaire: -

1. You are asked questions related to resilience (the core section);
2. You are asked details about yourself and
3. You are asked optional questions related to equality and diversity.

You will not be asked any identifiable demographic information, but you will be asked what type of nursing you do and whether you work in an urban or rural area.

Answer the questions as naturally and as honestly as you can. There are no right or wrong answers. This is not a test.

The questionnaire is intended to encourage you to self-reflect, so please take your time to consider all statements and your answers before moving on.

In this envelope you have these 2 introductory pages, the questionnaire (**4** stapled sheets of paper; printed back to back) and your confirmation of participation document.

Questions marked with * must be completed before moving on through the questionnaire.**
Some questions may seem similar but there are subtle differences between them, so it is important that you answer all the questions. If you are unsure, mark the option that best reflects your view.

Instructions and or progress messages are in BLOCK CAPITALS.

Please mark (tick or X) in the boxes provided.

If you change your mind cross out your response and add your new response.

There are a number of questions that have Likert scales, see the example in the box below. The main one is an agreement scale.

Example of an Agreement scale	
Select "Strongly Disagree"	If the statement is definitely false or if you strongly disagree.
Select "Disagree"	If the statement is mostly false or if you disagree.
Select "Undecided"	If the statement is about equally true or false, if you cannot decide, or if you are neutral on a statement.
Select "Agree"	If the statement is mostly true or if you agree.
Select "Strongly Agree"	If the statement is definitely true or if you strongly agree

Once you have completed the questionnaire place it in the envelope provided, seal he envelope and return but keep the confirmation of participation document, for future evidence e.g. for NMC revalidation.

When you are ready you can start completing the questionnaire.

SECTION 1

QUESTION 1

Think of a colleague that you would describe as resilient. From the list below indicate to what extent you agree with the following statements. Your colleague seems to…….. ***

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Find it hard to bounce back after challenging times in work	☐	☐	☐	☐	☐
Copes with stressful events in work	☐	☐	☐	☐	☐
Bounce back quickly after challenging times in work	☐	☐	☐	☐	☐
Struggle to make it through stressful events in work	☐	☐	☐	☐	☐

Are there any other ways you would describe your colleague not listed?

QUESTION 2

Resilience can vary. Thinking of your previous answer, consider now a colleague who you think has LEAST resilience. From the list below indicate to what extent you agree with the following statements. Your colleague …… ***

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Finds being flexible in work challenging	☐	☐	☐	☐	☐
Struggles with motivation (e.g. focus, perseverance, enthusiasm)	☐	☐	☐	☐	☐
Appreciates the fun side of work (e.g. smiles easily, is optimistic, doesn't dwell on things)	☐	☐	☐	☐	☐
Finds it hard to have their voice heard	☐	☐	☐	☐	☐
Struggles with confidence (e.g. self-critical, indecisive)	☐	☐	☐	☐	☐
Finds team working difficult (e.g. asking for help/giving help)	☐	☐	☐	☐	☐
Gets their concerns heard	☐	☐	☐	☐	☐
Gets overwhelmed (e.g. anxious, sad, helpless, irritable, angry)	☐	☐	☐	☐	☐

Are there any other ways you would describe your colleague not listed?

QUESTION 3

Resilience can help you cope with adversities, but adversities can also build resilience to face future challenges. Think of your everyday work and consider how often you experience the types of adversity listed below***

	Very often - every shift or more often	Often - two to six times per rota/week	Sometimes - once per rota/week	Rarely - less than once per rota/week	Never
Patient care challenges e.g. ethical dilemma/ patient crisis/ aggression/ clinical expertise	☐	☐	☐	☐	☐
Workload challenges e.g. time to complete work/type of work/unfamiliar work	☐	☐	☐	☐	☐
Resource challenges e.g. Appropriate staff /equipment/ support to complete work/ re-organisation of services/ policies/ procedures	☐	☐	☐	☐	☐
Interpersonal challenges e.g. team dynamics/ communication/difficult conversations	☐	☐	☐	☐	☐

Please add any other types of adversity you encounter in your working day

Thinking about your previous answer, can you think of any adversities that have tested your resilience?

Yes ☐ No ☐

If you answered yes. Please specify the general nature of the adversity that tested your resilience.

QUESTION 4

When faced with difficult circumstances we can adopt various coping strategies. Think back over the last year to some difficult circumstances that you have handled well. From the list below indicate to what extent you agree with the following statements. I tried to ..... ***

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Work out the problem to find a solution	☐	☐	☐	☐	☐
Get support from my team	☐	☐	☐	☐	☐
Use positive thinking skills to turn things around	☐	☐	☐	☐	☐
Look after my own health and well being	☐	☐	☐	☐	☐
Use reflection	☐	☐	☐	☐	☐
Come to terms with the situation and move on	☐	☐	☐	☐	☐
Weigh up all sides of the argument before making a judgement	☐	☐	☐	☐	☐
To put things in perspective (e.g. weigh up the worst best case scenario).	☐	☐	☐	☐	☐

Please add any other types of coping strategies you employed

Please add any coping strategies you would like further training, guidance or assistance to develop further?

QUESTION 5

When faced with difficult circumstances we can draw upon our personal strengths.

How important would you say the following personal strengths are to you? ***

	Very important	Important	Moderately important	Of little importance	Unimportant
Self-awareness	☐	☐	☐	☐	☐
Clinical competence	☐	☐	☐	☐	☐
Compassion	☐	☐	☐	☐	☐
Personal perspective on life	☐	☐	☐	☐	☐
Pride	☐	☐	☐	☐	☐
Time management skills	☐	☐	☐	☐	☐
Sense of humour	☐	☐	☐	☐	☐
Flexibility	☐	☐	☐	☐	☐
Personal faith	☐	☐	☐	☐	☐
Capacity to help others through difficult times	☐	☐	☐	☐	☐

Please add any other personal strengths that are important to you when faced with difficult circumstances

Are there any strengths you would like to build further?

QUESTION 6

Coping with adversity in work can make us feel unsettled or insecure at times.

What has motivated you to get out of bed in the morning to help you through these unsettled or insecure times? From the list below indicate to what extent you agree with the following statements. My sense of..... ***

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Responsibility to colleagues	☐	☐	☐	☐	☐
Responsibility to patients/families in my care	☐	☐	☐	☐	☐
Work ethic	☐	☐	☐	☐	☐
Responsibility to my family/friends	☐	☐	☐	☐	☐
Responsibility to the profession	☐	☐	☐	☐	☐
Wanting to do a good job	☐	☐	☐	☐	☐
Responsibility as a role model to others	☐	☐	☐	☐	☐
Wanting to make a difference	☐	☐	☐	☐	☐
Responsibility to my employer	☐	☐	☐	☐	☐
Responsibility to earn money	☐	☐	☐	☐	☐

Please add any other motivations

WELL DONE.

YOU ARE OVER HALF WAY THROUGH THE CORE PART OF THE QUESTIONNAIRE.

QUESTION 7

Think now about how you normally try to relax and recharge your batteries. How important are the following activities in helping you to do this? ***

	Very important	Important	Moderately important	Of little importance	Unimportant
Hobbies /past times e.g. walking the dog/ reading	☐	☐	☐	☐	☐
Exercising	☐	☐	☐	☐	☐
Sleeping/ resting	☐	☐	☐	☐	☐
Having a break/ going on holiday	☐	☐	☐	☐	☐
Meditative activities e.g. yoga/ meditation/ mindfulness	☐	☐	☐	☐	☐
Socialising with colleagues	☐	☐	☐	☐	☐
Treating yourself to something that you fancy to eat or drink	☐	☐	☐	☐	☐
Having time to myself	☐	☐	☐	☐	☐
Socialising with family/friends	☐	☐	☐	☐	☐

Please add any other activities you normally do to recharge

Are there any activities you would like to do more of?

QUESTION 8[64]

Think now of where you normally work. The following questions include some resources that may be available to support you.

Please tell us how helpful you find these resources or select "Not available" or "Not aware of".

SUPPORT FROM OTHERS ***

	Very helpful	Helpful	Reasonably helpful	A little helpful	Unhelpful	Not available	Not aware of
Conversation with a trusted colleague	☐	☐	☐	☐	☐	☐	☐
Compassionate colleagues	☐	☐	☐	☐	☐	☐	☐
Relationships with patients and families	☐	☐	☐	☐	☐	☐	☐
Being relieved of stressful duties	☐	☐	☐	☐	☐	☐	☐
Appreciation from others	☐	☐	☐	☐	☐	☐	☐
Closed professional networking group (e.g. Face Book)	☐	☐	☐	☐	☐	☐	☐
Learning with and from others	☐	☐	☐	☐	☐	☐	☐

GIVING SUPPORT TO OTHERS ***

	Very helpful	Helpful	Reasonably helpful	A little helpful	Unhelpful	Not available	Not aware of
Patients and families	☐	☐	☐	☐	☐	☐	☐
Colleagues (informal or formal e.g. mentoring/ preceptorship)	☐	☐	☐	☐	☐	☐	☐

[64] Adapted from Lee et al (2015)

SUPERVISION AND FEEDBACK ***

	Very helpful	Helpful	Reasonably helpful	A little helpful	Unhelpful	Not available	Not aware of
Conversation with your line manager	☐	☐	☐	☐	☐	☐	☐
Feedback on your performance (e.g. appraisal)	☐	☐	☐	☐	☐	☐	☐
Debriefs after a stressful event	☐	☐	☐	☐	☐	☐	☐
Clinical supervision (e.g. individual or group)	☐	☐	☐	☐	☐	☐	☐
Preceptorship	☐	☐	☐	☐	☐	☐	☐
Mentorship	☐	☐	☐	☐	☐	☐	☐
Coaching (e.g. individual or group)	☐	☐	☐	☐	☐	☐	☐

ORGANISATIONAL SUPPORT ***

	Very helpful	Helpful	Reasonably helpful	A little helpful	Unhelpful	Not available	Not aware of
Reflective practice groups (e.g. action learning sets)	☐	☐	☐	☐	☐	☐	☐
Multi –disciplinary forums (e.g. case conferences, reflective forums)	☐	☐	☐	☐	☐	☐	☐
In-service training (e.g. newly qualified induction programme)	☐	☐	☐	☐	☐	☐	☐
Workshops (e.g. communication, stress management, health promotion)	☐	☐	☐	☐	☐	☐	☐
Human resources (HR) services (e.g. advice regarding contracts, leisure/social activities)	☐	☐	☐	☐	☐	☐	☐
Occupational health services (e.g. health and well-being services)	☐	☐	☐	☐	☐	☐	☐

EXTERNAL ORGANISATIONAL SUPPORT ***

	Very helpful	Helpful	Reasonably helpful	A little helpful	Unhelpful	Not available	Not aware of
Formal learning (e.g. university course, online course)	☐	☐	☐	☐	☐	☐	☐
Professional organisational services (e.g. training/ workshops)	☐	☐	☐	☐	☐	☐	☐

QUESTION 9

Your work environment can affect the way you emotionally cope with adversity and build resilience. From the list below indicate to what extent you agree with the following statements.

In the place that I work..... ***

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
I feel supported to deliver safe, high quality compassionate care	☐	☐	☐	☐	☐
I feel part of a supportive team	☐	☐	☐	☐	☐
I feel supported that my concerns will be listened and responded to	☐	☐	☐	☐	☐
I feel supported to learn and develop in my job	☐	☐	☐	☐	☐
I feel supported to cope with the emotional demands of my job	☐	☐	☐	☐	☐
I feel my health and well-being is supported	☐	☐	☐	☐	☐

QUESTION 10

Can you suggest three things that would improve your sense of resilience in your working life?

