Exploring work related factors that enhance or erode employee resilience

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Thesis submitted in fulfilment of requirements for the degree of

Doctor of Philosophy in Psychology

University of Bath

Department of Psychology

February 2019

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Acknowledgements

Firstly, I would like to thank my supervisor Dr. Andrew Weyman for his patience, support and encouragement. Without his invaluable input and guidance this project and my whole PhD experience would not be what it has been. He has been a mentor, advocate and has always shown me he believes in me which has helped me through some difficult times. It has been an honour to work alongside Andy.

I would also like to thank my second supervisor Dr David Wainwright. Moreover, I would like to thank the Local Authority that provided me with the opportunity to complete this research. To all the individuals who took the time to take part in this research a massive thank you- without your participation this project would have not been possible. A special thank you to Liz McDougall and her team who supported this project from the get go and were always willing to assist and promote my research.

On a more personal note, this thesis would not have been possible without the love and support from my friends, Hannah and Adam, who stuck by me every step of the way. I would also like to thank my mother and father, they have spent countless hours looking after my son and supporting me so that I can chase and finish this endeavour.

To my partner Kyriako, thank you for your love and support. You never lost faith in me and kept pushing me when I needed it the most. Without you none of this would have been possible.

Finally, I would like to dedicate this PhD to two of my inspirations. Firstly, to my beloved grandmother who I know was my biggest supporter. Secondly, to my son who has brought so much love into my life. From this experience I hope I can teach him that no matter what life throws at you, you can achieve your heart's desire if you really want to.

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Abstract

Local authorities in the UK can be characterised by budget cuts, structural change and uncertainty for many employees. This has come as a response to the 2008 economic collapse and as a result of changes in UK government policy that have prompted unprecedented funding cuts to local government organisations. In light of economic pressures, significant organisational changes have been documented, particularly where this is characterised by cost savings in all areas, restructuring, redeployment, cuts to services and downsizing. An essential element for organisational vitality in times of change is having a resilient workforce. Working under these new work conditions has resulted in employees having higher levels of job autonomy, performing team working by projects, being managed by objectives, and often facing intensification of work. Therefore the impact of these changes on employee resilience needs to be examined. To date the research around the concept of resilience in the work context can be seen as partial. In particular, measures of resilience are more focused on capturing resilience as an individual characteristic, rather than something that can be enabled by the organisation. This thesis aimed to explore and develop a measure that considered the influence of work related factors on employee resilience.

A case study of a Local authority in the United Kingdom (UK) was used as the target population due to the amount external and internal perturbations government were facing. A mixed methods approach was adopted; initial exploratory work used qualitative and quantitative methods to capture employee perspectives on work related factors that facilitate employee resilience. The exploratory work inspired three further investigations. Firstly, the development of an initial organisational climate measure of situational influences on employee resilience that was found to have adequate measurement properties and revealed that employee resilience is significantly associated with work identity, supportive management, team cohesion and quality of communication. Secondly, a study of paired comparisons to derive a ranking for the relative salience employees assign to factors identified as impacting employee resilience highlighted the primacy of

team support and collaboration, meaningful work and supportive management. Finally, study five presented an opportunity to examine change and how they relate to employee resilience in real time. Specifically, the implications for the introduction of more flexible work practices (flexible timing and place of work) to employee resilience were explored. Increased levels of autonomy over when and where to work were seen as an enabling factor for employee resilience. Comparatively, breakdown of social and professional network, blurring of work life boundaries, and loss of health management were indentified as eroding factors for employee resilience.

Although future research is required, the present study shows preliminary support for developing a psychometric tool that measures work related influences on employee resilience. The scope of such a measure resides in enabling employers to benchmark their performance, highlight agendas for change and monitor intervention impact. Additionally, understanding variables that have the potential to challenge and erode employee resilience is important from the perspective of maintaining employee well-being and, by implication, the resilience of the organisation in maintaining its capacity to provide high quality services

Chapter 1 Introduction

1.0 Introduction

A high proportion of contemporary employment can be characterised as constantly changing, uncertain and market driven (Naswall et al., 2015; Allvin et al., 2011). Operating within the current economic climate, organisations now more than ever are focused on meeting client needs and sustainability in terms of the delivery of products and services. Additionally in light of economic pressures, significant organisational changes have been documented, particularly where this is characterised by restructuring, redeployment and downsizing. In order to respond to these changes and uncertainties organisations need to become resilient; they need manage change successfully and thrive in the current climate if they are to survive.

There is little consensus regarding what resilience is in the workplace especially with regards to how organisations might achieve greater resilience in the context of organisational change (Stephenson, 2010). Recent research has suggested employees play a vital role in organisational resilience (Shin et al., 2012; Lengnick-Hall et al., 2011). Specifically, research has proposed that individuals who are more resilient are better equipped to cope with change which ultimately leads to enhanced work performance (Cooke et al., 2016; Hodliffe, 2014).

Reflecting this premise, the majority of literature on resilience in the workplace is focused on conceptualising resilience as a personal resource or trait that an employee does or does not have. Moving away from a trait perspective several studies no longer view resilience as a static state and argue that resilience can be developed (McAllister & McKinnon, 2009; Jackson et al., 2007). Based on the notion that resilience can be cultivated there has been an increase in workplace interventions aimed at enhancing employee resilience. Yet, the vast majority of these intervention focus on the individual as a unit for change (Tugade & Fredrickson, 2004; Jackson et al., 2007). Restricting the scope for intervention to

attempting to change employees, rather than systems of work, is not only partial but, is said to run the risk of creating a climate of blame orientated around workers' inability to 'cope' with what may be a challenging work environment (Maddi, 2002; Johnson & Down, 2012).

To date, research around the concept of resilience at work can be seen as partial. In particular, measures of resilience are more focused on capturing resilience as an individual characteristic, rather than something that can be enabled by the organisation. If resilience is something that can be developed then there is a need for an employee model of resilience that focuses on work related/ organisational factors that can enable or equip employees to be able to better cope with change.

1.0.1 Aim

This study aimed to contribute to the limited evidence on how organisations can support and facilitate employee resilience. Essentially this thesis aimed to answer the question: What are the headline variables that challenge or support employee resilience at times of profound organisational change, how do they manifest and what is the scope for their mitigation?

1.0.2 Objectives

1. To explore and characterise employee perspectives on resilience and implications for their well-being at times of significant organisational change.
2. To explore the scope for developing a model of headline barriers and enablers of employee resilience.
3. To explore the scope for developing a workplace climate measure of headline work-organisation elements that impact on employee resilience.
4. To determine employee perspectives on the relative salience of enabling or eroding organisational factors to resilience and the degree of consensus across different demographics.

5. To explore if the same enabling or eroding organisational factors to resilience operate in new ways of working (e.g. hot-desking, homeworking).

These objectives are investigated in five separate studies utilising data from one organisational sample.

1.1 Context of study/change

The research on which this thesis is based was conducted within a large (~8,000 employees) Local Authority (LA) in the UK. In common with all UK LA's , large scale cuts in central government funding, since 2010 have brought about the need for significant change, specifically downsizing and restructuring, with the same period witnessing devolvement of new responsibilities from central government. As a result Authorities have been faced both internal and external scrutiny with regards to service provision, and challenging performance objectives. From 2010 spending by local authorities has been reduced by 37 per cent, and is scheduled to fall much further (Crewe, 2016). For many local authorities a loss of more than 60 per cent of their income by 2020 is predicted. Local Authorities have statutory duties such as social housing, accommodation for the homeless, elderly and disabled people, youth services, and social care for children. Each one of these services has been overstretched since the start of 2010. For example, between 2010 and 2015, £4.6 billion was cut from adult social care budgets in England (Crewe, 2016). This service experienced work intensification, pay was poor and training for staff was limited (37 per cent of care staff had no accredited qualifications). Local Authorities are being asked to adapt to new working ways; this is characterised by a loss of a large number of administrative jobs, sharing services with neighbouring authorities, reorganising departments and no longer providing services themselves, instead outsourcing them.

As described above the contemporary organisational context within the LA can be characterised by budget cuts, structural change and uncertainty for many employees. Specifically, the case study Local authority was looking to reduce its work force by about 60-70 percent. External consultants were engaged with the purpose of making services more efficient resulting in the complete loss of certain departments. Additionally, to meet the imposed budget cuts the LA was obligated to close all but 6 work sites/buildings out of 24 main work sites (in progress at the time the research was undertaken). This demanded a flexible workforce that was required to work in an agile manner, notable features being a rise in rates of home working, the introduction of hot desking across sites extending to the need for employees to effectively work from any location they could operate a laptop computer. Working under these new work conditions has resulted in employees having higher levels of job autonomy, performing team work by projects, being managed by objectives, and often facing intensification of work. This in turn has resulted for the need of changes in management styles. Styles involving close supervision and disciplining (micromanagement) have been substituted by the need for employees to be intrinsically motivated, which has called for the increase in positive feedback to support employees through these work changes.

The call for change and further budget cuts came at a time when the LA was already experiencing budget cuts, understaffing, and increased demand for services alongside the scarcity in resources for service provision. The LA experienced £28m reductions in 2011/12 budgets and £27m in 2012/13. An additional budget cut of £35m was set for the 2013/14 budget. Forecasts indicated that by 2016/17 the LA needed to address a funding deficit of £100m, compared to the level of spending in 2012/13. It is these issues that rendered the case study LA a valuable context in which to examine the impact of organisational change on employee resilience. Resilience holds a significant place for Local Authorities since employees had to face constant change in the way work was configured as

well as the nature of the work itself alongside the concern over the security of their employment.

1.2 Approach to research taken

This project adopted a pragmatic approach of the worldview in a case study design line of inquiry using a mixed methods research methodology.

1.2.1 Pragmatic Approach

The thesis can be seen as adopting a pragmatic approach to real world research. Pragmatism has mostly commonly been applied to areas of research including environmental hazards, health care and information technology among others (Duram, 2010). Pragmatic studies are concerned with understanding and addressing problems that occur in the uncertain world (Dillon et al., 2000; Duram, 2010). They are often inductive, moving from a complex problem to a general theory of understanding in order to improve a given situation. The first step in the process of pragmatic research is identifying the real world problem. This is followed by research which seeks to gain insight into the given problem in order to better understand it and ultimately solve the problem. Finally the research inquiry is often used to improve the situation through initiatives, change policies other solutions relating to the given problem.

A pragmatic study is not bounded by theoretical constraints; understanding complex, real-world problems is above philosophical arguments (Dillon et al., 2000). Philosophical arguments are pushed aside as pragmatist scholars suggest that inquiry will not lead to certainty because, in theory, everything in the world is uncertain (Kaushik & Walsh, 2019). Meaning exists in human experiences and the environment in which it is constructed (Morgan, 2014). Since pragmatism does not seek out one reality/ truth it allows the researcher to select the best possible methods to theorise the unpredictable interactions between society and the environment.

Furthermore, a pragmatic approach embraces human experience to understand what works best in given situations and forms the basis of decisions made in research (Duram, 2010; Kaushik & Walsh, 2019). Pragmatists inquiry to a problem entails the investigation of complex interrelated elements in order to better understand the entire situation (Duram, 2010; Ihuah & Eaton, 2013). Finally, there is no fixed progression in pragmatic research at any point new elements may be discovered to better define the problem (Duram, 2010).

Specific to this thesis, a pragmatic approach viewed constant change in the workplace as the real world problem. Gaining insight into workplace factors that can help build or erode employee resilience at work can help result in changes in organisational policies or initiatives that will better support employee in an uncertain working world. Furthermore, when working in an applied setting tangible situations need to be considered as opposed to abstractions. Working with the LA the researcher always had to keep in mind what was feasible to research as opposed to theoretically what would ideally have been researched. This thesis embraced human experience, i.e. employee experiences, to form the basis of decisions made in research. Moreover, a pragmatic approach allowed for multiple elements (e.g., social, technological, and organisational factors) to be explored concurrently and interactively. Finally, the emergent elements could change over the course of the research if new elements could better explain the problem under investigation.

1.2.2 Case study

A case study design was used to examine how employees experience change and what work related factors had the potential to enhance or erode their resilience within the LA. A case study is defined as the investigation of one single organisation using multiple methods in order to gain a deeper level of insight into the organisational context (Marshall, 1999). Case studies have particular value in addressing the 'how' and 'why' questions within real life contexts (Eisenhardt,

1989; Yin, 2003). The aim of the case study analysis was to generate rich descriptions of context specific factors that enhance or erode employee resilience in the LA. Data was gathered on employee attitudes and perspectives on issues relating to the management of change, network of support, job design change, technological change, involvement in change process and the relationship between working and family lives.

1.2.3 Mixed methods

This thesis aimed to develop an analysis of an array of work related factors that influenced employee resilience. In line with the pragmatic nature of this project both qualitative and quantitative methods were employed as complementary methods for investigating the complexity of employee experiences within the workplace.

Kelle (2008) argues that the ongoing 'paradigm wars' between qualitative and quantitative research are entrenched within the field of humanities and social science. Often research justifies the selection of one method over the other by emphasising the problems of the opposite tradition. A recent trend in the field of psychology has been to adopt a mixed methods approach since the combination of both qualitative and quantitative methods will compensate for the opposing methods weaknesses (Kelle, 2008; Johnson & Onwuegbuzie, 2004). However, research that utilises mixed methods often does not provide a clear rationale for the choice of methods (Bryman, 2005). Researchers frequently combine quantitative and qualitative methods without the choice of 'mixed methods' being driven by substantive research questions. As the research paradigm was pragmatic the most often associated methodology for a holistic analysis of the research problem is a mixed approach (Creswell & Clark, 2011; Johnson & Onwuegbuzie, 2004)

In relation to this study the selection of mixed methods went beyond merely being able to take advantage of the strengths and eliminating the weaknesses of

qualitative and quantitative modes of enquiry. A mixed method approach was selected as the focus of the research and research questions proposed mixed methodology would work best for the particular research problem.

Qualitative methods were selected to gain insight into the organisational context of the chosen LA local knowledge of the field in order to develop hypotheses and explore issues without necessarily having a priori assumptions in place (bottom up approach). It was very important to the researcher to explore employee experiences of change and adversity in the workplace in the first instance. Characterising certain situations as adverse for employees based on prior literature may lead to misinterpretations by the researcher (King, 2016). For example, if one employee does not perceive job insecurity to be stressful but another employee does and they both achieve positive work outcomes only one should be considered to have overcome adversity. Therefore it was important to the researcher to maintain an employee-centric approach to the study of employee resilience; this was done for the first and last study using qualitative interviews.

On the other hand, quantitative methods can give an overview about the domain under study and can describe its heterogeneity/homogeneity across the organisation. Specifically, a quantitative approach was used to help corroborate findings from the qualitative study and see if individual employee experiences as described above can generalise or can be quantified to a larger sample of employees. Using both methods of enquiry allowed for mutual validation/triangulation of data and findings as well as for the production of a more coherent and complete picture of the investigated domain as qualitative data helped inform statistical findings.

1.3 Thesis structure

1.3.1 Theoretical work

The part of this thesis presents a review of the literature which provides the theoretical basis for this research. Chapter 1 briefly outlines the motivation

behind the research topic of employee resilience. Chapter 2 reviews the current literature of personal resilience, organisational resilience and employee resilience highlighting the gaps in research that this thesis hopes to address. The aim of this section is to provide a foundation of what this thesis is attempting to accomplish, and the reasons why this research is being undertaken.

1.3.2 Exploratory work

This section of the thesis describes two different approaches to explore work related factors that influence employee resilience. Chapter 3 describes the adopted methodology for both qualitative studies. Chapter 4 discusses a qualitative investigation using interviews to explore how employees experience organisational change and possible organisational resources that could aid in developing employee resilience. Chapter 5 describes a quantitative approach to generate survey items based on quotes and themes from chapter 4 and the pilot study which was used as a pre-test for the development of survey items. The two chapters are complimentary; exploring and triangulating influences of employee resilience. Finally chapter 8 explores if they same factors identified in studies 1, 2, 3 and 4 still operate in new ways of working (NWoW) or if new features emerge.

1.3.3 Investigative work

Having used the foundation qualitative activity to gain a more detail contextually sensitive insight into relevant issues and phenomena results from the exploratory work, Chapter 6 details an attempt to replicate the Exploratory Factor Analysis (EFA) using a different sample. This chapter presents the analysis and results for testing model fit using Confirmatory Factor Analysis (CFA) of the initial factors and items identified. Following this the potential to develop the identified constructs into a quantifiable employee resilience organisational climate measure is discussed. Chapter 7 integrates identified themes and factors in a study that

aimed to determine employee perspectives regard to the relative salience (importance) of challenges to their resilience.

1.3.4 Results and conclusions

The final section integrates results from the mix of methodologies and defined research objectives. Chapter 9 summarises the research findings, conclusions, referenced to the research question, specifically the implications for employees and employers, culminating in a discussion of the limitations of the research, and recommendations for future research as well as practical applications.

Chapter 2 Literature review

This section begins with an overview of the approach taken to the literature search and brief definitions of key terms referenced throughout this thesis. The literature is then introduced by considering organisational change and the need for resilience at work. In the next part of the review resilience at the individual level and organisational level of analysis is examined. Next the need to consider a new perspective of workplace resilience is considered; in doing so a complex systems framework is reviewed as a way of conceptualising the workplace. Furthermore, as part of the discussion, a number of occupational stress and resilience models are reviewed. Finally, antecedents and outcomes of resilience in the workplace are reviewed.

2.0 Introduction

As discussed in chapter one, this research set out to explore the impact of organisational change and restructuring arising from financial austerity on employee resilience. The thesis reports on a case study of employee experiences within a large UK local authority, faced with managing unprecedented central government imposed budgetary cuts 2010-2015. The central focus is on employees shared experience, specifically impacts arising from changes to working arrangements, against a background climate of on-going flux with respect to structural change and associated uncertainty. Given the contextual drivers behind the upheaval, the dominant perspective within the case study organisation's human resources function (post-2010) was to view changes in the workplace as challenges to staff resilience; and, by implication, threats to organisational resilience in the sense of capacity to deliver public services.

The concept employee resilience emerged and became ascendant within the human resources lexicon over the last two decades (Williams et al., 2017). The dominant perspective by volume, is rooted in the psychology of the individual,

specifically, the premise that resolution of challenges to employee well-being lies in finding ways to equip/ support employees with the skills and capacity to make them more resilient to managing challenges they may encounter in the course of their work. This contrasts with human factors/ systems perspectives, which essentially hold that employee resilience can be degraded or enhanced though attention to the design and configuration of work. The central distinction between the two on employee resilience relates to their respective theories of influence /change – within the individual or within the context in which individuals operate. The point at issue is not to determine which of the two has it right, rather to highlight that there is a need to consider the respective contribution of both individual and situational insights into influences on employee well-being and resilience, in particular their relevance and how they operate within the case study organisation.

Therefore, the literature review was based on a pragmatic perspective of the given problem as opposed to being theoretically driven. Initially the researcher focused the review on resilience in the workplace to understand what research has been conducted thus far as well as identify gaps within the literature. It became apparent that there was literature on resilience at the individual level (personality factors) and the organisational level but what was less evident in the literature was research on antecedents to resilience in the workplace. Specifically, how resilience can be facilitated by different work related contexts.

2.0.1 Literature search and terms used

The literature search was conducted across a number of computerised databases. Initially, a keyword search in Scopus, Google scholar and ResearchGate was undertaken to identify articles with resilience in the workplace or derived terms (e.g. employee resilience OR workforce resilience). More focused searches using key terms were carried out in PsycINFO, PubMed and American Psychological Association (APA) PsychNet. The researcher also used Cochrane Library for

systematic reviews on work related stressors. Moreover, a number of Occupational Health Psychology (OHP) Journals were specifically targeted as resources as they pertained directly to the subject matter under investigation (see appendix A for full list of OHP journals searched).

Broad search terms relating to the core areas of the literature review included 'resilience', 'personal resilience', 'resilience in the workplace ', 'employee resilience', 'Resilience in organisations', 'workforce resilience' 'organisational resilience', 'change management' and 'crisis management'. Literature relating to individual level resilience (trait like elements) within the workplace was evident and the terms used were consistent among papers. For example, key words such as individual resilience, personal resilience, hardiness and psychological capital were all used to search individual level resilience at work. However, consensus on how to conceptualise resilience in the workplace over and above personality traits was limited in the literature.

To ensure that the body of research to be included in the review was sufficiently broad, deep and rigorous, alternative research topics that were relevant to resilience in the workplace were also examined. Drawing on experience from other fields/topics also allowed for the cross pollination of ideas. For example, themes of health promotion, healthy work practices, workplace adversity, work related stressors, wellbeing outcomes, positive performance outcomes such as job satisfaction, work engagement, positive organisational behaviour, positive adaption or the absence of problems like burnout and stress were all examined as alternatives to resilience at work. Moreover, organisational resilience included literature searches from change management, high-performance work systems, organisational ambidexterity, crisis management, resilience engineering, high reliability organisations, organisational management and performance, organisational culture and business continuity. Conducting literature searches outside of the framework of resilience allowed the researcher to be more

confident in making claims of limited research on work related factors that contribute to employee resilience.

Terms of individual resilience, organisational, employee and workplace resilience are all used throughout this thesis. Table 1 provides a definition for the different levels of analysis referred to under a resilience framework.

Table 1. *Conceptions of resilience across different levels of analysis*

Key Terms	Definition	Level of analysis
Individual OR Personal	A trait based conceptualisations of resilience- hardy and resilient individuals who are better able to deal with organisational change than other less resilient individuals (Shin et al., 2012; Hodliffe, 2014)	Individual-employees that poses certain personality traits (optimism, self-efficacy, hope) will be more committed to change and have better health and wellbeing.
Organisational	"a function of an organization's overall situation awareness, management of keystone vulnerabilities, and adaptive capacity in a complex, dynamic, and interconnected environment" (McManus et al., 2008).	Organisational- involves managing and overcoming hardship or crisis. Being able to operate in uncertain times in order to fulfil organisational objectives (Seville et al., 2006). There remains a preservation of workflow, service provision, and the focus is on maintaining competitiveness in the future (Lee et al., 2013).
Employee OR workforce/workplace (aggregated level of employee resilience)	"employee capability, facilitated and supported by the organisation, to utilize resources to continually adapt and flourish at work, even if/when faced with	Both individual and the work context- the environment in the workplace is deemed as a vital resource to contribute to employee resilience by supporting individuals through challenging

| challenging circumstances" (Naswall et al., 2015) | situations. On the other hand, there is also the need for individual employees to draw from such resources in times of need. |

2.1 Organisational change

As discussed in Chapter 1, contemporary work is constantly changing due to turbulent economic conditions, market demands, increased competition and advances in technology (Cameron & Green, 2012; Allvin et al., 2011). In order to survive in the current market organisations are required to conduct large scale changes such as downsizing, reconfiguring service provisions and remaining as flexible as ever before (Lengnick- Hall & Beck, 2011) .

In response to the rapidly changing market and associated upheavals organisations have to introduce change initiatives that maximise organisational performance and success. Often these initiatives are multifaceted and overlap in terms of their roll out placing additional pressure on employees to adapt to the organisational change (O'Herlihy, 2016; Van den Heuvel et al., 2013).

Organisational change can occur in a variety of contexts which gives rise to numerous types of changes; this can include restructuring, technological advances, culture change and outsourcing (Maddi & Khoshaba, 2005). There is an abundance of literature related to specific topics of change leading to a myriad of definitions of organisational change. Some scholars define organisational change in relation to changes in 'work routines and strategies' that impact on the whole organisation (Herold & Fedor, 2008) whilst others portray it as a vision or goal of where the organisation ought to be compared to where it is now (Rothwell, Sullivan & McLean, 1995). Both such perspectives of organisational change focus on what the organisation needs to do to achieve the specified

change (Oreg et al., 2011). However, there seems to be a lack of consideration for the role employees' play in the change process.

Organisational change is often accompanied by negative outcomes for employees, such as uncertainty, stress, conflict and insecurity (Herscovitch & Meyer, 2002; Schweiger & DeNisi, 1991; Ashford, 1988). Traditionally, the study of the impact of organisational change on employees has tended to be focused on work related stress, job (dis)satisfaction and, to a lesser degree, quality of working life. Work related stress can be defined as aspects of the design and organisation of work as well as social structures at work that have the potential to influence psychological and physical wellbeing and health (Martikainen et al. 2002; Cox & Griffiths, 2005). Work stress is not only a significant cause of employee illness and sickness absence but has been found to increase staff turnover rates, diminish organisational commitment, and contribute to errors at work (Griffith et al, 2000). Work related stress represents a significant cost to employers and to employees and their families, as well to the wider social context (Shoaf et al., 2004; Black, 2008). Therefore, it is vital to understand the antecedents of work-related stress in order to both manage it and to prevent future challenges.