WELL DONE.

YOU HAVE COMPLETED THE CORE PART OF THE QUESTIONNAIRE.

NEXT IS THE SECTION ABOUT YOU: - E.G. REGISTRATION STATUS ETC.

SECTION 2:- ABOUT YOU

Q.2.1. What is your registration status?

Q 2.2 How many years have you been registered?

Q2.3 In what country did you obtain your registration?

☐ UK- please go to question **2.4**

☐ Non UK- please to go to questions **2.3a and 2.3b below**

Q.2.3a Please specify in which country you obtained your registration as a nurse?

Q.2.3b How long have you worked in the UK?

Q.2.4 What are your academic qualifications

Q.2.5.What is your first language?

Welsh ☐ **English** ☐ **Other please state** ☐

Q.2.6. How old are you? ☐

2.7. What gender are you?

Male ☐ **Female** ☐ **Other** ☐ **Prefer not to say**

Q.2.8. What Agenda for Change band or equivalent are you on? ☐

Q.2.9. What title best describes your job? E.g. Staff nurse, Nurse Practitioner etc.

☐

Q.2.10. Where do you mainly work? E.g. Community, Medical ward, NHS Direct, Outpatients etc.

☐

Q.2.11. How long have you worked in your current setting? ☐

Q.2.12. Please select the geographical area that you work. Broadly, an urban area is classified as a built up town/ city with a population of 10,000 people or more. A rural area is classified as a countryside area with a resident population of less than 10,000

Rural ☐ **Urban** ☐ **Both** ☐

Q.2.13. Do you work Full time ☐ **Part-time?** ☐

Q.2.14. What are the main shifts that you work? E.g. Long/short days. Please specify.

Q.2.15. What sector do you primarily work in?

Public/ NHS ☐ **Private** ☐

Q2.16. Do you work for an agency either wholly or in addition to your main job?

YES ☐ **NO** ☐

Q.2.17. Do you work for a health care bank, either wholly or in addition to your main job?

YES ☐ **NO** ☐

IF YOU NEITHER WORK FOR AN AGENCY OR HEALTHCARE BANK PLEASE GO TO SECTION 3

Q.2.18. If you answered yes to working as an agency nurse, how long have you worked as an agency nurse?

Q.2.19 Which area do you generally work in as an agency nurse?

Q.2.20. Do you generally work with the same permanent staff?

Most often ☐ Often ☐ Sometimes ☐ Rarely ☐ Never ☐

Q.2.21. If you answered yes to working on a health care bank. How long have you worked on the bank?

Q2.22. On average how many hours per week do you work on the health care bank?

Q.2.23 Which area do you generally work in on the health care bank?

Q.2.24 Do you generally work with the same permanent staff?

Most often ☐ Often ☐ Sometimes ☐ Rarely ☐ Never ☐

Section 3 – **Equality** and Diversity

Finally we would like to ask you some optional questions on diversity. They should take you an additional one minute to complete. Are you happy to continue to these questions?

YES ☐ **NO** ☐

If you choose not to answer these optional questions. This is the end of the questionnaire.

Sincere thanks for taking the time to contribute to this study and potentially influence nursing in Wales. Please remember to return you completed questionnaire in the envelope provided but keep your confirmation of participation, document for future evidence e.g. for NMC revalidation.

3.1 Please select your ethnic background

- ☐ White
- ☐ Black-Caribbean
- ☐ Black-African
- ☐ Black –other background
- ☐ Asian – Indian
- ☐ Asian Pakistani
- ☐ Asian Bangladeshi
- ☐ Asian – Chinese

- [ ] Asian – other background
- [ ] Mixed- white and black Caribbean
- [ ] Mixed- white and Black African
- [ ] Mixed – White and Asian
- [ ] Mixed Other background
- [ ] Other ethnic background
- [ ] I'd prefer not to say

3.2. Please select whichever is the most appropriate from the following statements

- [ ] I don't have a disability or special need
- [ ] I have a specific learning difficulty
- [ ] I am blind or partially sighted
- [ ] I am deaf or hard of hearing
- [ ] I use a wheelchair or have mobility difficulties
- [ ] I have mental health difficulties
- [ ] I have a disability that cannot be seen
- [ ] I have 2 or more of the above
- [ ] Other disability or special need not listed above

UK national identity

3.3. Please tell us your UK national identity

- [ ] British
- [ ] Welsh
- [ ] English

- [ ] Irish
- [ ] Northern Irish
- [ ] Scottish
- [ ] I'd prefer not to say
- [ ] I'm not from the UK
- [ ] Other (please specify):

Faith/religion

3.4. Please select the response which best reflects your religious beliefs

- [ ] Buddhist
- [ ] Christian
- [ ] Hindu
- [ ] Jewish
- [ ] Muslim
- [ ] Sikh
- [ ] No religion
- [ ] I'd prefer not to say
- [ ] Other (please specify):

This is the end of the questionnaire.

Sincere thanks for taking the time to contribute to this study and potentially influence nursing in Wales.

Please remember to return your completed questionnaire in the envelope provided and keep the confirmation of participation document, for future evidence e.g., for NMC revalidation.

Appendix 7: Pilot Evaluation Tool

	Strongly Agree	Agree	Disagree	Strongly disagree	Written Comments	Group discussion/my comments
The instructions are clear	12	2			Questions were aimed to last 12 months and as I have changed roles I had to really concentrate	"Ups and Downs" easily relatable. Mobile phone-Fitted the screen didn' t have to zoom in and out
The questions are easy to understand and complete	7	7			The questions are clear. Most but question 2 bit vague	What is a Schwartz round? Shorter the better. Focus on context is good. Perspective on life? Religious faith?
The scales are appropriate	9	5				
The scales only allowed one type of response	4	3	7		But I can't think how else it can be done .I worked both adults and children	Some ambiguity of this question, some read it in a positive way others in a negative way.
The response choices are exhaustive	3	4	7		4 is a good amount	
The content of the questions are relevant to my practice	8	6				
The phrasing of the questions are sensitive and respectful	8	6				
The questions are unbiased	9	5				No how dare you's!
The length of time to complete the questionnaire is acceptable	9	5			Quite long.	
Completing the questionnaire could be useful to my practice	8	6			Certain things I hadn't heard or thought of. Only if fed back to unit/place of work occurred post questionnaire	Realised Self-awareness is vital. Older colleagues maybe more experienced but they too need support to support the new influx of staff like us
Give 1 word which describes the questionnaire					Reflective. Relevant. Appropriate. Interesting. Interesting. Insightful. Quality. Very comprehensive. Thoughtful. Thoughtful. Thoughtful. Thorough. Eye opening. Thoughtful about potential resilience sources.	Thorough. Comprehensive and relevant
Comments					Certain things I had never considered or heard of. Eye opening to things I should have been offered in post. On page 2 says "you" instead of yours a few times	

Appendix 8: Example of results from pilot study

Resilience can vary. Thinking of your previous answer, consider now a colleague who you think seems less resilient. From the list below indicate to what extent you agree with the following statements.

	Strongly agree	Agree	Disagree	Strongly disagree	Response Total
Your colleague seems overwhelmed	35.3% (6)	47.1% (8)	11.8% (2)	5.9% (1)	17
Your colleague seems anxious	18.8% (3)	56.3% (9)	18.8% (3)	6.3% (1)	16
Your colleague seems sad	11.8% (2)	35.3% (6)	41.2% (7)	11.8% (2)	17
Your colleague seems helpless	5.9% (1)	23.5% (4)	64.7% (11)	5.9% (1)	17
Your colleague seems to be lacking in hope	5.9% (1)	58.8% (10)	23.5% (4)	11.8% (2)	17
Your colleague seems angry	6.3% (1)	31.3% (5)	62.5% (10)	0.0% (0)	16
Your colleague seems withdrawn	0.0% (0)	31.3% (5)	50.0% (8)	18.8% (3)	16
Your colleague seems worried	17.6% (3)	52.9% (9)	29.4% (5)	0.0% (0)	17
Your colleague seems demotivated	6.3% (1)	50.0% (8)	37.5% (6)	6.3% (1)	16
Your colleague seems to be neglecting responsibilities	5.9% (1)	41.2% (7)	41.2% (7)	11.8% (2)	17
Your colleague seems to be lacking in self-confidence	35.3% (6)	29.4% (5)	29.4% (5)	5.9% (1)	17
You colleague seems to be self-critical	23.5% (4)	47.1% (8)	29.4% (5)	0.0% (0)	17
You colleague seems to be indecisive	5.9% (1)	47.1% (8)	41.2% (7)	5.9% (1)	17
You colleague seems to be lacking in energy	17.6% (3)	41.2% (7)	29.4% (5)	11.8% (2)	17
You colleague doesn't seem to be looking after themselves	17.6% (3)	23.5% (4)	52.9% (9)	5.9% (1)	17
Your colleague's concerns are often ignored	5.9% (1)	35.3% (6)	52.9% (9)	5.9% (1)	17
				answered	17
				skipped	1

Please specify any other signs not listed (2)

1	03/06/16 10:02AM ID: 39729033	Unmotivated and disheartened
2	03/06/16 10:04AM ID: 39729495	Coming up for retirement and work ethic has deteriorated.

Appendix 9: HCARE Research Governance and Ethics Screening Committee approval letter

School of Healthcare Sciences
Head of School and Dean Professor Heather Waterman

Ysgol Gwyddorau Gofal Iechyd
Pennaeth yr Ysgol a Deon Yr Athrawes Heather Waterman

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

16 September 2016

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Prifysgol Caerdydd
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Ty Eastgate
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Judith Benbow
School of Healthcare Sciences
Ty Dewi Sant, Heath Park
Cardiff

Dear Judith

A mixed methods research study – 'Exploring resilience of frontline nurses in Wales'

At its meeting of *13 September 2016*, the School's Research Governance and Ethics Screening Committee considered your research proposal. The decision of the Committee is that your work should:

Proceed subject to the resubmission and approval of minor amendments made by the Committee Chair.

The Committee has asked that the lead reviewers' comments be passed onto you and your supervisor, please see attachment and comments below.

Please add Dr Kate Button on the Participant Information Sheet as the person to contact in the case of complaint or query
Please clarify whether 1000 nurses are to be interviewed, this number seems excessive
Confirmed that R&D approval should be sought
Please see attached exemplars of Participant Information Sheets and Consent Forms and adjust yours accordingly

The proposal, amended in the light of the above points and in discussion with your supervisor, should be emailed to me for consideration by the committee Chair. You should email your response to HCAREEthics@cardiff.ac.uk

When resubmitting your revised proposal you should provide a covering letter highlighting how and where you have amended the revised proposal, in the light of the above comments. You should clearly indicate the page number and line number/s, and you might find the following table a means of reporting the amendments you have made to the proposal. In addition, the changes should be highlighted in the revised documentation using the track changes facility.

Cardiff University is a registered charity, no. 1136855
Mae Prifysgol Caerdydd yn elusen gofrestredig, rhif 1136855

Comment/Amendment required.	My Response is;	Location in text i.e. page and line number.

Please do not hesitate to contact me if you have any questions.

Yours sincerely

22nd September 2016

Dear ……

Please find the requested changes, supporting documentation and revised PASE form.

I met with Judith today and all is as required.

I am happy to take Chairs actions and support her taking the research forward with supervisory support and relevant R&D approvals.