In the context of organisational change, employees have to adhere to new work conditions compared to established ways of working, they may be required to deal with changes in structures, job design, roles/responsibilities, workload, new socio-technical systems, changes to team structures and more, as well as being exposed to extensive periods of uncertainty. This can have a detrimental impact on employee stability creating stress and negative well-being impacts (Terry & Jimmieson, 2003; Kivimaki et al., 2003; Blau, 2003; Armenakis & Bedeian, 1999). Furthermore, organisational change has been found to negatively impact on wellbeing by disrupting workplace relationships (Shin et al., 2012) and increasing work demands (Pollard, 2001). It has also been associated with an

increase in the likelihood of long term sickness absence by negatively impacting on perceived control and job demands (Head et al., 2006).

As mentioned above, literature examining organisational change and the well-established link between organisational change and negative consequences for employees tends to view employees as passive and fails to take into account the active and potentially mediating role employee play in the change process (Van den Heuvel et al., 2010; Elias, 2009). Arguably research on employee reactions to change has been neglected due to the subjective nature of employee experiences and perceptions of the change process (Judge et al., 1999; Hodliffe, 2014). While limited, research has highlighted the importance of adaptive employees to maintain performance in the face of constant changing work environments (Piderit, 2000; Weiner, 2009); therefore organisations and researchers need to understand and work with employee responses/reactions to change (Van Dam, Oreg, & Schyns, 2008; Oreg et al., 2011).

Recent research has drawn attention to the vital contributions employees make during the process of organisational change. Essentially, without employees getting on board with the proposed change the organisation is unlikely to be successful in achieving the desired change (Bernerth, 2004; Shin et al., 2012; Robertson et al., 2015). Employee readiness or resistance to change therefore has the potential to be a key determinant of organisational success (Piderit, 2000; Woodman & Dewett, 2004). As, Moran and Brightman (2001) suggested there is a need to define organisational change on both a macro organisational level and a micro individual level. They define organisational change as "the process of continually renewing an organization's direction, structure, and capabilities to serve the ever-changing needs of external and internal customers" (Moran & Brightman, 2001; p. 111). This view of organisational change includes employees as key stakeholders and considers aspects that shapes the way employees behave at work and is the definition of change adopted for this thesis.

2.2 Cue resilience

As aforementioned, there is a lack of research that has examined employee reactions to organisational change (Elias, 2009). Nevertheless, the necessary contribution of employees for the success of organisational change has been established (Piderit, 2000; Weiner, 2009; Shin et al., 2012). A new research stream that has attempted to investigate employee reactions that can influence the success, or indeed, failure, of organisational change initiatives is the area of resilience. The majority of literature thus far has examined resilience in relation to organisational change in two domains: (I) Individual resilience; characteristics that enables employees to cope with and handle changes in the workplace (Rossi, Meurs, & Perrewé, 2013) (II) Organisation resilience; an organisation's ability to adapt and thrive when faced with constant change and perturbation (DuBrin, 2013).

A resilience approach has been adopted to counter balance the dominant medical model in the field of occupational health psychology (OHP). Traditionally, the focus within OHP has been on identifying risk factors and aspects of work that contribute to occupational stress (Kelloway & Day, 2005; Russ et al., 2008; Bauer & Jenny, 2012). Black (2008) in her review '*Working for a healthier tomorrow*' makes a strong case for the positive consequences and benefits associated with remaining in employment. Work has been identified as beneficial for physical and mental health and well-being (Waddell & Burton, 2006; Sainsbury Centre for Mental Health, 2007). Additionally, the emergence of the positive psychology movement highlighted the exhaustive focus on psychopathology in contemporary psychology (Seligman, 1999). As a result OHP has slowly progressed towards a more positive conceptualisation of occupational health; one that proposes the need to move away from only identifying risks and to move towards focusing on resources that support well-being (Bauer & Jenny, 2012; Fullagar & Kelloway, 2012). The scope for health management is broader than avoiding occupational health risks at work. Furthermore, the traditional

psychopathology-based approaches focus on supporting the minority of 'non coping' individuals at work rather than examining aspects of the workplace that may be affecting all employees (Russ et al., 2008).

A resilience model emphasises the importance of both risk and protective factors for the development of positive or negative health outcomes (Wright, 2003; Hart & Cooper, 2001; Antonovsky, 1996). The concept of resilience has great potential for complimenting traditional occupational and organisational health research by offering a positive approach in understanding wellbeing and health (Bauer & Jenny, 2007). Particularly at a time where the turbulent nature of work is prominent, a resilience approach that highlights the importance of providing the necessary support for staff to do their job and remain healthy in work has strong appeal.

2.2.1 Background literature on Resilience

Early conceptualisations of resilience within psychology were primarily rooted in the child development literature. A central theme related to identifying why certain children exposed to adversity thrive whilst others go onto develop mental illness (Garmezy et al., 1984; Masten & Garmezy, 1985). Researchers concluded that despite high risk circumstances some children possess an inherent strength to adapt and thrive in times of adversity, i.e. an individual difference explanation (Anthony, 1974; Garmezy, 1981; Rutter, 1979).

As research into resilience developed the idea that some individuals are inherently more able to cope with adversity was accepted as the norm and research shifted away from identifying such individuals and moved towards understanding attributes of resilience. Findings from such research have identified personality characteristics such as easy temperament, self-efficacy, self-esteem and self-mastery as common innate resilient qualities (Rutter, 1979; Masten & Garmezy, 1985; Bernard, 1997). Traditional proponents of resilience define it as a stable personality trait (Block & Kremen, 1996; Luthar & Cicchetti,

2000; Connor & Davidson, 2003; Masten & Obradovic, 2006; Luthans et al., 2006). Moreover, trait based perspectives have remained popular within psychology; there continues to be an emphasis on dispositional resilience in many resilience studies (Block & Kremen, 1996; Fredrickson et al., 2009; Ong, Bergeman, Bisconti, & Wallace, 2006; Connor & Davidson, 2003; Tugade & Fredrickson, 2004). Additional personality qualities such as optimism (Masten & Reed, 2002; Peterson, 2000) and self-determination (Schwartz, 2000) have been added to the list of resilient personality traits.

As the inquiry into resilience continued research extended to other populations, such as adults, and looked at various at risk environments/ adversity contexts. This wave of resilience research identified a range of contextual factors associated with resilience. Critics of the trait perspective argue that an individual can only demonstrate resilient qualities when faced with adversity, indicating that resilience cannot be solely an innate trait (Rutter, 2006; Tonkin et al 2018). As a consequence, research has identified contextual protective factors salient to resilience. External factors such as family, culture and community have been recognised to ameliorate the effects of adversity (Werner & Smith, 1982; Bonanno & Mancini, 2008; Cicchetti, 2010). Protective factors provide the individual with resources which they can utilise to cope in times of adversity making them less vulnerable and more resilient (Shin et al., 2012). Furthermore, the presence of useful resources, e.g. social support, enhances an individual's belief that they are equipped to adapt and cope with adversities and changes (Benight & Bandura, 2004), and therefore reduces any negative emotions associated with these challenges (Shin et al., 2012). This perspective is known as ecological perspective of resilience. Proponents suggest that it is important to examine an individual's social and physical environment to identify factors that can enable positive adaption to adversity (Schoon, 2006; Fletcher & Sarkar, 2013). Thus, resilience is a combination of assets and resources within the individual and their environment that facilitate the individual's capacity to adapt

in the face of adversity. This definition acknowledges psychological mechanisms and contextual factors that contribute to resilience.

Beyond the debate of trait or ecological resilience, competing perspectives exists in relation to the different mechanisms that underlie resilient functioning. Resilience has been defined as stable, reactive, or transformative (Maguire & Cartwright, 2008). The stability perspective aligns itself with a trait based approach; it is an ability possessed an individual. Resilience is viewed as static; an individual simply returns back to their original state following a traumatic event, through the absorption of the disturbance (Maguire & Cartwright, 2008). A stable state of equilibrium is achieved where physical and mental health is preserved avoiding periods of regressive behaviour despite adversity (Bonanno, 2004). Resilience is perceived as an outcome of successful adaptation; maintaining wellbeing or performance in times of adversity (Zatura, Hall & Murray, 2010).

The reactive recovery perspective identifies the rate of return back to equilibrium as the means of measuring resilience. Following an adverse situation an individual experiences a period of regression before 'bouncing back'. This period of regressive behaviour is arguably a normal reaction to adversity; resilience is conceptualised as the capacity of the individual to acknowledge the stressor and take the time to access resources and rebound to equilibrium (Youssef & Luthans, 2007). The reactive recovery perspective is preferable to the stability perspective as it does not simply view resilience as maintaining wellbeing or equilibrium; it acknowledges a period of regression when dealing with challenging and unexpected disturbances (Hodliffe, 2014). However, reactive recovery does not account for any learning that may occur as a consequence of dealing with adversity.

Moving beyond dispositional views of resilience contemporary literature has shifted towards a process view of resilience. Resilience is no longer viewed as a static, innate state. It is defined as a dynamic process where an individual tries to

maintain equilibrium between vulnerability when exposed to adversity and resilience (Giordano, 1997; Coleman & Ganong, 2002). Conceptualising resilience as a process suggests that resilience can be learnt and developed (McAllister & McKinnon, 2009; Jackson et al., 2007). This developmental perspective highlights that during a disruptive event an individual can demonstrate positive growth and surpass the point of equilibrium (Lengnick-Hall et al., 2011; Youssef & Luthans, 2007; Richardson, 2000). When faced with constant change if an individual adapts successfully it will enable them to exceed their previous level of coping.

Based on the different conceptualisations of resilience that exist in the literature when defining and measuring resilience a researcher needs to consider the distinction between the capacity for resilience or demonstrating resilience. Typically studies focus on the demonstration of resilience where individuals show signs of adaptation following adversity (outcome based). On the other hand, capacity for resilience refers to resource factors such as familial and community factors associated with the likelihood a person can cope with adversity (Bonanno, 2004; Masten, 2001). The current study aligned itself with the developmental perspective of resilience characterised by the capacity and potential for adaptation and growth.

2.2.2 Organisational Level Resilience

Often research on resilience in the workplace has focused on resilience from an organisational rather than employee perspective. Below an overview of organisational level resilience literature is provided. Organisational resilience literature is pertinent to the overall literature review as elements, frameworks and concepts from organisational resilience are considered with regards to employees (see section 2.4).

There is a growing interest in building organisational resilience to address ongoing crises that affect businesses; these have ranged from natural disasters to

economic downturn (Tonkin et al., 2018; McManus, 2007). Consequently, a primary focus of organisational research has been on refining risk-management practices and identifying strategies that ensure vitality when adversity occurs.

Early conceptualisation of organisational resilience describe it as the ability for organisations to adapt to unexpected events and bounce back from adversity to maintain functioning under challenging conditions (Horne III & Orr, 1998; Sutcliffe & Vogus, 2003; Ponomarov & Holcomb, 2009, Lengnick-Hall, Beck, & Lengnick-Hall, 2011). Such a perspective is equivalent to the trait perspective of resilience, which is grounded in hardiness and positive coping in response to adversity (Bonanno, 2004; Seery, et al., 2013; Waugh, Fredrickson, & Taylor, 2008).

However given the constant change within the work environment there is a need to go beyond merely coping/bouncing back; organisations needs to thrive and take change and uncertainty as an opportunity for growth and learning (Lengnick-Hall et al., 2011). A more appropriate definition for organisational resilience seems to be "a function of an organization's overall situation awareness, management of keystone vulnerabilities, and adaptive capacity in a complex, dynamic, and interconnected environment" (McManus, et al., 2008, p. 82). This model places the emphasis on an organisations ability to anticipate issues, learn from mistakes and manage change to ensure recovery after adversity or a crisis (Hollnagel, Nemeth, & Dekker, 2008; Seville et al., 2006).

A key issue within the literature on organisational resilience has been in relation to the context in which it has been investigated. The majority of research has identified the need for organisational resilience in response to crises such as terrorist attacks or natural disasters with much less of a focus on everyday challenges and smaller changes such as organisational restructuring. Conceptualising organisational resilience as define by McManus et al (2008) moves away from a reactive approach (aftermath of a crisis) towards a proactive approach that highlights the need to ensure preparedness, identify opportunities to

increase organisational performance in stable environments resulting in the capacity for resilience when change does occur (Linnenluecke, 2017; Nilakant et al., 2016; Carvalho & Areal, 2015; Lee, Vargo, & Seville, 2013). This implies that organisations can offer more than risk mitigation they have the capacity to gather evidence such that they become aware of emergent vulnerabilities /threats and can intervene to deal with issues before they become critical, i.e prevention focused (Lunt et al., 2007).