Thank you

Chair of HCARE Ethics Committee

Appendix 10: Data collection: audit week one

Daily during data collection, I scrutinised the completed/partially completed responses, observing rate, pattern, and completion time, following the first week I completed an audit. There were various partially completed questionnaires (*N*=524), the purpose of the audit was to determine potential causes for non-completion e.g., completion errors/common questions not answered, to potentially implement some remedial actions. Each questionnaire was manually examined, to identify at which point the respondent ended their submission and to identify any trends between respondents (see table 1 below). Various categories were identified alongside frequency and approximate numbers then actions were determined including connecting with the potential sample, tool completion (%) bar and reviewing completion patterns.

A key principle thought necessary was to try and connect more with the potential sample, to distinguish between other RCN surveys and potential overload. In addition, to strengthening other communication channels across Wales to ensure a representative sample. This seemed to work nurses engaged more directly with me regarding both the study and the topic generally. To the point that I set up a Twitter account to support communication. Also, previously it was thought that the Survey software was not built to accommodate respondent “boosting” messages in between questions. Positively, this was overcome and boosting messages were included (see Table 2 below).

Completion (%) bars are commonly included in questionnaires as an incentive. It was found however that some respondents reported that they found the bar a disincentive. That is the bar moved very slowly for the core questions (which took more thought) showing a high percentage left to complete, when only the demographic/equality questions remained which were very quick to complete. This feedback, the number of partial completions, coupled with my prior misgivings about questions sequence in relation to the tool bar the survey company were contacted, and the tool bar was removed after three days. The remedial actions were implemented and monitored daily alongside the email reminder and the use of other communication sources e.g., social media.

Recording patterns of completion as a specific objective of the research did not deem necessary at the outset. Also, the software did not seem to have this functionality.

Nevertheless, as the rate of responses unfolded, I made key notes in my reflective diary. Generally, nurses seemed engaged with the subject and the method. This observation was made based on various evidence. Questionnaires were completed around the 24-hour clock, seven days per week. Some respondents spent the estimated 20 minutes' others spent much longer. Some chose to save and return later. Hence it is difficult to determine the total amount of time nurses spent participating. The time spent individually can however be aggregated together, such as 20 minutes (minimum completion time) x 1459 (*N*=number of respondents) =29,180 minutes =486 hours =60 days (based on 8-hour day) or 20 days (based on 24-hour day). This is probably an underestimation of the time spent, nevertheless, salient information given the time constraints of nurses today.

To sum up, the RCN email reminder prompted some nurses to reactivate and complete their saved survey. Some completed the tool at home others in work individually or together perhaps (e.g., two or three were submitted at similar times/settings). The reflective element and the fact that they could utilise the evidence for NMC revalidation or Advanced Practice appeared motivating. Direct feedback (often via email) endorsed this suggesting that they had found completing the tool valuable. Ethically this was motivating to think that perhaps the research was already having some benefit for the respondents. The responses seemed considered, reflective, comprehensive yet straight forward in language and approach. Putting all this together there was a palpable sense that the data was compelling.

Appendix 10, Table 1: Partially completed questionnaires: audit week one

	Category in descending order of frequency (Outline of questions Appendix 1).	**Frequency Scale***	**Approx. number**	**Action**
1	Opened and closed	1	Not counted.	Twitter/Facebook updates to include reminder to save/complete option and monitor
2	Saved till later date	2	Not counted	Explore with Smart Survey if these can be identified via the RCN email route and can be included in the non- respondent email reminder.
3	Stopped after questions 1 or 2	2	Not counted.	Monitor till week of reminder message time. Consider including something in the reminder message.

4	Stopped before/during question 8 (10 core questions on resilience)	3	28	Boosting message to be inserted before question 9 emphasising almost at the end of the core questions on resilience.
5	Stopped before or during demographics	3	13	Reassurance message regarding anonymity to be inserted before demographic questions.
6	Completed not submitted	3	8	Reminder message inserted on final submission page emphasising appreciation for time effort and that their views are really valued.
7	Stopped before or during questions 3 or 4	4	4	Monitor
8	Stopped before question 7	4	2	Monitor
9	Student nurses	4	4	Monitor and stress inclusion criteria.

Appendix 10, Table 2: Remedial actions: communication with potential sample.

Reminder email/social media	
1	Who -explore if partially completed and "saved till later" respondents can be determined and included in reminder email.
2	What - more personal touch perhaps, first person, thanks from myself for the overwhelming response and that their opinions are valued stressing anonymity
3	When- check reminder email date
Boosting/reassurance messages included in the questionnaire.	
1	After question 6- Well done-you are over halfway through the core part of the questionnaire.
2	Before question 8- Well done- you have nearly completed the core reflective questions. The remaining questions seem to take respondents less time to complete.
3	Before demographics- Well done- you have completed the core part of the questionnaire. I sincerely thank you for the time and consideration you have given to your answers. Next is the questions about you. Respondents seem to take very little time to complete this section.
4	I must reassure you again that you will not be asked any identifiable demographic information, but you will be asked what type of nursing you do and whether you work in an urban or rural area.
5	Final submission page- I would like to sincerely thank you for the time and thought you have given in completing this questionnaire.

Appendix 11: Overarching priori analytical framework (version 3) January 2018

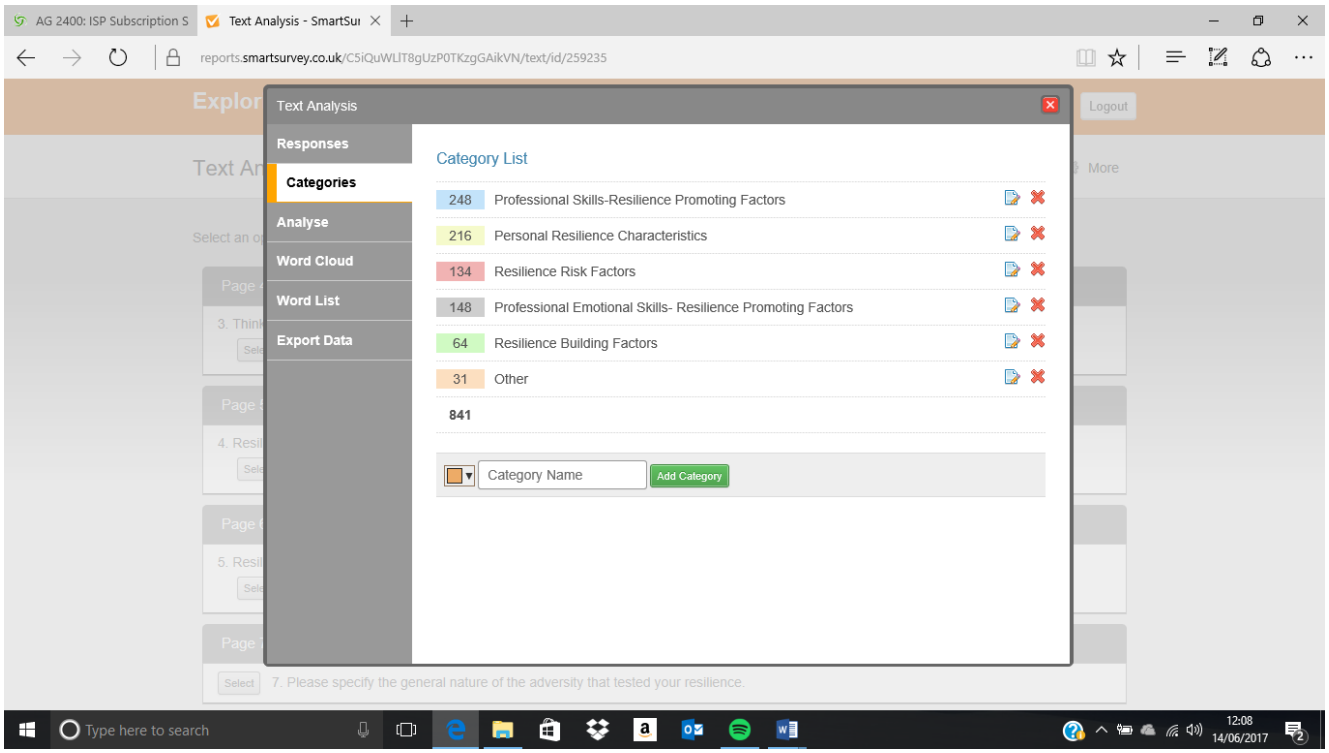
<table>
<tr><th colspan="5">Definition and illustration of overarching key concepts identified within the conceptual framework and cross checked to other work in the field/s.</th></tr>
<tr><td colspan="5">Social-ecological lens: Views both (environment and nurse as assets) Nurses' resilience is a variable of the environment, specific attention to influences of environment and context (culture, professional attitudes, habits, activities) – more permanent state –cultivation- growing of resilience and climate (atmosphere, mood, spirit, more transient state) and determination/perception of risk. The interaction between the nurse and their environment will determine the degree of positive outcomes experienced. The two-way interaction, the capacity of the nurse to seek help and the availability of the help, not what the nurse does but what the environment provides.</td></tr>
<tr>
<td>Resilience: Static-Traits - key intrinsic components- hope, self-efficacy, coping, control, optimism, patience, adaptability, sense of humour, self esteem, tolerance, resourcefulness . Importance of motivation to plough on/stabilise when having a "wobble". Personal/professioanl efficacy
• Antecedents /adversities – outcomes consequences
• Process/ outcomes- fluctuates over the life span, that may/can be learnt- Bandura- social learning theory.
  • Systemic processes-RESILIENCE RESPONSES
  • Persistence
  • Resistance
  • Recovery/decline
  • Adaption/modification
  • Transformation- (Freshwater)
  • Individual/collective/ organisational
• Hidden resilience (e.g., deviant response)
• Turning points/tests</td>
<td>Adversity: Challenges/ stressors that threaten nurses functioning, capability, and development e.g.
1. Patient care
2. Workload
3. Resources
4. Interpersonal</td>
<td>Risk: An elevated probability (odds) of undesirable outcomes for nurses. e.g., emotional, cognitive, and physical negative affects which could result in low morale, stress burnout and attrition. Grounded in micro, meso macro context.
Risk factors/features (hinders) A feature of nurses (intrinsic) or their environments (extrinsic) that potentiates negative outcomes: e.g., Lack of appropriate staff.
Cumulative risk
• Increased risk due to multiple risk factors/features
• Multiple occurrences of the same risk factor/feature
• Accumulative effects of ongoing adversity

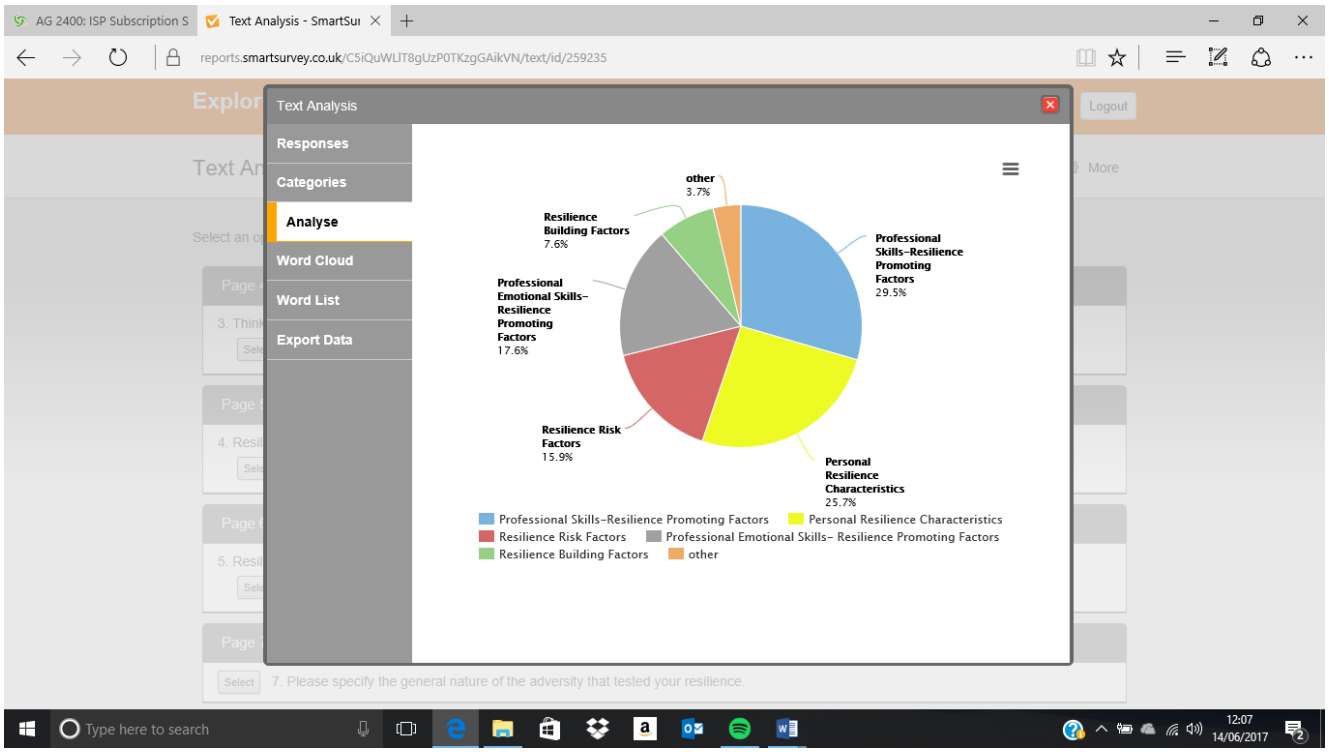
Vulnerability Susceptibility of nurses to negative outcomes e.g., newly registered nurses (low high levels of risk)
Proximal Risk -Risk factors/features directly experienced by nurses e.g., a complaint. Working conditions- long hours no break unpaid overtime unpredictable rotas
Distal Risk -Risk arising from the nurses' work environment that is offset (mediated) by proximal processes. e.g., blocking use of agency nurses.</td>
<td>Assets Resources, compensatory/ resilience responses/promoting factors (helps)- promote protect, produce.
A feature of nurses (intrinsic) or their environments (extrinsic) that potentiates positive outcomes, for low and high levels of risk e.g., clinical competence, open culture.
Protective factors
A predictor of better outcomes stealing/shielding/sheltering affect e.g., a preceptor
Cumulative Protective Factors Presence of multiple protective factors e.g., supportive teams, mentor, open learning environments, effective line managers and culture.</td>
<td>Resilience Building Factors A feature of nurses or their environment that develops resilience in themselves, others and or their environment- WLB mentoring/sharing best practice.
1. Micro-immediate colleagues'/family friends
2. Meso- team
3.Exo- organisational
4.Macro- employment law, D.H, HR Professional regulation</td>
</tr>
<tr><td colspan="5">NB Complexity instability and ambiguity of associated factors, not distinct, can overlap and be the same factor, that is, an asset can be a risk to the same or different nurse. In addition, they can be converted, e.g., an asset such as a supportive colleague can become unsupportive and be a risk. Can be helpful to think on a continuum, as some can be bi- polar opposites e.g., Line Manager- supportive/unsupportive and home helps work, work helps home but difficult to separate- e.g., work can be so demanding need to process work at home and vice versa.</td></tr>
</table>

Additional specific adversities framework		
Risks Nursing work physical emotional cognitive, disease, distress, death- heart breaking/warming Containing emotion- Front stage backstage Lack of recognition reward, resources, CPD Policy focus- recruitment of staff does not support existing staff. Engagement can be opposite to burnout. Engagement 2-way employee/ employer Organisational burnout Maben (2012) Well-being Bundle: • A good local (team)/ work-group climate • Co-worker support • Job satisfaction • A positive organisational climate • Organisational support • Low emotional exhaustion • Supervisor support	**Risk factors/features** **Patient care challenges: -** Technology, Patient knowledge, patient information communication/ collaboration of MDT Patient complexity age use of health services, personal clinical expertise, ethical dilemma clinical decisions Complaints **Work:** Workload Time demands expectations type of work poor/quality unfamiliar, role diversity/confusion, blurring of roles **Resources Time,** Material/human Tired existing staff can avoid extra work and emotional investment to build new relationships with new staff/opportunity Personal/capacity equipment, organisation of services policies, processes micro meso macro levels. **Interpersonal challenges-** team dynamics, attitudes, bullying, challenging behaviour, MDT.	**Vulnerability-** distress, tolerance, shame guilt, stigma (Gilbert Deveson, 2003) Reluctance to seek help support, stigma feelings of regret, intense, shame sad, helplessness, loss of credibility commitment. **Susceptibilit**y e.g., early career, promotion, acting up, re configuration of services, complaint inquiry, turning points critical/adverse incidents personal circumstances. **Proximal Risk –** direct experience quality of care compromised, role conflict, visible to family colleagues, incivility, bullying, boredom. **Distal Risk –** organisational politics, bullying, disengagement of staff, public status/view of nursing, inter-professional differences, lack of resources, social stigma, WLB political context, career prospects, NHS leadership bureaucracy/hierarchy, health economics, ethical dilemmas **Cumulative risks/outcomes -**Multiple risks/occurrence- accumulative effect/consequences- leave/ mistakes, burnout/compassion fatigue- symptoms • Cognitive – lowered concentration, apathy, rigidity, disorientation, minimisation, preoccupation with the adversity • Emotional- powerlessness, anxiety, anger, guilt, numbness, fear helplessness, sadness depression, depleted, shock blunted or enhanced affect. Troubling dreams like patients dreams Suddenly & involuntarily recalling a frightening experience while working with a patient/family. • Behavioural – irritable, withdrawn, moody, poor sleep, nightmares, appetite change, hyper vigilance/isolating. • Spiritual- question meaning of life, pervasive hopelessness, loss of purpose, questioning beliefs, scepticism, loss of faith. • Somatic- sweating, raised heartbeat, breathing difficulty, aches pains, dizziness, impaired immune system, headaches difficulty falling off/staying asleep

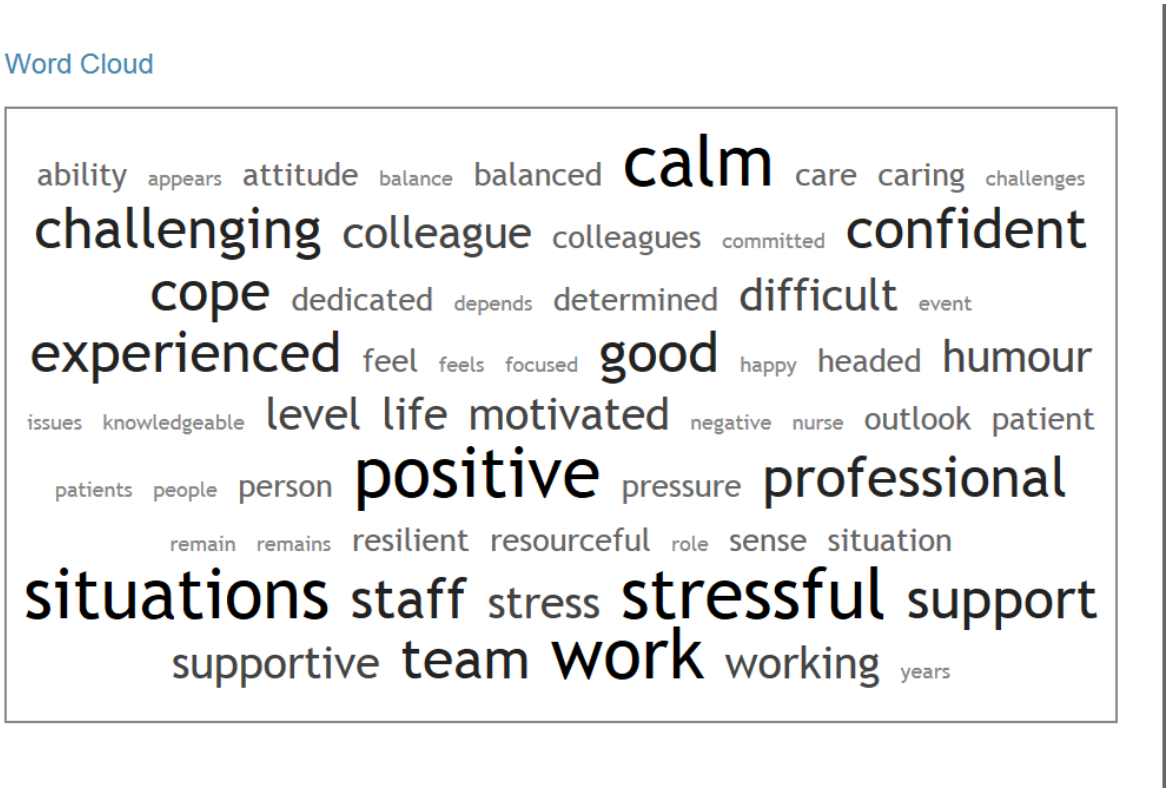
Appendix: 12: Data analysis

Appendix 12: Figure 1: Example of utilising the on-line Survey Textual Analysis Tool





Appendix 12: Figure 2: Question One word cloud: Top 20 listed words



Appendix 12: Figure 3: Question One: Top 10 listed words

1	46 work	11	14 support
2	33 calm	12	13 cope
3	31 positive	13	13 experienced
4	25 situations	14	13 staff
5	19 stressful	15	11stress
6	17 challenging	16	10 difficult
7	17 confident	17	10 humour
8	16 team	18	10 life
9	14 good	19	10 supportive
10	14 professional	20	10 working

Appendix 12: Figure 4: Framework Familiarisation stage: Question one Preliminary ideas- Category Personal Resilience Characteristics

Think of a colleague that you would describe as resilient. From the list below, indicate to what extent you Strongly agree, Agree, Undecided, Disagree, Strongly disagree with the following statements. Your colleague seems to: - Find it hard to bounce back after challenging times in work**.** Copes with stressful events in work**.** Bounces back quickly after challenging times in work**.** Struggles to make it through stressful events in work. Are there any other ways you would describe your colleague not listed?				
Respondents' words	**Codes/labels**	**Thoughts/ links to other questions**	**Sub-Categories**	**3 possible explanatory themes: Relationship with work, self and workplace- micro/meso macro**
Category 1 Personal Resilience characteristics/ promoting/protecting influences -comparable/overlap to desired attributes of nurses. -Congruence with various resilience taxonomies				
"Very self-assured!" "Strong sense of self and her worth".	Confident	Confidence assertiveness, self- belief/efficacy, self-worth Wagnild and Young e.g. Confidence links with experience competence and experience links Nature/nurture pathway to resilience Q2 4 and 5	Personal /Professional skills	Relationship with work, self & workplace- Micro/meso macro
"Calmly persistent in the face of disappointment". "Not fazed by difficult things"	"Persistence" "Perseverance" "Tenacious/ grit" "Fighter". "Energy"	Determined Motivated, focused/ experienced Recovery Resistance Emotional Capacity Q2, 4 and 5	Personal /Professional skills/ coping/adaption / transformation	Relationship with work, self & workplace- Micro/meso macro -professional performance -positive regard
"Grounded, able to move on – not dwell on things, forward looking" "Humour helps her a lot, very good at **brushing things off**, having a laugh and getting in with it." "Optimistic and having a good sense of humour	"Not dwell on things" "Brushes things off" Not affected by negative comments "Positive/upbeat" "Glass half full person!" Humour (appropriate)	Frankel's Sense of coherence/can make sense of incongruence and gain perspective- Positive thinking skills- turns things around (Seligman- positive psychology) Positivity linked with passion/motivation for nursing? Q2 4 and 5	Personal /Professional skills/ coping/adaption / transformation	Relationship with work, self & workplace- Micro/meso macro