Therefore, an integrated framework of organisational resilience identifies resilience as the combination of (a) positive work environment, (b) an organisations capacity to prepare for adversity and (c) adaptive capacity (Baird et al., 2013; Chang-Richards, Vargo, & Seville, 2013). The main components for positive work environments are: organisational leadership and culture that supports adaptability; resources in the form of networks and relationships that can be utilised when necessary; and change readiness driven by clear planning and goals (Chang-Richards et al., 2013). Deliberate investment in resilience (inherent resilience) is an organisation's ability to prepare for adverse events in order to minimise negative outcomes and develop in both stable and crisis environments (Kuntz et al., 2016). Whereas, adaptive resilience is an organisation's capacity to positively react and recover after adversity (Baird et al., 2013). This framework enables the refocus of attention from positive adaption contingent to crisis exposure to proactive resilience development in stable environments (business as usual).

2.3 Individual Level Resilience at work

Research pertaining to resilience in the workplace is still in its infancy stage. In response to workplace adversity, resilience has been operationalised as a personal/individual resource that allows the individual to deal with workplace stress (McAllister & McKinnon, 2009; Grafton et al., 2010). Research into resilience within the workplace has identified dispositional and attitudinal constructs that enable employees to make positive adaptations at work (Reich,

Zautra, & Hall, 2010; Spitzmuller et al., 2015). For example, resilient individuals have been found to deal with organisational change better than less resilient individuals (Hodliffe, 2014) and are more committed to change due to positive emotions they experience (Shin et al., 2012).

Self-efficacy has been identified as a major contributing factor to individual resilience (Bandura & Adams, 1977; Bandura, 1997). Research suggests that if people believe in their abilities to respond positively to adverse situations, and have a strong sense of self-efficacy, they will be better equipped to cope with challenging situations (Patton, 2011). Optimism and experience of positive emotions has also been associated with resilience in individuals (Tugade & Fredrickson, 2004; Bonanno, 2004, Patton, 2011). Tugade & Fredrickson (2004) found that individuals who experience more positive emotions than negative are better able to cope with adverse life events. Similarly, optimism has been identified as a key component of personal resilience. Individuals who can move past the negatives in challenging circumstances and see the positives are said to be more resilient (Bright, 1997; Tugade & Fredrickson, 2004).

Another construct related to resilience is Psychological Capital (PsyCap) which encompasses a set of positive and adaptive psychological resources, namely hope, optimism, efficacy, and resilience (Luthans et al., 2006; Luthans, Avey, Avolio, & Peterson, 2010). Within OHP there is an emerging concept that considers a combination of the above factors that build resilience. Research has proposed that resilience forms a part of an employees' 'psychological capital' helping them adapt to the constant changes and challenges at work (Luthans et al., 2007; Luthans et al., 2010). Combining hope, optimism, self-efficacy and resilience, the concept of Psychological capital was developed as a higher order factor that enables individuals to thrive (Luthans, Youssef & Avolio, 2007). These four components of PsyCap represent attitudinal and motivational factors expected to support the development and enactment of resilient behaviours. This

implies PsyCap is conceptualised as a developable state and not a trait an individual possess.

The four different components of psychological capital have been extensively linked to increased wellbeing (Ferris, Sinclair & Kline, 2005; Snyder et al., 2006; Meier, Semmer, Elfering & Jacobshagen, 2008). However, OHP has only recently begun to investigate the relationship between this higher order construct and individual wellbeing in the work context (Culbertson, Fullagar & Mills, 2010). The potential value that Psychological Capital may have emerges from research amongst soldiers which demonstrates that those who score high on Psychological Capital tend to evaluate adverse events in a positive manner. Schaubroeck et al., (2011) found that soldiers with high Psychological capital are more likely to perceive stressful environments as an opportunity for growth, and learning. This suggests that individuals can be taught to reconceptualise adversity and challenges as events that offer opportunities for learning and development (Paton, 2011).

In the workplace, research has demonstrated that PsyCap correlates positively with job performance and satisfaction and organisational commitment (Luthans, Avey, Avolio, & Peterson, 2010; Luthans et al., 2007; Youssef & Luthans, 2007) and negatively with cynicism and work related stress (Dawkins et al., 2013). While PsyCap aligns itself with the current conceptualisation of resilience as being developable it still focuses on individual capacities and resources similar to trait perspectives. Moreover, the researchers understand PsyCap in relation to experiencing adversity at work undermining the growth/developable resilience approach (Luthans et al., 2010).

Despite resilience research arguing for the need to promote developable resources, focusing on the individual as a unit for change is still closely aligned with traditional occupational health/ HR treatment perspectives in so far as they share an individual focus which tends to overlook situational variables. Interventions on managing psychological risks have focused on the treatment of

individuals who exhibit symptoms. In fact, a systematic review indicated that 80% of health interventions evaluated focused on individuals as the unit for change (Egan, 2013 as cited in Bauer & Jenny, 2013). Treatment in this context typically involves individual counselling and psychosocial skills training in issues such as stress management. Such remedial solutions have their place, however their principal weakness is that they represent partial solutions and only for those who are already at risk or have succumbed to strain. They do not address the root causes of work stress and do not offer preventative solutions for occupational ill health. Similarly, focusing on developing individual resilience is also grounded in individual-centric interventions that are often disconnected from everyday work demands and context (Kuntz et al., 2016). For example, interventions targeting personal resilience include "hardiness training" and counselling (Mackay et al., 2004; Cousins et al., 2004). However, restricting the scope for intervention to attempting to change employees, rather than systems of work, is not only partial but, is said to risk propagating a climate of blame orientated around workers' inability to 'cope' with what may be a challenging work environment (Britt et al., 2016; Johnson & Down, 2012; Maddi, 2002).

2.4 The need for a new perspective on resilience at work

2.4.1 Stable vs Adverse conditions

Thus far resilience in the workplace has predominately been conceptualised as an individual's capacity to exhibit an adaptive response to adversity (Bonnano, 2004; Fletcher& Sarkar, 2013; Harland, et al., 2005; Stephens et al., 2013).This perspective is further reinforced in the organisational resilience research domain, where resilience is viewed as a positive adaptation contingent to crisis exposure (van der Vegt et al.,2015). Conceptualising resilience based on responsiveness to adversity detract from resilience as a capability that can be developed in stable environments were challenges are more typical of daily work challenges than crisis related (Kuntz et al., 2016; van der Vegt et al., 2015). Considering

employee resilience in stable contexts emphasises the potential for proactive resilience development and sustainability (Sutcliffe & Vogus, 2003).

Resilience research would benefit from looking at resilience as a capacity that can be demonstrated and developed in both adverse and non-crisis contexts. This would highlight the dynamic nature of resilience (ongoing development not just restoration of equilibrium) which would ensure preparedness for future crisis (adaptive) as well as flourishing under normal business conditions (inherent) (Linnenluecke, 2015; Southwick et al., 2014)

2.4.2 Inherent and adaptive resilience

As discussed in the organisational resilience section (see 2.2.2); an organisation can exhibit inherent or adaptive resilience. Adaptive resilience refers to resilience exhibited in times of adversity whereas inherent resilience is the development of resilience capability in an environment characterised as stable (Nilakant et al., 2016). There is a need to move beyond the organisation and apply adaptive and inherent resilience to employees as well. Mainstream conceptualisation of employee resilience tends to adhere to adaptive resilience; adaptive resilience refers to effective responsiveness to instances of significant adversity. On the other hand, inherent resilience is defined as the capacity to reduce the probability and consequences of failure from adverse events. It reflects the potential for enhancing employee resilience in a stable environment, to the extent that employees are provided with the necessary resources for capability development (e.g. Feedback and managerial support).

A symbiotic relationship exists between inherent and adaptive resilience; organisations with inherent resilience prior to exposure to an adverse event is associated with adaptive resilience. On an organisational level inherent resilience predicts adaptiveness operationalised as business growth and on an employee level as employee engagement and well-being (Nilakant et al., 2016).

2.4.3 Individual vs Reciprocal approach

Finally, there is a need to move away from an individual centric approach. The onus for developing resilience does not rest solely on the individual. The mainstream outlook on resilience focuses on the individual as a unit for change which can lead to blaming the victim (Britt et al., 2016). Lunt et al (2007) proposed that when prevention is primarily focused on the individual it risks diverting attention from system solutions whereby more fundamental components of employee resilience such as management systems are ignored. Resilience in the workplaces needs to be viewed as a shared responsibility whereby the organisation provides a work environment for resilience promotion and individual employees uses the positive environment/ context as a resource to develop (Devilly et al., 2006). This in turn will help develop organisation resilience. A mutual responsibility perspective suggests than rather than selecting resilient employees or trying to make them resilient based on trait based approaches organisations need to support employee resilience by designing resilience promoting environments. This also aligns with the proactive approach of learning organisations to ensure vitality (See section 2.1.2).

2.5 Developing employee resilience through an integrated systems framework

2.5.1 Complex Systems

General theory of systems has its origins in disciplines such as ecology, physics and biology. Systems theory proposes that a system is composed of at least two different agents or elements where by these elements are interrelated (Ashmos & Huber, 1987; Kast & Rosenzweig, 1972). The relationships between the agents in a system are more important than the individual agents themselves (Holden, 2005). System thinking argues that this is true for all systems; from biological to social. Therefore, there has been a move towards applying system theory to organisations (Denhardt & Denhardt, 2010). In particular organisations have been conceptualised as complex social systems (Carayon, 2006; Bauer & Jenny, 2012).

Applying system theory to an organisation illustrates the interdependent interaction between individuals, groups and larger units within an organisational system. As the number of agents in the system increase, the connections between agents become non-linear and the system is said to become complex (Ashmos & Huber, 1987; Denhardt & Denhardt, 2010). Therefore, all organisations are complex due to the abundance of human agents and their complexities (Perrow, 1984; Schein, 1980).

Furthermore, systems thinking proposes that as the number of agents in the system increases, system behaviour cannot be predicted by the behaviour of individual agents (Fredrickson, 2003). Specific to human agency, this type of thinking is rooted in Giddens (1984) structuration theory. Individuals are not independent from one another; the repetition of individual agents' actions and interactions creates and reproduces a set of expectations which in turn guide the social structure within an organisation (Giddens, 1984; Giddens & Pierson, 1998). Individuals share and shape their workplace; this facilitates the development of a collective representation about their workplace which in turn leads to the formation of mental models or schemas of that system's environment (Dooley, 1996; Schabracq, 2003).

However, Dooley (2002) argues that it is more typical for the internal or external environment to contribute to most of the complexity in organisations rather than human agency. The internal environment reflects the systems of work such as organisational procedures and technology within the organisation while the external environment consists of market forces, competitors (Dooley, 2002). Therefore, the relationships between different agents within the system, such as human agents and technical elements need to be considered.

2.5.1.1 Social- technical systems (STS)

The study of socio-technical systems theory is said to have emerged from a case study of long-wall coal mining. Trist and Bamforth (1951) witnessed a decrease

in productivity of coal miners despite an improvement in technology. Additionally, they observed that levels of absenteeism amongst the workforce remained the same even though rewards and environmental conditions had improved. Therefore, Trist and Bamforth (1951) proposed the need for greater emphasis to be placed on complex interactions between humans, technologies and the environmental aspects of the work system, rather than focusing on just the individual. The theory of socio-technical systems theory is based on the concept of joint optimisation (Appelbaum, 1997; Carayon, 2006). Joint optimisation relates to social and technical elements working together to accomplish organisational goals. The theory proposes a symbiotic relationship between the social networks in an organisation and the interaction with the technical networks (Rasmussen, 2000). In order to avoid damage to the organisation as a whole, the development and optimisation of both the social network and the technical system must occur. Therefore as a result of the link between social and technical elements work systems produce both commodities and social/psychological outcomes. A key concern is how you design work to facilitate positive outcomes in both (Carayon, 2006). Turner's (1978) man-made disaster model suggests that failures in technological systems should be defined by the impact these failures have on social and cultural aspects of the organisation rather than the impact they have on the technology (Pidgeon & O'Leary, 2000; Turner & Pidgeon, 1997). Taking this into account, socio-technical systems need to understand the interactions between people and elements of the system, as well as with the wider environment of the system (Moray, 2000; Carayon, 2006). The STS approach to the design of work systems aims to understand how human, social and organisational factors affect the way that work is done as well as the way that technical systems are utilised. Consequently, to understand an organisational system as a whole, research needs to consider all system elements, including physical, cognitive and psychosocial dimensions (Rasmussen, 2000; Williams et al., 2017).

Research suggests that as a result of the increased complexity and interconnectedness between social and technological systems, complex systems like organisations are more prone to vulnerability in the modern world where reliance on technology is greater than ever before (Boin & Lagadec, 2000; Mitroff, 2001; McManus et al., 2008). However, the extent to which failure or accidents in the technological part of the system influences other parts of the system depends on the degree to which parts of a system are tied to one another (Perrow, 1984). Perrow (1984) proposed that parts of a system can either be tightly or loosely coupled together. In a tightly coupled system, very close links exists between the different parts of a system so that any changes in one part of the system have immediate implications and effects on all others. On the other hand, loosely coupling refers to connections between different elements in a system where the performance of one element is not dependent on another. Typically, complex organisations exhibit tight coupling, making it more difficult for the system to absorb disruptions and perturbations (Marais et al, 2004).

This thesis aims to extend the core assumption of system theory that the relationships between elements within the system are more important than the individual elements themselves. Under a systems approach the interplay between IT systems, workplace environments and job design will contribute to resilience in the workplace. Additionally, taking into consideration the concept of joint optimisation, organisational and employees need to work together to accomplish both organisational and employee outcomes. If a symbiotic relationship similar to that in STS exists between employee and organisational resilience, then prioritising employee resilience will ultimately result in improved organisational resilience (Sabanci, 2011).

2.6 Employee Resilience

As previously mentioned the contribution employees provide to organisational resilience is less well documented. While researchers acknowledge the important role employees play in organisational resilience (Lee et al., 2013), few measures

specifically identify resilience at the employee level. Under a complex systems framework organisational resilience is more than just accumulative resilience of individual employees; it is a dynamic interaction between the organisations, its stakeholders (employees included) and structures and routines at work (Lengnick-Hall et al., 2011; Barton & Kahn, 2018). Therefore, there is a need to understand the interplay between resilience at different levels in organisations and for measures of organisational resilience to recognise employees as potential micro foundations of organisational resilience (Lengnick-Hall et al., 201; Lee et al., 2013; Williams et al., 2017).

Under a systems perspective, ultimately resilience in the workplace stems from investing in employee resilience as a key component to enabling organisations to cope with the current turbulent workplace climate (Nilakant et al., 2016; Van der Vegt et al., 2015; Lee et al., 2013). However, the reciprocal relationship between employee and organisational resilience has been overlooked (Williams et al., 2017; Lee et al., 2013). Furthermore, for the most part resilience in the workplace has been defined as an individual disposition that ensures adaptation to adversity. There is a need to explore the interaction between actors in the system (i.e., organisation, individuals, and environment) in order to understand how the work context in which employees are situated is related to their resilience.

As discussed previously, employee resilience has been limited to focusing on individual adaptive resilience as opposed to inherent resilience. It has been measured using trait variables (e.g. optimism) or wellbeing outcomes (Britt et al., 2016; Robertson et al., 2015). To move beyond trait based approaches employee resilience must draw upon organisational resilience literature. Drawing upon insight from organisational resilience literature, resilience is conceptualised as a capacity that allows organisations to go beyond merely scraping through times of organisational instability and adversity, and instead thrive and capitalise on change and uncertainty (Youssef & Luthans, 2007). Adopting a transformation perspective with regards to resilience at work would indicate that not only will

individuals cope/deal with change (adaptive resilience) but they will move beyond this and perceive the change as a growth experience where they can flourish (inherent resilience) (Baird et al., 2013; Richardson, 2002). The focus on resilience as something that can be developed, rather than a stable trait, also suggests that the organisational environment influences the level of employee resilience through the provision of adequate resources (Kuntz et al., 2016).

A key development in the field of employee resilience has been the development of the Employee Resilience scale by Naswall et al. (2015). Naswall et al. (2015) describe the scale as an employee-centric measure of resilience that enables the empirical investigation of resilience on the employee level. The scale examines employee resilience as a behavioural construct, rather than an attitude or a trait. In its infancy stage, research pertaining to employee resilient work behaviours has identified adaptive, proactive, support-seeking and learning behaviours as adaptive capabilities (Kuntz et al., 2016; Naswall et al., 2015; Bardoel et al., 2014; Hodliffe, 2014). For example, employees who are capable of taking on board feedback and utilising the performance feedback to improve work performance is seen as resilient behaviour. This research project will adopt the definition of employee resilience put forward by Naswall et al. (2015). Employee resilience is conceptualised as an "employee capability, facilitated and supported by the organisation, to utilize resources to continually adapt and flourish at work, even if/when faced with challenging circumstances." (Naswall et al., 2015 p.6). This line of research supports the developable nature of resilience and highlights the role of workplace environments and resources in enabling employee resilience. Based on this premise, the organisational context plays a central role in the development of employee resilience.

2.7 Models/ Frameworks for understanding work stress and resilience

As discussed above a resilience approach is based on the notion of promoting growth through the utilisation of resources. Intuitively, if the focus is on resources one might suspect that identifying risk factors such as job demands

should not be important in predicting resilience. However, as noted earlier, resilience does not refer to invulnerability in the face of stress, but rather to the ability to cope and adapt to stressful conditions. Exposure to significant threat or adversity is essential to measure growth from adversity (e.g. Luthar et al., 2000; Powley, 2009). Thus research on resilience still needs to recognise and determine the stress or adversity encountered; in the workplace this mean identifying work conditions or job characteristics that pose challenges to employee (Sutcliffe &Vogus, 2003; Demerouti et al., 2001).

2.7.1 Job Demand-Resource model

One of the most frequently cited frameworks for understanding work related stress is the 'Job demand control model' (Karasek & Theorell 1990; Karasek, 1979). The job demand control model (JD- model) examines the relationship between job demands and control in relation to health complaints, job satisfaction and motivation (Karasek, 1979). Job demands refer to work characteristics such as increased workload, whereas control represents the degree of decision latitude individuals feel that they have over aspects of their job such as flexibility in working hours (Karasek & Theorell, 1990). The model proposes that job strain arises when work is characterised by high demand and low control. High strain jobs appear to be associated with a decrease in psychological well-being and job satisfaction and an increase in susceptibility to burnout (Karasek & Theorell, 1990; Van der Doef & Maes, 1999). Karasek & Theorell (1990) argue that control is an important mediating factor in reducing the negative impact of high job demands. However, research indicates that only modest support for the interaction between demand and control exists (Stansfeild & Marmot, 2002; De Lange et al 2003). On the other hand, there is a consensus that there is a direct link between control and individual wellbeing (Jones et al., 2007; Tucker et al., 2008).

To address these inconsistencies, expansions of the framework have been made to include resources; the JD-R model. Resources refer to the 'good

things' at work that help employees achieve work goals, reduce job demands and mediate the negative effects of job demands and encourage growth (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Johnson & Hall, 1988). Resources at work can include cognitive (eg. perceived level of autonomy), emotional (eg. social support) and physical elements (eg. clear job task) (De Jonge & Dormann, 2006; Brough et al., 2013). In terms of resilience, job demands represent adverse conditions in the organisational context that are key for developing resilience using the resources on hand (Masten & Reed, 2002). The JD-R model proposes that high job demands that are not compensated by resources will lead to poor work performance as well as an increase in health concerns. On the other hand high job resources levels will lead to positive outcomes such as work engagement and increased wellbeing (Demerouti et al., 2001). For example, job resources such as social support and feedback have been found to reduce job demands (Bakker, Demerouti & Verbeke, 2004) and predict work engagement (Schaufeli et al., 2009).

However, in light of the constantly changing work conditions discussed above, it has been argued that perhaps the JD-R model has become less useful in understanding psychosocial risks. For example, in the current economic climate less jobs are permanent, more part time and short term contacts are emerging, and other changes to the location of work (e.g., hot desking) are occurring (De Jonge et al., 2000). This implies that with the breakdown of traditional work contract aspects such as job control over working hours will now be less meaningful. An additional criticism aimed at the original model is the inherent focus on the job itself whilst overlooking the context of the work environment (Hammer et al., 2004). Interestingly a longitudinal study has found that job demands (e.g., heavy workload) have no effect on whether or not employees become depressed (Grynderup et al., 2013). The study proposes that the work environment and the feeling of being treated unfairly by management has the greatest effect on an employee's mental health (Grynderup et al., 2013). This would suggest that focusing on organisational level factors such as the work environment would

produce a more embracing perspective than focusing on the individual's perception of work conditions alone. However, with the inclusion of resources to the model aspects of the work environment are considered such as supportive team environments that could enhance resilience and wellbeing.

2.7.2 Effort-reward imbalance model

A second widely used model to understand the nature of stressful work emerged from the work of Siegrist; the effort reward imbalance model (ERI). This model addresses psychosocial work environments and their impact on stress related risks. The ERI model which is based on reciprocity (Siegrist,1996; Siegrist et al., 1986) posits that adverse health consequences at work arise when employees perceive an imbalance between the degree of effort they put into work and the amount of reward they get (Siegrist & Rodel, 2006). Rewards can include extrinsic components such as pay benefits, promotion possibilities, and other non-financial rewards such as recognition (Leka & Houdmont, 2012). Jobs that involve both a high degree of effort and relatively low rewards have been linked to poor health, including an increased risk of cardiovascular disease and increased stress (Hoven & Siegrist, 2013; Van Vegchel et al., 2005).

The above-mentioned models have been examined with regards to work related stress. Resilience is implied by an employee experiencing negative work conditions and overcoming them as well as organisations minimising the exposure to work stressors. A model that has been developed to directly link to resilience as well as stress at work is the conservation of resources model.

2.7.3 Conservation of resources (COR) theory

The conservation of resources (COR) theory (Hobfoll, 1989, 2002) posits that people need to retain, protect, and build resources at both an individual and environmental level in order to survive in times of threat and adversity (Hobfoll et al., 2018). A central assumption in COR theory is that people with greater resources are less vulnerable to stress, whereas those with fewer resources are

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more vulnerable to stress (Bakker, 2010). COR theory identifies three main facets of resource management: (a) instrumental; something that acts as an instrument or means of gaining a resource,(b) social; resources based on social networks and (c) psychological; resources concerned with personality characteristics or personal beliefs and emotions (e.g. sense of autonomy) (Hobfoll , 2010).

COR theory is pivotal for interpreting and predicting both positive and negative impacts of stress as well as resilience (Chen, Westman &Hobfoll, 2015). COR theory states that the accumulation of resource loss is more prominent than the accrual of resources (Hobfoll et al., 2018). Therefore, in the context of organisational change, there is great potential for resource loss (Shin et al., 2012). The accumulation of the potential resource losses can undermine resilience at work. However, resource gain from supportive environments is also possible and will be valuable for reducing the strains and stresses associated with organisational change (Denison et al., 2006).

In particular, COR helps explain organisational practices that will enable employees to develop and maintain resources and enhance employee resilience (Bardoel et al., 2014). COR postulates that organisation can develop employee resilience by proactive practices such as employee involvement or positive organisational culture. Resource gains from an inclusive and positive organisational culture (Denison et al., 2006) and from a supportive team and manager (Rhoades & Eisenberger, 2002) have been found to better employee mental health and subjective well-being. Moreover, reactive practices can also be used to promote resilience by encouraging practices that minimise resource loss (Luthans et al., 2006). COR assumption of resource loss can be used to understand negative outcomes with regards to health and wellbeing. Workplace factors such as job strain and job insecurity can be viewed as resources losses (König et al., 2010) and have been linked burnout (Lee & Ashforth, 1996), negative physical and mental health outcomes (Holden et al., 2010; Belkic et al., 2004) and higher levels of absenteeism (Deery, Iverson & Walsh, 2010).

Finally, in line with the developmental nature of resilience, COR theory proposes that resources development can occur at organisational and individual level. Resilient organisations are able to secure and develop work resources for their employees, and highlight how resources can be utilised towards personal and organisational advancement (Chen et al., 2015). On an individual level, employees with a greater pool of resources will focus on maintaining and expanding their networks (Halbesleben et al., 2014). For instance, employees with social support as a resource will be more likely to exhibit collaborative behaviours, seek support, and share/seek knowledge across the organisations. Additionally, they will strive to further develop the resource pool of a supportive network which they can use to address challenges (Nilakant et al., 2016).

2.8 The interplay between work related outcomes and employee resilience

2.8.1 Job engagement

The concept of 'job engagement' has been defined as the 'investment of an individual's complete self' into a role (Rich, Lepine & Crawford, 2010). It is thought that 'engaged employees' are enthusiastic, motivated and committed to their job roles. Perhaps unsurprisingly, job engagement has been associated with improved job performance and improved individual wellbeing, which in turn has a positive impact on the overall service, team or organisation (Truss et al., 2011). Furthermore, individuals who are engaged with their job are less likely to resign or to leave (Truss et al., 2011).