Appendix 12: Figure 5: Framework Analysis Matrix Question One

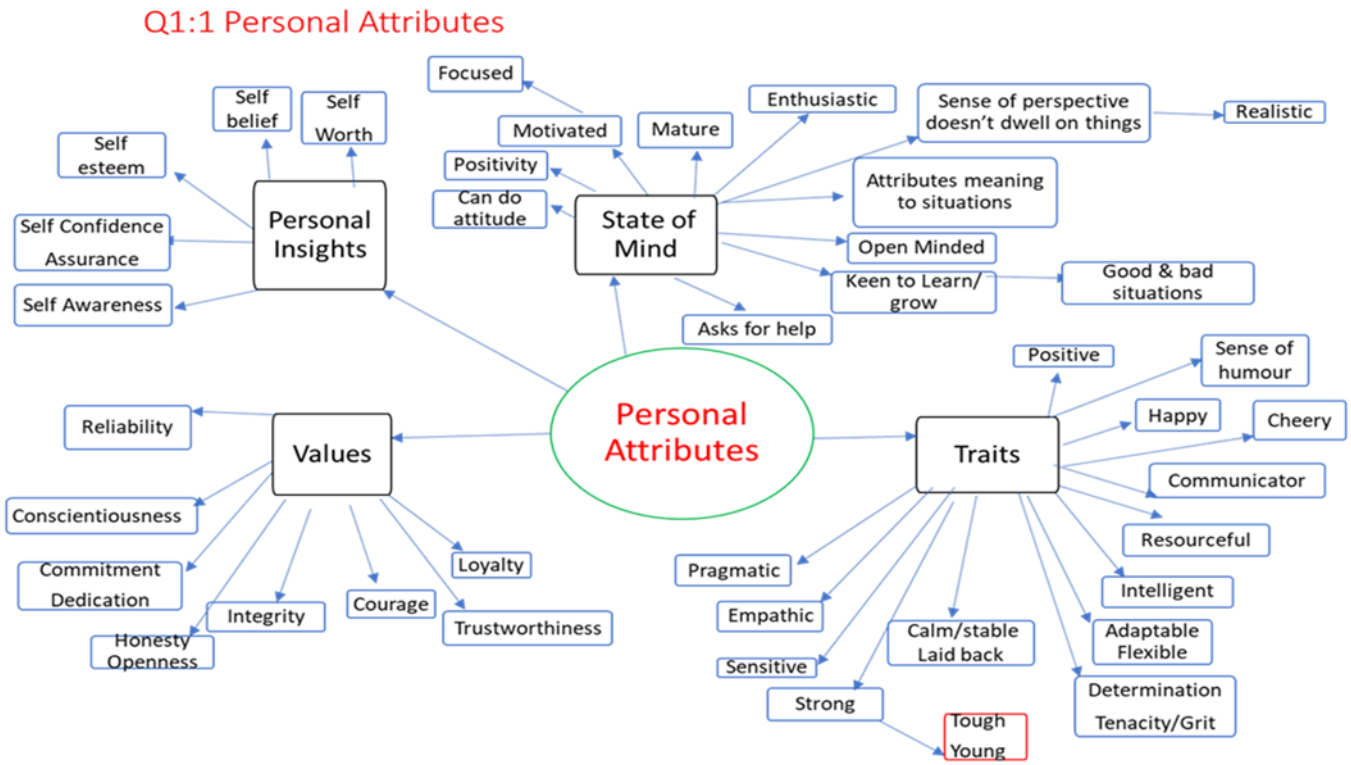
ResponseID	AnswerText	Professional Resilience Factors	Personal Resilience Characteristics	Resilience Risk Factors	Professional Emotional Resilience Factors	Resilience Building Factors	other	Memos
45133777	Is able to carry out duties in a professional manner	Yes	No	No	No	No	No	
45136258	Calm open and honest	No	Yes	No	Yes	No	No	
45136866	My colleague can remain profeesional at challenging times. My colleague always shows strength. However this may not b	Yes	Yes	Yes	No	No	No	
45144192	The colleague is very experienced. Competent and knowledgeable which contributes to her ability to be resilient.	Yes	No	No	Yes	No	No	
45171374	Depends on the circumstances depends on how they cope with bouncing back.	Yes	No	Yes	No	No	Yes	
45172125	Positive work life balance. Does not take work home with them or work extra hours	No	No	Yes	No	Yes	No	
45172455	Confident in their actions and their self	Yes	Yes	No	No	No	No	
45185924	Negative	No	No	Yes	No	No	No	
45185647	young and tough (thick skinned)	No	Yes	No	No	No	Yes	

Appendix 12: Figure 6: Overarching Matrix Extract

	Q1		Q2	Q3a		Q3b	
esponseID	AnswerText	ResponseID	AnswerText	ResponseID	AnswerText	ResponseID	AnswerText
5133777	Is able to carry out duties in a professional manner	45133777	Forgets to act in professional manner occasionally when out in	45133777	Working within professional boundaries	45133777	Lone working
5136258	Calm open and honest	45193100	works outside of role parameters despite support and guidance to the contrary	45143710	Different policies, procedures and guidelines in every trust or geographical area- so harder to work agency shifts.	45172455	Time pressure and increased workload. Lack of knowledge asking for help.
5136866	My colleague can remain profeesional at challenging times. My colleague always shows strength. However this	45207533	One dimensional, unable to prioritise , can be selfish	45144192	Low morale connected with low staffing levels in the community.	45183564	Increased work pressure due to external work in addition to normal workload
5144192	The colleague is very experienced. Competent and knowledgeable which contributes to her ability to be resilient.	45211034	Can be withdrawn not a team worker. Doesn't always focus on priority work but fixates on irrelevant tasks.	45185647	constant change of workload and work environment. Lack of support from senior managers.	45183786	As a team of usually ten people, for the last year we have been running on staffing of two or three which has been incredibly challenging and has resulted in each team member being off sick with stress at differing teams
5171374	Depends on the circumstances depends on how they cope with	45267750	Doesn't look for opportunities for self development, is not self aware of poor coping strergies	45186205	Families unhappy Systems that don't work well	45185924	Lack of staff, target times to be hit, therefore rushing and not giving adequate care.
5172125	Positive work life balance. Does not take work home with them or work extra hours	45283153	Sometimes appears rude as unable to multi task. Everything is a drama.	45183178	The personal negative and blaming attitude of other staff - mainly other professions within the multidisciplinary team	45186532	Being on call then working a full day the following day

All Matrix

Appendix 12: Figure 7: Development of themes and sub-themes Question One



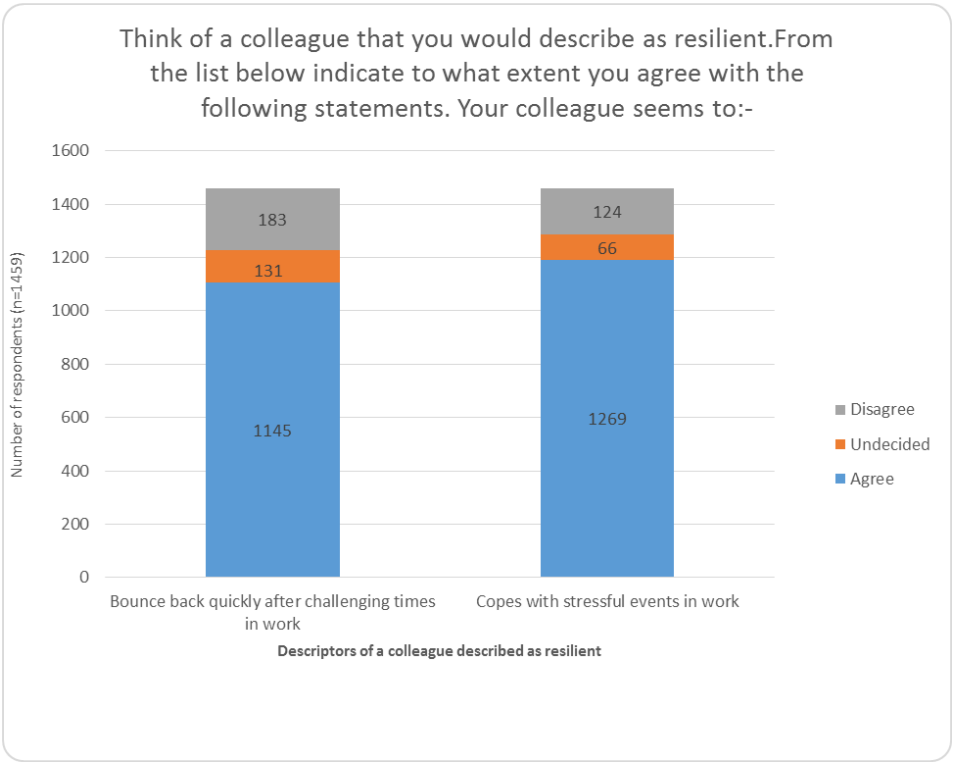
NB:- Intrinsic resources can be tested dependent upon severity of adversity & available extrinsic resources

Appendix 13: Research diary extract reflexive notes: analysis of questions 1/2 related to lowered resilience

Initially the data seemed more disparate /harder to analyse, some potential reasons for this: Influences from analysing Q1 layering advantages/disadvantages, more back and forth Additional overlapping constructs within the questions: e.g., motivation, coping, confidence /self-efficacy component of motivation. Problem solving best long-term coping strategy- Q4 Angie Hart's framework, perfectionism, negative/positive attitudes team working, reward. I found it vital to check and recheck synonyms check continually to ensure my interpretation was their intention More "undecided" neutral responses - due to perhaps:

- Phrasing of the question and increased number of options to choose from
- Providing a scenario for the respondents to comment upon, may have been a better way to approach this
- It may have been more difficult for the respondents to answer, the nature of nurses and their work it could be assumed rightly/ wrongly that all "nurses have resilience", as one respondent stated.
- The complexity of the construct- they were being asked to isolate it to one point in time static if it's a process that ebbs and flows, this is challenging.
- Accept this limitation and interpret result with caution these features of nurses could also be dynamic, subject to change and situation context dependent
- An "overall" impression could have been too general, these options may have been too restricting, reducing number of options (8) and utilising familiar NMC domains of practice may have been simpler
- Various nurses' comment on how kind/caring their colleague is, who has least resilience, and suggest that this is due to a number of reasons e.g., taking on too much work, being kind to others as a consequence of the work and the work environment rather than a personal reflection of their colleague. This may have been difficult for the respondents to convey without seeming critical/disloyal to their colleague.
- Negativity: signs of burn out Team working – emotional contagion- patient safety
- All risks to resilience of self, colleagues and patients, some direct examples given.