Given that job engagement appears to have an important influence at both employee and organisational levels, it is important to understand how organisations can promote this construct. Research suggests that individuals who feel better supported by their organisations and who perceive their organisations as caring for their wellbeing demonstrate increased job engagement (Saks, 2006). Furthermore, there are certain other job characteristics that have been associated with increased job engagement. It is thought that having a level of autonomy

within a job role and participating in organisational discussions and decision-making allows employees to feel involved and increases their professional efficacy (Maslach & Leiter, 2008; Saks, 2006). Research proposes that a manageable workload allows individuals to refine and develop skills, meaning that they feel more fulfilled by and interested in their work (Landsbergis, 1988). Furthermore, feeling that ones' skills and efforts are recognised and respected in a team, and having opportunities to learn and develop are all associated with job engagement (Maslach & Leiter, 2008).

It has been noted that employee engagement can be especially difficult to foster at times of uncertainty and change (Catteeuw, Flynn, & Vonderhorst, 2007). Psychological theory suggests that when an individual undertakes a contract of employment they also engage in a psychological contract with the employer, such that both parties are invested and committed to each other (Grunberg, Moore, Greenberg & Sikora, 2008). However, this contract can be challenged or ruptured in times of change and uncertainty. In response to feeling that the employer may be negotiating or altering their obligations to the employee, the employee may feel a lack of trust and loyalty, which can reduce their job engagement.

Employees with higher levels of resilience are expected to deal with change and challenges more effectively. They will more likely view the process of change as a learning opportunity rather than breach of contract (Hodliffe, 2014). Consequently resilient employees will also be more engaged in their job than less resilient employees.

2.8.2 Job satisfaction

Job satisfaction refers to the overall, global way that one evaluates their job (Judge, Weiss, Kammeyer-Mueller & Hulin, 2017). There are a multitude of variables that an individual may consider when evaluating their job.

When undergoing periods of change in their workplace, employees understandably experience various cognitions, emotions and behavioural

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responses (Yousef, 2017). Individuals may weigh up the advantages and disadvantages of the change, and form an overall evaluative judgement. This judgment can then influence their job satisfaction. Certain factors can influence how employees perceive organisational change, including how they view management to have planned and implemented the change, and how they feel that their opinion as staff has been sought and valued.

Research suggests that managers and supervisors can aim to promote employee engagement and job satisfaction through transition periods by: providing information about the direction of the organisation or service; communicating to the employee the value of their role; providing the employee with constructive and fair feedback; and supporting the employee to navigate challenges within the job (Catteeuw et al., 2007).

In contrast, research found that when employees did not feel that they were provided with information or consulted about organisational change they fostered negative attitudes about the change which influenced their levels of job satisfaction (Parlalis, 2011).

It is also evident that certainty and stability is lacking during times of change, and this leads to employees feeling anxious and stressed, due to perceiving a lack of control over the situation (Nelson, 1995). This can again reduce job satisfaction. The more supported and informed employees feel in regards to change, the less uncertain and overwhelmed they may feel, thereby increasing their overall resilience as well as their ability to engage in and enjoy their jobs. More resilient employees will be able to draw upon resources of support and therefore will experience less anxiety (Hodliffe, 2014). Therefore, higher levels of employee resilience will be associated with high levels of job satisfaction.

2.8.3 Intention to quit

An individual's experience and perception of their work conditions can shape behavioural outcomes and subsequently can lead to resignation (Hodliffe, 2014).

If individuals evaluate their jobs negatively, feel that they are no longer committed to their job, and perceive that other jobs are available, they are more likely to consider resigning (Hatton et al., 2001). Employees who perceive the workplace as stressful are less committed to the organisation and have greater intentions to quit (Vakola & Nikolaou, 2005). It is likely that 'resilient' individuals may be better able to manage the demands associated with uncertainty and change in the workplace, thereby reducing their intent to leave. Chin & Hung (2013) found that employees who scored highly on a measure of adaptiveness to adversity were more likely to remain in the organisation that was perceived as being responsible for work stress though breach of psychological contract.

From the above discussed, it is clear that focusing on improving employee resilience can be beneficial not only to the individual employee but also to the organisation overall. Therefore there is a need to better understand what contributes to the development of employee resilience. The section below discusses antecedents of employee resilience or indirect measures of employee resilience (work outcomes) that have been linked to employee resilience examined in the literature.

2.9 Antecedents of employee resilience

2.9.1 Facilitative leaders

Leadership has been identified as a vital component to promote the development of enhanced adaptive capacity within an organisation and amongst its employees. Research suggests that during times of change or crisis leaders should avoid authoritarian styles and 'command and control' practices. Instead it is argued that leaders should acknowledge that employees are the expert in their field of work and delegate work to done. This will allow the situation to be managed with accurate knowledge and expertise, and will also empower employees (Chrichton et al., 2009; Denhardt & Denhardt, 2010). Graen et al (1977) found that non-

authoritative exchanges between employees and their managers resulted in fewer change-related challenges. The link between leadership style, specifically transformational leadership, and change readiness is well established. The quality and effectiveness of leadership is crucial for the success of any organisational change process (Antunes & Franco, 2016; Gilley, Dixon, & Gilley, 2008; Gill, 2002; Miles, 2001). Leaders have the potential to empower and motivate employees to get on board with the change process as they tend to be the initial drivers and communicators of the change process (Gilley, 2005; Gill, 2002).

Leadership practices have been found to support employee wellbeing and engagement. Leaders can contribute to the creation of a work environment in which employees perceive as empowering (Gill, 2002); In order to create an environment of empowerment employee involvement is encouraged (Arnold et al., 2000); management styles and practices that encourage autonomy (Gilley, 2005) and treating employees with respect in the workplace (Elovainio et al., 2015) have been identified as key enablers. Employees who feel empowered are more likely to be able to deal with change (Harland et al., 2005). They are given the resources and support required to adopt a positive outlook on change and in their ability to deal with it (Gill, 2002). This means they are more change ready and motivated as they have been taken along the change process rather than it being imposed onto them. Moreover, leaders that show confidence in their employee's ability to be successful on the job and value their contributions facilitate an employees' adaptive capacity and thus enhance employee resilience. Employees will be more engaged and motivated at work if their contributions are appreciated and recognised. Increased levels of motivation at work has been associated higher levels of resilience in arduous environments as employees are more likely to view the change as a learning opportunity (Bakker et al, 2007; Rafferty & Griffin, 2004).

Furthermore, research asserts that a leader's ability to support and engage with employees has been positively related to employee resilience (Williams, 2001).

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Research by Birdi (2005) shows that management support greatly influenced the extent to which employees were innovative and proactive in time of change. Moreover, when employees perceived their manager to be supportive of their work related needs higher levels of wellbeing are likely to be reported. An increase in reported wellbeing (Kyei-Poku, 2014; Lipponen, Bardi, & Haapamäki, 2008; Tavares, van Knippenberg, & van Dick, 2016). Finally, leaders that exhibit civil workplace behaviour, i.e. role model behaviour, such as being approachable, collaborative and supportive encourage such prosocial behaviours in their staff which can lead to network levering resilient behaviours (Kuntz etal., 2016; Porath et al., 2015; Leiter et al., 2012)

It has also been suggested that leaders play a key role in allaying fears during times of change or crisis (Lengick-Hall, et al., 2010). Research proposes that leaders should be transparent and accessible to the members of the organisation. Open communication from leadership can help people to understand what is happening and what their roles is/ how they fit into the recovery process following change (Senge, 2006). Additionally, research reveals that leaders who actively encourage employees to participate in decision making and the change process empower their employees and this is a critical component to the success of change (Sims, 2002; Kotter & Schlesinger, 1979). Moreover, participative management has been found to have a positive impact on job satisfaction (Kim, 2002; Vecchio, 1985) and reduce work related stress (Bliese & Castro, 2000; Schirmer & Lopez, 2001).

Finally, it has been highlighted that leadership is important in supporting and influencing an organisational culture and in turn employee commitment. Specific to the idea of an employee-centred culture, Greenleaf (2002) put forward the concept of 'servant leadership.' Servant leadership reflects the idea that managers are aware that work is more meaningful than business outcomes. A servant-leader focuses primarily on the growth and well-being of their employees for the benefit of the person, organisation and wider society (Leka & Houdmont, 2012). Similar

to the non-authoritarian approach in times of change and crisis, servant leadership shares power and helps employees to individually develop. Human and social values are highlighted as essential parts of a business, resulting in employees being respected and treated well by the organisation (Greenleaf, 2002). This leadership styles encourages employee resilience by creating a sense of purpose that employees are committed to.

The above discussed leader qualities are needed for successfully driving change. Facilitative management style ensures that communication, coaching, support, appreciation and participative practices are in place to create work environments that encourage employees to flourish.

2.9.2 Quality of communication

The quality of communication between managers and employees is a key tool in minimising employee resistance to change (Tanner & Otto, 2016; Elving, 2005; Denning, 2005). Specifically, organisations are advised to communicate the need of the proposed change and to communicate the vision for the change process to enable employees to understand the importance for change (Gill, 2002; Kotter, 1995). Providing a sense of direction and purpose facilitates buy in and change readiness and highlighting how change will benefit or challenge employees enhances employee commitment to change (Lewis et al., 2006). If there is a lack of communication rumours can spread leading to uninformed speculation that can demoralise employees and results in a lack of commitment to change (Denning, 2005; Rousseau & Tijoriwala, 1999; DiFonzo & Bordia, 1998).

According to Bordia et al. (2004), honest communication enhances perceptions of control due to sufficient information about what is happening in the organisation. If employees are informed about the upcoming change and how it will affect their job they will feel more prepared and less uncertain. This will increase the likelihood of change readiness and adaptation as employees will experience less anxiety or uncertainty about where they fit into the change process (Bordia et al.,

2004; Miller & Monge, 1985). Moreover, transparency will help create a sense of trust in the organisation as employees feel that the organisation is open and honest about what is going on *(*Meneghel et al., 2016; Smith, 2005; Huy, 2002*).* In times of change when employees can feel that things going on around them are out of their control, trust helps increase commitment (Neves & Caetano, 2006), and consequently will increase the likelihood employee will adapt to the change due to the desire to remain within the organisation (Kelloway et al., 2012).

Research proposes the need to adopt a participative change communication strategy; it is described as a high-involvement practice in which employees are invited to provide input about the change (Bordia et al., 2004). Participative communication approaches have been associated with proactive employee behaviours (e.g., resilient behaviours such as using the change process as an opportunity for development) and positive organisational outcomes (Helpap, 2016).

Participative communication encourage employee participation and involvement; it encourages employees to feel comfortable in raising concerns and opposing views about the change (Ford & Ford, 2010; Gilley et al., 2008; Schultz & John, 2007) and increases their motivation to implement the change (Peterson & Hicks, 1996). This is because they perceived themselves as an asset to the organisation and are more inclined to play a facilitating role in the change process (Smith, 2005).

In sum, effective communication and dissemination of accurate information throughout change processes has been shown to reduce resistance and uncertainty (Bordia et al., 2004; Klein, 1996). Communications that encourage high involvement is more likely to encourage commitment to change. Furthermore, communications that provide honest and accurate information about the ongoing change will foster a greater sense of trust in the organisation from employees.

2.9.3 Corporate culture

Reviewing literature on High reliability organisations (HRO) has highlighted the importance of corporate culture on organisational and employee sustainability. High reliability organisations often use a strength-utilization perspective as a means to be more flexible, prepared and successful in adapting to change; HRO's favour proactive and innovative behaviour over risk management and deficiency correction *(*Crichton, Ramsay & Kelly, 2009*).* Staff operating within organisations where a 'blame' culture exists are less likely to make riskier, impromptu decisions that are needed in crisis/change situations, due to the fear of management punishing mistakes and failure. Therefore, organisations need to create conditions that will encourage continually learning, will motivate employees, will foster collaboration and exchange of resource as well as encourage employees to seek support. Moreover, organizations need to prioritise human and social development of their employees.