Appendix 14: Question One- Initial bar charts used to present quantitative data



Appendix 15: Overview of stakeholders' consultation event

Appendix 15: Table 1: Objectives agenda and attendees

<table>
<tr><th colspan="4">STAKEHOLDERS' CONSULTATION EVENT</th></tr>
<tr><th colspan="4">Objectives</th></tr>
<tr><td colspan="4">By the end of the meeting stakeholders will be able to:
• Explain the study, its key findings, and potential recommendations.
• Discuss within a group the relevance of the findings to their scope of practice, context, as well as raise any questions, concerns, and challenges and
• Discuss and reflect on the implications of the findings for their personal practice and the practice of others.</td></tr>
<tr><th colspan="4">Agenda</th></tr>
<tr><th>Time</th><th>Topic</th><th colspan="2">Presenter</th></tr>
<tr><td>13:15</td><td>Registration and coffee</td><td colspan="2"></td></tr>
<tr><td>13:30</td><td>Welcome and Chair's Introduction</td><td colspan="2">Professor Danny Kelly, Royal College of Nursing Chair of Nursing Research. EONS Past President.</td></tr>
<tr><td>13:40</td><td>Overview of the research study</td><td colspan="2">Judith Benbow, RCN Wales Research Fellow</td></tr>
<tr><td>14:15- 15:15</td><td>Round table discussions</td><td colspan="2">Facilitators:
Professor Danny Kelly, Dr Aled Jones, RCN Steering group member</td></tr>
<tr><td>15.15-15:30</td><td>Comfort Break</td><td colspan="2"></td></tr>
<tr><td>15.30-16.15</td><td>Group Feedback</td><td colspan="2">Facilitators</td></tr>
<tr><td>16.15-16.30</td><td>Closing remarks</td><td colspan="2">Professor Danny Kelly</td></tr>
<tr><th colspan="4">General guidance: stakeholders, facilitators and scribes</th></tr>
<tr><th>Stakeholders</th><th>Facilitators</th><th colspan="2">Scribes</th></tr>
<tr><td>To answer the questions:
• What do you think about the study?
• What was surprising?
• What ideas do you have?</td><td>To enable:
• Inclusive safe environment
• Everyone's voice to be heard
• Keep focused on questions
• Keep to time</td><td colspan="2">To note key discussion points on flip chart and in note form:
• Repetition of ideas
• Summary of ideas
• Any additional observations to be noted immediately after roundtable discussions
e.g., dynamics, forcefulness of ideas expressed.</td></tr>
</table>

Appendix 15: Table 2: Outline of attendees

	Role	Purpose	Region	Setting	Fields	Band
1	Assistant Director	Employment Relations	All Wales	Professional Organisation		8/above
2	Nursing Officer	Policy	All Wales	Welsh Government		8/above
3	Nursing Officer	Policy	All Wales	Welsh Government		8/above
4	Diretorate Lead Nurse	Frontline	South East Wales	NHS across organisation		8/above
5	Lead Nurse	Frontline	West Wales	NHS across organisation	Mental health	8/above
6	Assistant Director of Nursing	Strategic	North Wales	NHS across organisation	All	8/above
7	Education and Development	Strategic	West Wales	NHS across organisation	All	8
8	Divisional Nurse	Frontline	Mid Wales	NHS Acute	Adult	8
9	Cardiff University	Education	South East Wales	Adult	Adult	8
10	Lecturer/Senior nurse	Education frontline	South East Wales	NHS across organisation/university	Adult	7/ above
11	Education and Development		South East Wales	NHS across organisation	Mental Health	7
12	Advanced Nurse Practitoner	Frontline	South East Wales	Accident and Emergency	Adult	7
13	Nurse Practioner	Frontline	South East Wales and across	Public Health/patient Safety	Adult	7
14	Education and Development	Frontline	South East Wales	Neonatal	Adult/CYP	7
15	Senior Staff Nurse	Frontline	South East Wales	Critical Care	Adult	6
16	Staff Nurse	Frontline	South East Wales	Community	CYP	6
17	Staff Nurse	Frontline	South East Wales	Mental Health	CYP	5
18	Staff Nurse	Frontline	South East Wales	Critical Care	Adult	5
19	Staff Nurse	Frontline	South East Wales	Surgery	CYP	5
20	Staff Nurse	Frontline	South East Wales	Medicine	CYP	5
21	3rd year student	Frontline	South East Wales	Adult	Adult	student
22	3rd year student	Frontline	South East Wales	Adult	Adult	student
	Apologies					
1	Executive Director	Strategic	Across Wales	Independent Sector	Adult	8/above
2	Director	Workforce	Across Wales	Welsh Government		8/above
3	Staff Nurse	Frontline	South East Wales	Inpatients	CYP	5
4	Ward manager	Frontline	South East Wales	Medciine	Adult	7
	Pay Bands	**n**				
	8 and above	9				
	7	5				
	6	3				
	5	4				
	students	2				
	Total	23				

Appendix 16: Steering group minutes exemplar

RCN Wales PhD studentship: Exploring resilience in contemporary nursing roles in Wales

Notes of the third Steering meeting (confirmed)

14th April 2016 11.30 Research Hub 13th Floor Eastgate House

Present: Professors Danny Kelly (HCARE) Andy Smith (Psychology) Dr Aled Jones (HCARE) Judith Benbow (HCARE) Alison Davies (RCN,) teleconferenced.

1. Overview of background, achievements to date and next steps: see actions below.
2. Phase 1: discussion included, the importance of the piloting as soon as ethical approval granted, merits of launching in September discussed.
3. Phase 2: complete NHS R and D approval once permission to proceed from the School ethics committee is secured.
4. Potential study outputs: discussion included potential forums such as a Congress motion by the RCN Research Society.
5. To agree the next steering meeting date and to establish if a new RCN member Board member is able to join the Steering group (see actions below)

6. Agreed Actions

Action	Action/date of completion	Person(s) responsible	Outcome
1	Submit application for ethical approval to pilot the tool April 2016.	JB	Completed.
2	Pilot study to be completed and necessary amendments made to the tool and resubmit to ethics committee.	JB	Completed
3	Implement Phase 1 communication strategy- University and RCN networks	JB	In progress.
4	Secure Phase 2 NHS/R and D ethical approval	JB	In progress
5	Organise meeting dates for 2015/16 and establish RCN board member involvement	JB	Completed. Board member to join the group.

Appendix 17: Dissemination to date

Conference paper/poster presentations

All the presentations shared the same title and provided core material in addition to varied content to different audiences.

International

1. Benbow, J. 2019. Exploring Resilience of Contemporary Nursing Roles in Wales: Presented Oral Paper at the Royal College of Nursing International Research Conference, Sheffield, September 2019. pp. 44, conference abstract https://www.rcn.org.uk/professional-development/research-and-innovation/research-events/rcn-2019-research-conference

2 Benbow, J. 2018. Exploring Resilience of Contemporary Nursing Roles in Wales. Presented Oral Paper at the Royal College of Nursing International Research Conference, Birmingham, April 2018. pp.70, conference abstract, https://orca.cf.ac.uk/112569/1/RCN-2018-research-book-of-abstracts.pdf

3 Benbow J (2018) Exploring resilience of contemporary nursing roles in Wales: a mixed methods study poster presentation at 11th International Conference FINE (European Federation of Nurse Educators), Valetta, Malta February 2018, Best Poster Prize awarded https://www.conforg.fr/fine-europe2018/data/index.html (accessed 20 December 2019). Google Scholar

4 Benbow, J. 2017. Exploring Resilience of Contemporary Nursing Roles in Wales. Presented Oral Paper at the Pathways to Resilience IV International Conference Cape Town, South Africa, June 2017. pp.41 conference abstract http://www.resilienceresearch.org/files/ptriv/PTRIV-ConferenceProgram.pdf

5 Benbow, J. 2017. Exploring Resilience of Contemporary Nursing Roles in Wales. Presented Oral Paper presented at the Royal College of Nursing International Research Conference, Oxford, April 2017. pp. 39, conference abstract,https://www.rcn.org.uk/professional-development/research-and-innovation/research-events/rcn-2017-research-conference

6 Benbow, J. 2017. Exploring Resilience of Contemporary Nursing Roles in Wales. Presented Oral Paper at the Royal College of Nursing International Research

Conference, Oxford, April 2017. pp 39 conference abstract https://www.rcn.org.uk/professional-development/research-and-innovation/research-events/rcn-2017-research-conference (accessed 20 December 2019).

National/local

1. Benbow, J. 2020 Exploring Resilience of Contemporary Nursing Roles in Wales. Invited to present oral paper to All Wales WHO Nursing Now Strategic group, online meeting October 2020.

2. Benbow, J. 2019. Exploring Resilience of Contemporary Nursing Roles in Wales: Presented Oral Paper at the British Association of Critical Nurses Conference, Edinburgh, September 2019.

3. Benbow, J. 2019 Exploring Resilience of Contemporary Nursing Roles in Wales. Invited to present oral paper to the Cardiff and Vale UHB Research Forum, Cardiff, December 2019.

4. Benbow, J. 2017. Exploring Resilience of Contemporary Nursing Roles in Wales. Presented poster at the Aneurin Bevan University Health Board Research Conference, Newport, June 2017

5. Benbow, J. 2017. Exploring Resilience of Contemporary Nursing Roles in Wales. Presented oral paper and poster at the Cardiff and Vale University Health Board Conference, October 2017

6. Benbow, J. 2017. Exploring Resilience of Contemporary Nursing Roles in Wales. Presented Oral paper at the Cwm Taff Health Board Research Conference, Treforest, November 2017.

7. Benbow, J. 2016. Exploring Resilience of Contemporary Nursing Roles in Wales. Presented poster at the School of Healthcare Sciences Post Graduate Research Symposium, Cardiff, November 2017

8. Benbow, J. 2016. Exploring Resilience of Contemporary Nursing Roles in Wales. Presented Poster at the Aneurin Bevan University Health Board Research Conference, Newport, September 2016.

9. Benbow, J. 2016. Exploring Resilience of Contemporary Nursing Roles in Wales. Presented poster at the School of Healthcare Sciences Post Graduate Research Symposium, Cardiff, November 2016

10. Benbow, J. 2016 Exploring Resilience of Contemporary Nursing Roles in Wales. Invited to Presented Lead Paper at the Royal College of Nursing International Nurses Day, RCN Wales, Cardiff, May 2016.

11. Benbow, J. 2016 Exploring Resilience of Contemporary Nursing Roles in Wales. Presented oral Paper at the School of Healthcare Sciences Research Seminar Series, representing the School's Research Work Force theme, Cardiff, May 2016.

11 Benbow, J. 2016. Exploring Resilience of Contemporary Nursing Roles in Wales. Presented poster at the British Association of CC Nurses Wales Bi- annual meeting, Bridgend, June 2016.

12. Benbow, J. 2015 Exploring Resilience of Contemporary Nursing Roles in Wales. Invited to present keynote paper to CLIC Sargent UK, Birmingham, June 2016.

Reports and other contributions.

- All Wales Nursing Now presentation and contribution to final report (2020)
- Bi- annual presentation of oral reports to the Royal College of Nursing Wales Board, Cardiff
- Post- graduate research blogs
- RCN self-care tool kit- critical friend
- RCN Wales Educational Strategy 2018
- RCN Congress motion 2017
- Various Health Boards and RCN workshops/presentations

Various undergraduate and post-graduate research led teaching sessions and supervision of resilience associated dissertations.

Appendix 18: Individual calculations: Further analyses linking workplace resources and perceived support for health and well-being.