In order for this to be achieved a culture of trust and respect is necessary, where employees can take risks without fear of being punished at a later stage (Denhardt & Denhardt, 2010). Therefore, a culture characterised by open communication, clear vision, learning oriented, wellbeing focused and collaborative is essential (van Woerkom, Bakker, & Nishii, 2016; Dess & Sauerwald, 2014; Huy 2002)

In response to the upheaval organisations are facing in the current economic climate the need to develop an organisational learning culture has received significant attention (Tonkin et al., 2018; Davis & Daley, 2008; Garvin, Edmondson, & Gino, 2008). Breaking down barriers to learning encouraging growth at the employee and organisational level are the key components of a learning culture (Davis & Daley, 2008; Marsick & Watkins, 2003). Employees are encouraged to find innovative ways to deal with challenges at work (Chang-Richards et al., 2013; Marsick & Watkins, 2003). Errors are a part of the daily functioning of organisations; errors create the opportunity for growth if employees can learn from them (Marsick & Watkins, 2003). A work environment

that facilitates a learning culture can be described as a culture whereby employees feel safe/ supported to learn through trial and error and they are encouraged through supportive feedback (Kuntz et al., 2016; Marsick & Watkins, 2003). According to research, learning cultures positively influence employee productivity (Marsick & Watkins, 2003) job satisfaction (Egan et al., 2004; Marsick & Watkins, 2003) and encourage the enactment of resilient behaviours at work (Nilakant et al., 2016) (eg. Proactive behaviours in time of change as employees do not fear being reprimanded if they make a mistake)

In addition to a learning culture, organisations that have strong core values and share a clear vision have been found to be better placed to respond more proactively during times of uncertainty (Hodliffe, 2014). If employees can relate to the organisation's values and purpose it will help employees to make sense of the perturbations (Coutu, 2002; Lengick-Hall, et al., 2010). Furthermore, shared core values and trust have also been identified as key elements of corporate culture for positive psychosocial health (Schein, 2002; Hasle, 2007). Shared values are important for a sense of cohesion and identity within an organisation. Drawing on organisational safety culture as an example, scholars have argued that occupational health should follow the safety tradition (Goetzel et al., 2007; Leka & Houdmont, 2012). Safety is valued more than operational performance (Rochlin, 1999) and is embedded in the culture of an organisation (Choudry, et al., 2007). Companies viewed as the employer of choice have applied this tradition to employee health; prioritising employee social and mental resources to promote wellbeing as part of the everyday business practice (Zwetsloot & Van Scheppinger, 2007). These companies view health as an asset to the organisation. This human centred approach is associated with internal corporate social responsibility (Zweetslot, Leka & Jain, 2008). Internal corporate social responsibility reflects situations where the organisation prioritises the welfare of its employee by investing in health and safety, human resources and ethical management (Bondy et al., 2004). This approach focuses on supporting all employees and on encouraging mental and social functioning, rather than

targeting a limited amount of 'at-risk' employees. Subsequently, a healthy workforce will improve productivity and innovation which are considered resilient behaviours (Goetzel et al., 2007; Russ et al., 2008).

In summary, it is expected that organisational culture will play a key role in making employees more resilient by providing contextual cues that signpost proactive employee behaviours.

2.9.4 Social Networks

In the workplace, the quality of relationships between colleagues has been identified as another antecedent to employee resilience. Social support at work is viewed as a resource that is particularly valuable in responding positively to challenges at work. Social support provides an individual with a pool of resources that they can use to when other resources at work are absent or lacking (Hobfoll, 1989). Employees are better able to collectively comprehend challenging situations and come up with solutions for the problem (Morgan et al., 2013; Stephens et al., 2013; Carmeli et al., 2013)

Benefits of social support can be understood through four categories: (a) emotional support; expression of empathy, caring and trust (b) instrumental support; providing aid or service (c) informational support; providing advice, information or suggestions and (d) appraisal support; information used for evaluative purposes (Koerber et al., 2017; Heany, 2002; Bloom et al., 2001). Research on emotional, instrumental, informational, and appraisal support has established that support plays a key role in minimising the impact of work stressors.

Caring relationships, defined as those that involved dynamic social interaction, have been viewed as an important asset for employee resilience (Bardoel et al., 2014; Turner, 2014; Wilson & French, 2005; Jackson et al., 2004). This sense of connectedness elicits a number of positive employee outcomes, from emotional well-being and increased performance to positive adaptation to change (Bruque et

al., 2016). For example, in the workplace, social support has been consistently linked with job satisfaction (de Jonge et al., 2001; Henderson & Argyle, 1985) as a buffer against negative mental health symptoms and work demands (Kirkwood et al., 2008; Karasek & Theorell, 1990). Additionally, social interactions and relationships have been found to develop a sense of belonging (Chiaburu & Harrison, 2008;Morrow, 2001). Coworker relations provide a way of relating to others and empathising with other employees. For instance, Freeman and Carson (2006) found that employees who experienced trauma at work were more likely to return to work and not be absent if their peers supported them through the challenging situation. Moreover, employees with strong workplace networks may experience greater support for work–life balance as team members may help with challenging tasks, share demanding workloads or help with scheduling flexibility (Kuntz et al., 2016; Aked et al.,2008). Finally, social networks also represent a source of knowledge. Collaborative work among coworkers has been associated with increased individual resilience, job satisfaction, and performance (Meneghel et al., 2016).

Employees with a wider social network will have more resources to draw from (Kuntz et al., 2017; Halbesleben et al., 2014). Well-supported employees will be more likely to exhibit networking leveraging resilient behaviours (e.g. engage in collaborative work and seek out support), and further develop the social relationships to expand their supportive network which they utilise to address challenges at work (Kuntz et al.,2016; Nilakant et al., 2016)

As seen above, there is overwhelming evidence that social support at work generates a social network that employees can draw upon as a resource that facilities a number of positive work related outcomes. However, there is an important caveat, in that being in a team or work group does not necessarily guarantee the development of social support (Henderson & Argyle, 1985). There are a wide range of workplace relationships between colleagues and social networks have the potential to negatively impact employees. For instance,

unsolicited social support can be perceived as intrusive and can increase stress levels as it decrease autonomy with regards to work (Koerber et al., 2017). In the workplace, social relationships can be dysfunctional resulting in negative impacts on productivity (Wall & Callister, 1995), on wellbeing (De Dreu and Van de Vliert, 1997; Jehn, 1995) and lack of collaboration (Meneghel et al., 2016). Negative social network could lead to team members becoming resentful of each other, resulting in social isolation (Weyman & Boocock, 2014). Finally, lack of group relatedness has also been found to reduce support to new employees, decreasing informal learning (Weyman & Boocock, 2014).

2.9.5 Work–life balance

Work-Life Balance (WLB) relates to whether the boundary between work and non-work life remain separate. Specifically, if employees can engage in home life activity without actual work or work related worries interfering (Ollier-Malaterre 2010; Manfredi &Holliday, 2004). The notion of WLB can be objective in so far as it relates to actual hours worked but it can also reflect employee subjective perceptions of work/ non-work boundaries (Lahelma et al. 2002; Weyman et al. 2013; Lyon & Woodward, 2004). With regards to employee resilience, WLB practices may enhance resilience indirectly, for example, WLB promotes healthier family and social relationships. This in turn can help develop or enhance social and psychological resources employees can draw upon when faced with challenges at work (Bardoel et al., 2014). WLB has also been found to impact on employee commitment and performance (e.g. Wood & de Menezes, 2010) which will promote resilient behaviours.

2.9.5.1 Flexible work conditions

One of the main WLB practices organisations offer is flexible work conditions (FWC). FWC is defined as the ability an employee has to influence when, where and how they work (Bal & De Lange, 2014; Peters et al., 2009). Flexible work conditions imply that traditional structures that regulate and define work

dismantle increasing the flexibility for when where and how much employees work. This flexibility occurs alongside higher levels of job autonomy, being managed by objectives, and facing strict deadlines (Allvin et al., 2011; Peters et al., 2009).

Constant change due to global markets and advances in information and communications technologies (ICT) has contributed to the reconfiguration of work resulting in more flexible working conditions (Redman, Snape, & Ashurst, 2009; Wajcman et al., 2008; Towers et al., 2006). Scholars argue that FWC have contributed to the development of the 'new employee' characterised by greater span of autonomy and flexibility but also increased accountability and intensification of work (Lewis & Smithson, 2006). Consequently, management styles of control and close supervision have been replaced by the need for internal motivation from employees in order to complete work (Peters, 2000).

Flexible work conditions are frequently adopted to decrease overhead business costs however organisations rarely   consider if flexible working will actually benefit their staff. Relying on the assumption that flexible working will have a positive impact on employees, new ways of working or smart working have become common practice (Joyce et al., 2010). Policymakers are increasingly promoting legislation that enables flexible working conditions (e.g. hot desking, flexible workspaces, home working). However, research is rather contradictory when it comes to the positive and/or negative impact flexible work conditions have on employee health and well-being as well as employee engagement and performance (Golden & Veiga, 2005).

Time flexibility (when to complete work) has been associated with employee wellbeing; time flexibility has been found to decrease stress and burnout in employees (Nijp et al., 2012;Grzywacz, Carlson & Shulkin, 2008). Benefits of WLB have been found to be largely confined to time flexibility and to working women with family responsibilities (Shockley & Allen, 2007). Moreover, the

amount of control and autonomy employees experience with regards to decision of when and how to work seems to mediate the relationship between WLB and wellbeing reducing work life conflict and improving work performance (Allen et al., 2013; Gajendran & Harrison, 2007). Research indicates that the positive benefits of FWC are contingent support from the organisation and line managers. Flexible work is dependent on good supportive relationship between employees and managers; supervisor support has been linked to reduced work-family conflict, improved wellbeing and higher work performance (Gajendran, Harrison & Delaney-Klinger, 2015; Lapierre & Allen, 2006).

However, research findings on the benefits of flexibility and WLB are inconsistent. Increased flexibility does not always facilitate a better work-life balance for employees (Ryan & Kossek, 2008; Mesmer,Magnus & Viswesvaran, 2006; Bryon, 2005). Research has found that location flexibility (where to complete work) negatively impacts WLB as the boundaries between work and home life become blurred leading to the overlap of family and work responsibilities (Wayne et al., 2013; Gajendran & Harrison, 2007). In particular, home working increases stress as work/ home life boundaries become blurred (Bloom, Liang, Roberts, & Ying, 2012). Ter Hoeven and van Zoonen (2015) found location flexibility to be a key factor in damaging employee wellbeing due to the constant interruptions of where to complete work. Furthermore, FWCs have been found to reduce occurrences of social networking and collaboration *(*Gajendran & Harrison, 2007*)* as well as reducing work engagement over time (Timms et al., 2015; DeCroon et al., 2005*)*. Indeed, employees who regularly work remotely and lack social support at work have been found to suffer higher rates of mental ill-health compared with employess who are office based (Mann & Holdsworth, 2003). Moreover, flexible work has been found to impact organisational identity (Knight& Haslam, 2010) and acts as a barrier to concepts such knowledge sharing between employees (Bonsall, 2011).

Despite mixed findings within the literature with regards to positive and negative outcomes of FWC what is consistent is the role actual flexibility provision or perceived flexibility plays in employee engagement and performance. Effects of the actual use of FWC by employees were discussed above, employee perceptions of the accessibility of flexible work conditions can also impact work related outcomes. The availability of FWCs has been associated with high employee engagement and performance. A possible explanation of this is that FWC acts as a signal to employees that they are valued by the organisation, and increases perception of supervisor support (Swanberg et al., 2011). This in turn increases employee commitment to the organisation. Indeed, significant associations have been found between FWAs and employee turnover (Richman et al., 2008).

In sum, research suggests that there is limited support for a clear link between flexible working and increased job performance. Organisational productivity may benefits more from perceived flexibility than actual flexible work. Moreover, the extent to which flexible work enhances work engagement/performance of flexible workers largely depends on the relationship between employees and their managers

2.9.6 Human Capital Development

Training initiatives that target the development of knowledge, skills, and abilities have been related to career progression and increase job performance (Wright & McMahan, 2011). If an organisation supports/promotes human capital development it is seen to display concern for investing in its staff and demonstrates an element of valuing employees.

Specifically, management within the organisation have to be committed to competency development and resource optimisation. They need to have the capacity to identify areas of strength and improvement in employees (Sommer et al., 2016). Through encouraging and enabling training that would improve

employee skills and abilities with regards to their job the organisation is facilitating the development of resilient behaviours (Kuntz et al., 2016). Indirectly, employee perception of accessibility to training and development opportunities can be linked to employee resilience. Employee perception of accessibility to training has been associated with job satisfaction (Owens, 2006; Siebern-Thomas, 2005). Furthermore, employees perceptions of the actual skill set compared to their ought to skills with regards to the requirements of the job have been linked to lower performance and higher rate of intent to quit (Lockwood, 2007; Owens, 2006; Wayne et al. 2002).

2.9.7 Feedback

Performance feedback has been found to facilitate resilient behaviours, notably, learning, adaptive and feedback-seeking behaviours (Kutnz et al., 2016; Jundt et al., 2015). An organisation that prioritises feedback at all levels within the organisations creates a feedback culture. Positive performance feedback can be operationalised by manages promoting the importance of errors as a source of learning, encouraging collaboration amongst team members and formally acknowledging employee efforts at work (Jundt et al., 2015; Schaufeli, 2015). Performance feedback promotes goal achievement and employee growth as it encourages employees to be creative and proactive at work (Hackman & Oldham, 1975).