Examination of a trusted colleague conversation and support for health and well-being

Appendix 18, Table 1: Examination of a conversation with a trusted colleague and support for health and well-being

	Conversation with a Trusted Colleague					
I feel my health and well-being is supported	Helpful	Somewhat helpful	Not aware	Unhelpful	Not available	Total
Agree	43.3	26.5	0.0	37.5	9.1	40.9
Undecided	25.9	34.2	0.0	12.5	18.2	26.7
Disagree	30.7	39.4	0.0	50.0	72.7	32.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
(*N*)	1,272	155	0	8	22	1,459

A Pearson Chi-square test of independence was performed to examine conversation with a trusted colleague (helpful, somewhat helpful, not aware, unhelpful, not available) and support for health and well-being (agree, undecided, or disagree). The relation between these variables was significant, X^2 (8, N = 1459) = 40.83, p < .001. These findings seem to suggest that there is a relationship between the helpfulness of a conversation with a trusted colleague and support for health and well-being, illustrated in the table above, which seems to indicate that there is a difference between the conversations of nurses with trusted colleagues and support for health and well-being.

Examination of line manager conversation and support for health and well-being

Appendix 18, Table 2: Examination of a line manager conversation and support for health and well-being

	Line Manager Conversation					
I feel my health and well-being is supported	Helpful	Somewhat helpful	Not aware	Unhelpful	Not available	Total
Agree	57.1	20.9	0.0	6.5	11.6	40.9
Undecided	25.9	34.7	12.5	15.2	9.3	26.7
Disagree	17.1	44.4	87.5	78.3	79.1	32.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
(*N*)	878	392	8	138	43	1,459

A Pearson Chi-square test of independence was performed to examine a line manager conversation (helpful, somewhat helpful, not aware, unhelpful, not available) and support for health and well-being (agree, undecided, or disagree). The relation between these variables

was significant, X^2 (8, N = 1459) = 375.18, p < .001. These findings seem to suggest that there is a relationship between the helpfulness of a line manager conversation and support for health and well-being, illustrated in the table above, which seems to indicate that there is a difference between the conversations of nurses with line managers and support for health and well-being.

Examination of debriefs after a stressful event and support for health and well-being.

Appendix 18, Table 3: Examination of debriefs after a stressful event and support for health and well-being.

	Debriefs After a Stressful Event					
I feel my health and well-being is supported	Helpful	Somewhat helpful	Not aware	Unhelpful	Not available	Total
Agree	54.6	32.5	21.7	10.0	10.3	40.9
Undecided	25.8	33.3	31.7	26.7	22.8	26.7
Disagree	19.6	35.2	46.7	63.3	66.9	32.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
(*N*)	890	216	60	30	263	1,459

A Pearson Chi-square test of independence was performed to examine debriefs after a stressful event (helpful, somewhat helpful, not aware, unhelpful, not available) and support for health and well-being (agree, undecided, or disagree). The relation between these variables was significant, X^2 (8, N = 1459) = 279.28, p < .001. These findings seem to suggest that there is a relationship between debriefs after a stressful event and support for health and well-being (see table above), which seems to indicate that there is a difference between debriefs after a stressful event and nurses support for health and well-being.

Examination of clinical supervision and support for health and well-being

Appendix 18, Table 4: Examination of clinical supervision and support for health and well-being

	Clinical Supervision					
I feel my health and well-being is supported	Helpful	Somewhat helpful	Not aware	Unhelpful	Not available	Total
Agree	55.0	30.9	26.0	14.6	24.2	40.9
Undecided	24.3	36.7	24.7	29.3	23.6	26.7
Disagree	20.7	32.4	49.3	56.1	52.1	32.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
(*N*)	740	275	73	41	330	1,459

A Pearson Chi-square test of independence was performed to examine clinical supervision (helpful, somewhat helpful, not aware, unhelpful, not available) and support for health and

well-being (agree, undecided, or disagree). The relation between these variables was significant, X^2 (8, N = 1459) = 173.72, p < .001. These findings seem to suggest that there is a relationship between clinical supervision and support for health and well-being (see table above), which seems to indicate that there is a difference between clinical supervision and nurses support for health and well-being.

Examination of reflective practice groups and support for health and well-being

Appendix 18, Table 5: Examination of reflective practice groups and support for health and well-being

	Reflective Practice Groups					
I feel my health and well-being is supported	Helpful	Somewhat helpful	Not aware	Unhelpful	Not available	Total
Agree	63.4	47.3	35.5	30.0	26.1	40.9
Undecided	20.5	30.4	31.6	22.0	26.5	26.7
Disagree	16.1	22.2	33.0	48.0	47.4	32.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
(*N*)	366	207	361	50	475	1,459

A Pearson Chi-square test of independence was performed to examine reflective practice groups (helpful, somewhat helpful, not aware, unhelpful, not available) and support for health and well-being (agree, undecided, or disagree). The relation between these variables was significant, X^2 (8, N = 1459) = 159.98, p < .001. These findings seem to suggest that there is a relationship between reflective practice groups and support for health and well-being (see table above), which seems to indicate that there is a difference between reflective practice groups and nurses support for health and well-being.

Examination of in-service training and support for health and well-being

Appendix 18, Table 6: Examination of in-service training and support for health and well-being

	In-Service Training					
I feel my health and well-being is supported	Helpful	Somewhat helpful	Not aware	Unhelpful	Not available	Total
Agree	54.4	28.5	25.6	25.0	21.6	40.9
Undecided	24.4	32.0	30.6	26.7	22.2	26.7
Disagree	21.2	39.5	43.8	48.3	56.2	32.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
(*N*)	763	362	121	60	153	1,459

A Pearson Chi-square test of independence was performed to examine in-service training (helpful, somewhat helpful, not aware, unhelpful, not available) and support for health and well-being (agree, undecided, or disagree). The relation between these variables was significant, X^2 (8, N = 1459) = 150.77, $p < .001$. These findings seem to suggest that there is a relationship between in-service training and support for health and well-being (see table above), which seems to indicate that there is a difference between in-service training and nurses support for health and well-being.

Appendix 19: Optional responses and estimated completion time

Outline of Optional Qualitative Responses						
Question	Question focus	Number of responses	Proportion of total responses	Proportion of comments *	Word count	Combined word count-2 options to comment per question
1	Indicators of resilience	363	24%	7%	5076	
2	Indicators of least resilience	299	20%	6%	4267	
3a	Adversities	321	22%	6%	6494	
3b	Adversities that tested resilience	952	65%	18%	21,702	3a +3b = 28,197
4a	Coping strategies adopted	547	37%	10%	8032	
4b	Assistance to develop coping strategies	276	19%	5%	4077	4a + 4b =12,109
5a	Strengths reported	419	29%	9%	5494	
5b	Strengths that wish to be built.	243	17%	5%	2557	5a + 5b = 8051
6	Motivation reported.	199	13%	4%	3556	
7a	Relaxing and recharging activities reported	303	21%	6%	3540	
7b	Assistance to develop self-care.	319	22%	6%	3554	7a+7b= 7094
*10	3 things to enhance sense of resilience in everyday working lives	2760 (920 x 3)	63%	18%	20,152	
Total		7921	1459 (100%)	100%	88501 words	
*% rounded *Closed questions 8 and 9- no qualitative comments						
Estimated Completion time:						
Minimum 20 minutes 20 x 1459 = 60 days (based on 8-hour day)						

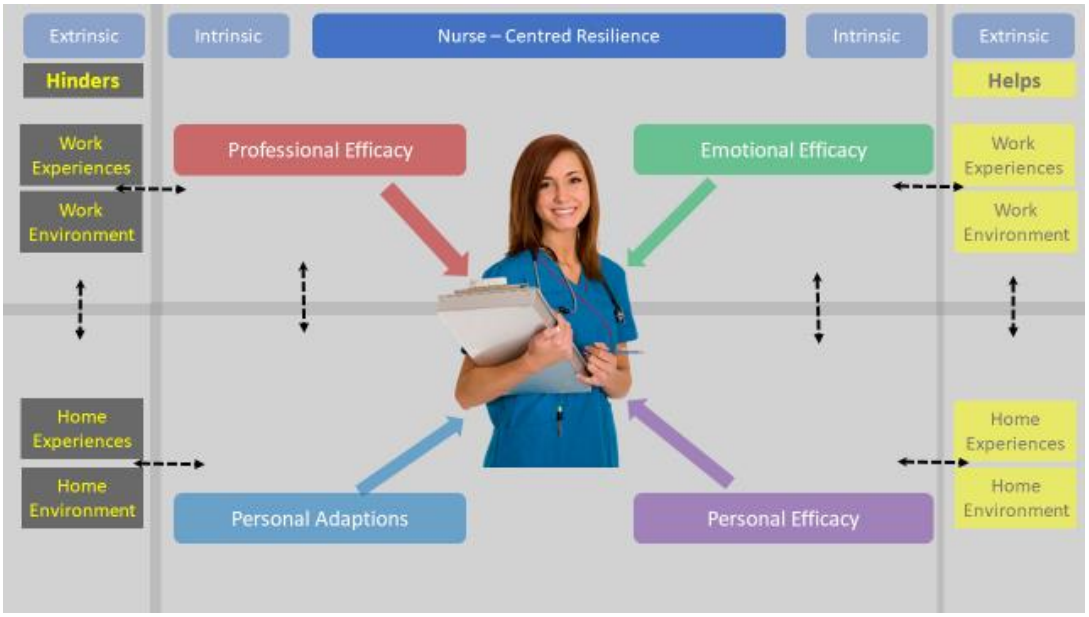
Appendix 20: Training needs examples broadly aligned to NMC Domains of Practice (2017)

<table>
<tr><th colspan="2">Development key elements</th></tr>
<tr><td>1</td><td>Emotional/situational intelligence, communication, teamworking, coping and coaching.</td></tr>
<tr><td>2</td><td>Work life balance: reconciliation of work and personal life e.g., lifestyle changes, how to sustain dedication to leisure to combat overload, stress, enhance relaxation and recovery.</td></tr>
<tr><td>3</td><td>Physical and psychological health: fatigue, self-care and maintaining quality relationships.</td></tr>
<tr><th colspan="2">Prioritising People Promoting Professionalism and Trust (NMC 2017)</th></tr>
<tr><th>Practising Effectively</th><th>Preserving Safety</th></tr>
<tr><td>
<u>Personal Resilience Characteristics</u>
• Assertiveness, confidence, optimism
• Self-awareness/worth
• Knowing limitations
• Management of self
<u>Professional Efficacy:</u>
• Working co-operatively with others - managing people
• Team building*, motivating staff.
• Communication
• Negotiating, mediating, resolution, difficult conversations, conflict (1:1/meetings) and bullying
• Competence, knowledge and skills.
• Decision making
• Reflective practice and clinical supervision
• Time management
• IT skills
• Death and bereavement skills
<u>Emotional Efficacy</u>
• Recognising regulating and working with emotions of self and others (e.g., talk about stress, mental health)
• Managing and learning from stressful events- sense making.
</td><td>
• Emergency/ acute incidents and situations.
• Managing, reporting and dealing with feedback.
• Violence, agression and de-escalation techniques
• Complaints
• Risk Management
<u>Raising concerns</u>
• Dealing with management**and conflict
• Written and verbal methods
<u>Managing organisational resources</u>
• Environmental e.g., staff/beds
• Finding time for development and keeping up to date*
<u>Building resilience: health and well-being</u>
• Mindfulness**
• Keeping calm, coping, and managing stress
• Stress reducing/relieving strategies Relaxation techniques.
• CBT and counselling
</td></tr>
</table>

Appendix 21: Model: Examples of earlier versions

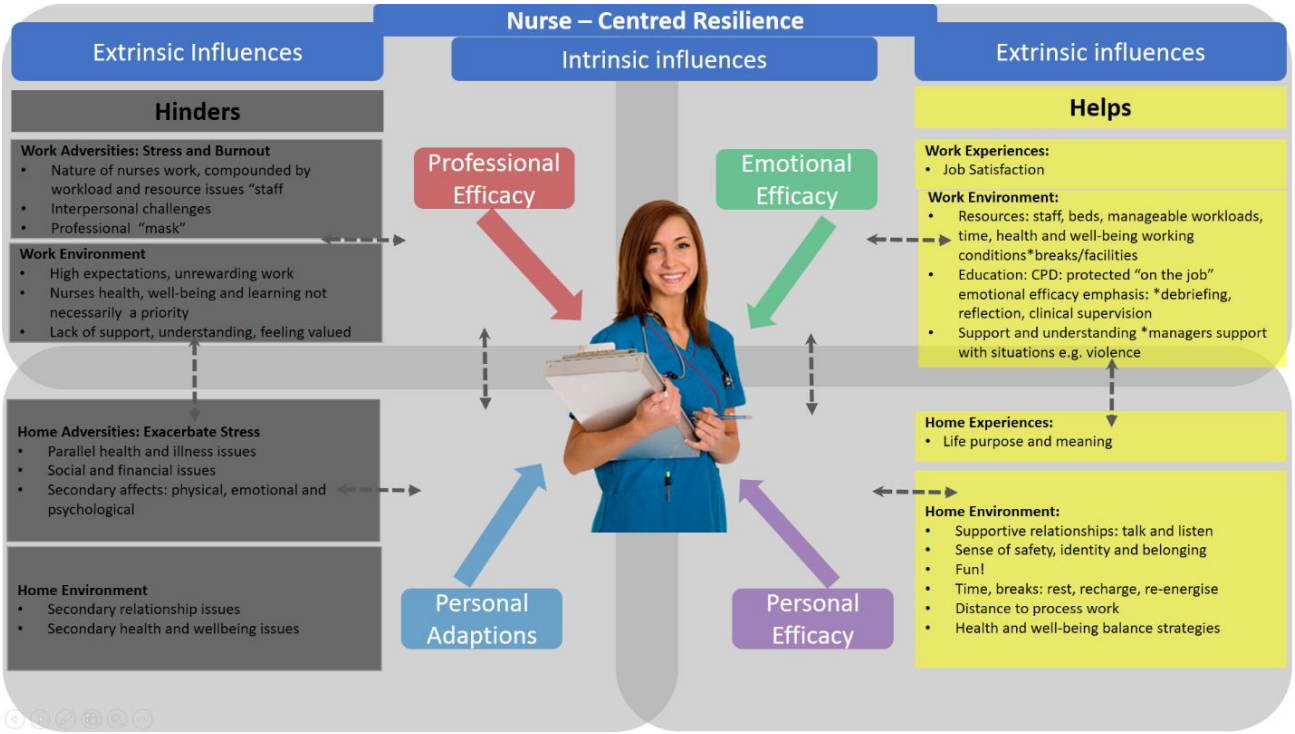
Starting from the middle working outwards from the nurse, the intrinsic influences composed of the four resilience dimensions. Alongside the extrinsic influences that can help or hinder resilience including work and home environments. The arrows illustrate the interrelated two-way connections and fluidity between the factors within the main and sub-models. The emergent process of resilience is also included.

Draft version 1: Nurse Centred resilience



Draft sub-model 1a Intrinsic influences that can help nurses' resilience: resilience domains

Draft sub-model 1b Extrinsic influences that can help and hinder nurse resilience.



Appendix 22: Planned publications

Planned Publications	
1	*Exploring Resilience of Contemporary Nursing Roles in Wales; qualitative findings of a mixed methods study.* This article will include the three qualitative finding's themes. *Target journal*: International Journal of Nursing Studies. (Presentations 1, 3 and 4: international).
2	*Exploring Adversities and tests of resilience: qualitative findings of a mixed methods study*. This article will include the sub-process of a test of resilience in addition to adversities and the need for support that is acute continuous, routine and expected. *Target Journal*: Nursing in CC Journal (Presentations 1: international and 2: national/local).
3	*Exploring Resilience of Contemporary Nursing Roles in Wales*: *a new workplace RES model.* This article will include the positive workplace factors found that could help resilience in addition to the model. *Target Journals*: Journal of Nursing Management; British Journal of Health Care management (Presentation 1: national/local).
4	*A social-ecological approach to nurse resilience: a discussion paper.* This article will be based upon the literature review and the limited priority on a holistic multi-level approach to nurse resilience. *Target Journals*: Journal of Advanced Nursing; Nursing Enquiry.
5	*Dimensions of Nurse Resilience: findings of a mixed methods study.* This article will include the findings that make up the emergent dimensions in addition to individual and workplace interventions that could help resilience *Target Journals*: Journal of Clinical Nursing; British Journal of Nursing (presentations 2-6/ international).
6	*Exploring Resilience of Contemporary Nursing Roles in Wales: results of a survey.* This article will include the results from the questionnaire within the four sections. *Target Journals*: Journal of Clinical Nursing; British Journal of Nursing.

Appendix 23: PhD-The Ironman of essays? A reflection on my PhD experience

On holiday at our favourite local beach, a lifetime friend said to me: How's that essay going of yours Jude? ……What you're not still doing it are you? You must be doing the Ironman of essays! This made me smile as our friend is an accomplished Ironman competitor, a well-known extreme long-distance triathlon race. The first leg is an open water 3.8km swim, then 180km bike ride then the final leg a 42.2km run. Often performed in extreme terrains (such as hills or oceans) and weather conditions (heat or cold). It is not for the faint hearted, widely considered the gold standard of triathlon races (Milsom 2020). The time and difficulty of completing an Ironman varies between individuals, average time is approximately 12 hours (swim 1.16 hours 10 %, bike 6.25 hours 50% and run 4.54 hours 40%) (Britt 2020). Many DNF.[65]

From time to time, I have thought about this Ironman analogy, particularly in the last phase, so now coming towards the end of this PhD I have chosen to use it to frame this short account. My reflexivity has been critical to both the study and my learning, from my reflective triggers at the beginning (Appendix 1) to this retrospective piece now. Throughout I have kept a reflexive diary a smattering of these entries from the differing phases will be drawn upon.

The swim: research design and questionnaire development

The swim can be the least physically demanding portion of the Ironman to complete if the breathing technique is mastered, but this requires becoming an effective open water swimmer being relaxed and overcoming the fear of the unknown. Most beginners fear the swim.

On average at least a year's training is recommended to do an ironman, certainly advance planning is recommended for PhDs. On reflection, I could have been more prepared both in the subject and the research process. Nonetheless, I enjoyed working tirelessly to overcome my steep learning curve, but I quickly realised the theory of resilience was not simple. To help make the abstract theory more tangible to me and practising nurses I tried different approaches to explain the study, one way was the metaphor of the *Little Engine*[66], in a PGR blog in 2015. From the blog came an invite

[65] Do not finish

[66] . The Little Engine That Could - Wikipedia Story linked to hard work, motivation, self-efficacy "we" rather than us emphasis.

from an external national organisation to present the study to their nurses. These and other nurses found the metaphor helpful. Important early learning, that it is a researcher's responsibility to make theory understandable to have practical value to busy nurses. This learning has steered me throughout.

During this phase, I often felt I was drowning. Drowning is a common feeling of PhD students who try to do too much. With supervisory guidance I overcame this and applied my learning into developing the questionnaire. Swimming with other PhD students helped and realising that the library was my most effective training ground. Despite the work of developing the questionnaire and the high of piloting it, I struggled with launching it across Wales. My supervisor said: *You must dive in.* On reflection, I can see I was only training in the calm swimming pool fearful of the open choppy water. My supervisors gave me confidence to face my fear and normalised the unknown waters they were so familiar with. To challenge any pre-conceived ideas, I may have. For instance, they said: *Try not to worry about how many nurses will respond to the survey that will be a finding in itself.* Also, the time factor, like Ironman events each research phase must be covered in a set time period.

The bike ride: data collection

The bike ride can be easier on the body than the run, due to the design of the bike also it can be an opportunity to get some respite, eat and drink before the marathon.

On reflection I can see that my hard work during the swim paid off in the bike ride where some time was made up during data collection, tempering my former advance planning challenges. In retrospect the data collection was a sprint (six weeks) but effective. A pivotal phase that altered the course of the study, despite the groundwork put in to undertake further case studies. Several ethical considerations dominated my learning in this phase. I was mindful of my role as a researcher to ensure no coercion, that further data collection would have been unethical, and that all data would need to be analysed. Maybe the bike was the easiest phase due to the support of 100s of nurses from all levels over Wales, a high that has been sustaining. It made me realise that nurses do want their voices heard but the research approach must accommodate their pressurised working lives.

The marathon: analysis and writing up.

The marathon is more physically difficult than the other legs. That is, hours of pounding pavements will take the body longer to recover. Reserves can become depleted, and the "wall" can be hit, slowing down when tired and walking can help but it can also mean running longer getting hungrier and more tired.

After the high of the data collection sprint, data analysis felt daunting, I did not know where to start, but I attacked it at a pace to make some sense of it. Help cleaning the quantitative data and supervision was critical to enable numerous categories of qualitative data become three themes early on. Presenting emergent findings at local national and international levels was also found to be valuable for several reasons. Fulfilling R&D approval commitments. The test of articulating the findings in an understandable way helped my iterative understanding, momentum and connection with multiple stakeholders' perspectives and the wider context. Despite the interest and value however time had to be prioritised. The road map to the "So What" seemed so elusive, or as my one supervisor often used the analogy of distilling findings to make a cheese sauce- "roux".

Writing up during the elements of wind and rain that came with the COVID pandemic could not have been foreseen. Like everyone worldwide other things not solely work had to be prioritised. My pace fluctuated between sprinting, jogging, and walking, disappointed with not meeting a hoped-for finishing time then recovering but never hitting a wall and stopping. Supervision has always been supportive and reassuring that the study was moving forward making progress toward completion. I learnt to reset my goal that finishing time was not as important as finishing. Neither a race nor competition. In retrospect this last phase has also been a productive key time, early on I found a way to present the mass of data on tests of resilience differently and the "roux" came in the RES workplace model. My one supervisor said that: *writing up is the hardest,* as is the marathon, I have greater insight now of the difference between reporting a research study and making a unique contribution so I respect this may have been the hardest phase anyway.

To conclude, a big difference between my friend's Ironman and mine is that my supervisors and nearest and dearest probably feel they have endured my Ironman too, which I am eternally thankful. Support along the course from colleagues within the

School, University, RCN Wales the nursing comradery across Wales and further afield has cheered me along and fed my belief in the project. The small acts of kindness (cup of tea from the security guard late at night in the library) and the simple question: *How is your PhD going?* Has meant so much. Hopefully, the nurses who participated in the study however did not find it too painful and they will have the most to gain. I have a come a full circle (see reflection Appendix 1), at the start I believed in the aim to better understand the resilience of nurses, to enhance nurses' health and so the health of the nation of Wales. This study has contributed to filling this gap. This study has shown that nurses in Wales merit additional and varied support to help them manage exposure to occupational stressors. To this goal I will be forever committed[67].

References/websites (all accessed April 25th, 2021)

Milsom, K. 2020. What is an Ironman? https://www.220triathlon.com/training/long-distance/what-is-an-ironman

Britt, R. 2020. How Much Time Does it Take to Finish an Ironman Triathlon? Average Ironman Finish Times RunTri: How Much Time Does it Take to Finish an Ironman Triathlon? Average Ironman Finish Times

https://www.220triathlon.com/

Hugh Kearns (ithinkwell.com.au)

[67] Of relevance to this study, the two nurses that I reflected upon at the start of this thesis, during the pandemic, Ann the third-year student left the independent sector and returned to the NHS and Tess chose not to retire at 55 years but stayed to support her team.