In addition to performance feedback, normative feedback (recognition and expression of appreciation) has been found to act as an external reward for employees (Wayne et al., 2002). Consistent with the effort-reward imbalance model, work stress might arise if employees perceive they are putting in effort at work and this is not recognised/appreciated (Dewhurst et al., 2009; Siegrist, 2002)

A work environment that provides frequent, supportive and constructive feedback signals that the organisation values employees and their development

(Halbesleben et al., 2014; Meneghel et al., 2016). Consequently, feedback from management is expected to have a positive impact on employee resilient behaviours (Kuntz et al., 2016). Both types of feedback will improve the rapport between employees and managers. In essence, a feedback culture will facilitate two way communication were employees feel comfortable approaching the manager for support (Meneghel et al., 2016; Aldana et al., 2012). This will encourage employees to seek out feedback and support from managers as well as promote growth by learning from mistakes (Tonkin et al., 2018; Kuntz et al., 2017; Jundt et al., 2015)

2.10 Summary

From the above discussed it has been established that employees play a critical role in change success as well as organisational resilience. For organisations to succeed and thrive in the current market climate developing and maintaining employee well-being and engagement are essential for ensuring organisational resilience (Nilakant et al., 2016).

In order to this researchers now argue that organisations need to move away from reactivity to the emotional upheaval caused by continuous change, and move towards a deliberate investment in the development of resilience in all the people who work there (Luthans, Vogelgesang, & Lester, 2006). However, research on resilience in the workplace has recently been criticised for its limited validity in the work context. Criticisms have been on two main concepts: Individual-centric and reactive focused. Most research around employee resilience so far has identified trait like characteristics (eg. Hardiness, Optimism) and focused on the individual as the target for change. Additionally, research has heavily focused on adaptive resilience identifying psychosocial risk factors at work that employees can overcome limiting the scope for developing resilience in times of stability that would ensure resilience times of change.

Methodologists argue that the reason the individual is target at the intervention level is due to the nature of work and the complexity of an organisation providing difficulties for research and can reflect potential methodological compromises (Beaglehole et al., 2004; Craig et al., 2008). For example the researcher may have limited control over constant changes in the organisational environment and multiple stakeholders may be involved (Egan et al., 2010). However this has compromised our understanding of what organisational factors can promote or erode work-related employee resilience. This study defines employee resilience as an "employee capability, facilitated and supported by the organisation, to utilize resources to continually adapt and flourish at work, even if/when faced with challenging circumstances." There is a need to identify how organisations can support employees going through change by creating enabling conditions to enhance employee adaptability.

This thesis aimed to extend the system thinking approach to employee resilience; there is a need to integrate all elements of an organisational system in order to better understand the relationship between components. Understanding these relationships will provide insight into what organisational variables challenge or facilitate the building of employee resilience. Furthermore a central aim of this research was to develop and validate a measure of work related factors that have the potential to enable employee resilience in times of change. Therefore, this project will aim to contribute to research focusing on how organisations can support employees going through change by creating enabling work environment that function as resources to enhance employee adaptability.

2.11 Conclusions

- To preserve vitality in the arduous environment of organisational change organisations need to focus on supporting employees cope with the upheaval. Organizations are necessitated to focus on employee resilience.
- There is a distinct difference between personal resilience and employee resilience; employee resilience is conceptualised as a set of behaviour at

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work and not a set of dispositions, beliefs or attitudes about one's ability to deal with adversity. However, there is a gap in the literature on resilience in the workplace. The majority of studies examining resilience at work operationalise it as a dispositional trait rather than as a developable capacity. This trait perspective of resilience ignores organisational factors enabling the enactment of resilience in the workplace.

- Limited research has examined the role organisations play in enhancing employee resilient behaviours within the workplace. Moreover, the limited research that has examined workplace resilience from a systemic framework primarily focuses on resilience following major incidents. There remains a lack of research which explores how systems and organisations can facilitate or influence workplace resilience following less acute incidences of organisational change, such as service restructure.

Chapter 3

Methodology for Qualitative Studies

3.0 Introduction

This chapter details the research methodology used in both qualitative studies reported in this thesis. Initially the discussion centres on describing the ontological and epistemological assumptions adopted by the researcher. The discussion then moves on to describe the execution of the methodology adopted in each study, including the selection of participants and design of the interview schedules, as well as the process of data collection and analysis.

Detailed justification for using a qualitative approach for each study is provided in the respective chapters that relate to studies one and five of this thesis (see chapter 4 and 8). Furthermore, presentation of each study's finding will also be provided in separate chapters. This current chapter provides an overview of the execution of the qualitative methodology adopted by the researcher in both studies.

3.1 Epistemological and ontological positioning

Working under the umbrella of qualitative methods the researcher needs to clearly explain his/her position in relation to the data (Madill et al., 2000). What follows is a description of the methodological and design choices the researcher made. Ontology is concerned with the nature of reality; what is real or what exists? (Patton, 1990; Denzin & Lincoln, 1994). Ontology addresses the debate of whether or not there is a relationship between the real world and human interpretations of it (Braun & Clarke, 2013). Ontology determines if there is a single reality that exists out there or if our knowledge of what is real is constructed by our subjective perspective of the world (Willig, 2000). A critical realist stance was adopted as the ontological underpinning for the qualitative studies. Critical realism argues the existence of both real and social worlds; realities can exist independent of human interpretations but are also shaped by subjective knowledge (Fairclough, 2005; Sullivan, 1998).

Research conducted within a critical realist framework focuses on the way participants make sense of their experiences and how the social context they are situated-in influences their knowledge of the world (Braun & Clarke, 2013). The aim is to discover a partial reality; instead of discovering an accurate representation of what happened the researcher is interested in understanding the participants 'reality' or knowledge about the experience (Willig, 2000). Therefore, under the assumptions of critical realism the same event can be experienced in different ways depending on the individual and the context in which it occurs. However, it is important to note that this does not suggest that aspects of the participants constructed knowledge are not authentic or represent the truth about what is going on. The researcher attempts to understand 'what is the world like for this participant?' (Sullivan, 1998). The current project aimed to understand 'what is it like to work for a LA under the current economic climate for participants? This can be achieved by the researcher getting close to participants and talking to them in the form of interviews or focus groups in order to hear participants voice or story (Gaskell, 2000).

Within the realm of a qualitative paradigm the researcher must also adopt an epistemological stance. Epistemology is a philosophical concept concerned with the nature of knowledge; what can be known and how can this knowledge be unveiled (Willig, 2000).What kind of knowledge a methodology aims to produce depends on the epistemological position a researcher assumes. A number of epistemological positions exists; the realist, the contextual constructionist and the radical constructionist (Madill et al., 2000; Henwood & Pidgeon, 1994). This study employed the epistemological stance of contexualism that is congruent to the ontological position of critical realism (Willig, 2000). Analogous with critical realism, a contextual constructionism framework posits that humans actively interpret and make judgments about the world around them and that these practices are informed by the cultural systems in which they operate (Madill et al., 2000). Therefore, knowledge is contextually situated (Braun & Clarke, 2013).

Henwood and Pidgeon (1994) argue that contexualism is fitting for the human sciences. Contexualism sits between experiential and critical orientations to data (Patton, 1990; Willig, 2000; Braun & Clarke, 2006). It is concerned with documenting participants' experience of the world but is also interested in taking apart these experiences and looking at the critical meaning of participant accounts. Therefore, working within a contextualist epistemology the emphasis is on the description or representation of the participant's world through their eyes in addition to understanding beliefs, attitudes and behaviour within the context they were produced (Madill et al., 2000).

The researcher perceived the context in which participants accounts emerged as a key tenet for both studies, due to the different strata of contextual influences that could impinge upon employee accounts. The Local Authority's context could be constituted of both micro and macro level factors. Micro level factors refer to the everyday environment staff encounter in their working lives, such as, the physical environment, or the social situations they find themselves in, whereas, macro level influences could be driven by cultural, economic or political factors (Wilkinson, 2000). Parker (1996) suggests that if contextualism utilises a critical realist position then the underlying logic which sits behind participant accounts can be discovered. This suggests that understanding the context in which participants are embedded in is vital in recognising what drives subjective and socially constructed knowledge. Additionally, based on examples of published findings (see Blaxter, 1983; Bryman et al., 1996) the researcher was confident that the particular situation or environment participants experience would have implications for the kind of factors they talked about in relation to employee resilience.

A final assumption that exists within a contextualist framework is the need to find some form of grounding for the research (Madill et al., 2000; Wilkinson, 2000). Qualitative researchers often find that participants produce multiple versions of 'reality' amongst themselves but also within their own account of an experience

(Wilkinson, 2000). If multiple realities exist and are contextually bound then the onus on researchers is to ground the research in participant accounts. This will enable the researcher to form a complete picture in relation to the variables that can either build or erode employee resilience. Therefore, the current project is grounded in its subject matter, Local authority employees, to derive insight into how employees perceive and experience their working life at the LA in order to identify how workplace change influences employee resilience.

3.2 Ethical considerations

This project was awarded ethical approval by the Psychology Ethics Committee at the University of Bath (reference number 13-038). The researcher referred to Codes of Ethics and Conduct (British Psychological Society (BPS), 2009) as a guide to ethically sound research (see appendix B for ethics proposal). The principal ethical issues raised by this study related to the voluntariness of participation and maintaining anonymity of the LA employees. The researcher anticipated that participants might have concerns about their privacy, and any personal information being used for other purposes by the participating organisation. Below is a discussion of how ethical issues were managed.

3.2.1 Consent and confidentiality

As a result of the participating organisation contacting employees first to advertise the project the researcher wanted to guarantee staff that they were under no obligation to participate. The Local Authority agreed to include a statement in the email sent to employees around the voluntary nature of participation in the research project. In addition to this, the researcher emphasised in the follow up email sent to potential participants that they were under no obligation to participate and had the right to withdraw at any time in the process. Prior to conducting the interviews the researcher informed all participants of the general purpose of the study and stressed the fact that data was being gathered for research purposes only. Participants were ensured that no data or personal details

will be made available to any third party (notably LA managers and other staff) in any attributable form. Once participants were content with the confidentiality of their responses they were informed of their right to withdraw at any time and asked to given written consent for taking part in the study.

3.2.2 Anonymity

In order to maintain anonymity the researcher did not request participants names on the consent form just a signature. Additionally, participants were made aware that there was no need to disclose their names during the interview. However, if participants did refer to themselves or colleagues in an attributable manner it was not possible to anonymize the raw data immediately as data was collected via audio recorders. Nonetheless, only the researcher handled and had access to the raw data and assigned pseudonyms to protect participants' anonymity while transcribing the data. The researcher ensured that the results of the research were anonymised when published and that no information published enabled participants to be identified.

3.2.3 Data protection and storage

Data collection and storage adhered to the Data Protection Act 1998. The data and transcripts used for research were held securely on a University of Bath server and access is restricted the researcher through a password protected data file. The hard copy formats of the transcripts were stored in a locked cabinet in the researcher office at the University of Bath at the time of the analysis. Additionally, the project complied with the NHS Good Practice Guidelines for the conduct of psychological research (BPS, 2014). The original audio files and data generated from them (i.e. transcripts) were kept for 5 years. Other forms of personal data such as consent forms were destroyed one year after the end of the study.

3.2.4 Risks to participants and feedback

When considering the principle of responsibility (BPS, 2009) with regards to 'doing no harm' to participants the researcher could not foresee any particular risks that might arise in relation to the study. However, when conducting research it is never possible to ascertain no risk at all. In attempt to minimise any potential risks participants were asked if they had any questions once the interview was completed and were provided with details of sources of support if the questions asked caused distress to any participant (see appendix D and G for debrief forms). The researcher was reassured that 'no harm' had come to participants as the majority of them disclosed they found the interview process cathartic as they felt their voice had been heard. All participants were given a brief summary detailing the explicit purpose of the research and informed of how to access to be access the research findings once they were available.

3.3 Participants

3.3.1 Sampling strategy

The sample used in a study is a key determinant of the quality and type of data that will be collected (Suzuki et al., 2007). In deciding the 'type' of a sample needed a researcher must consider if the selected characteristics will help inform and develop the study's analytic goal (Braun & Clarke, 2013). The sample should embody the potential to represent the array of potential contrasts of interest. With this in mind a purposive sampling strategy was employed for the qualitative studies of this project. Purposive sampling involves recruiting participants referenced to a set of pre-ordained demographic criteria, describe by Patton (2002) as 'information rich cases', that will generate an in-depth understanding of the phenomenon being investigated (Sullivan, 1998). Additionally, stratification was used alongside purposive sampling in order to ensure the diversity of the sample. For the purpose of these studies the variation in the sample was in relation to employee job roles; both in terms of occupational status and job

descriptions (detailed job descriptions are provided in appendix I). The researcher aimed to include employees from various departments within the LA (for example managers versus front line staff or social workers versus legal services) to account for the fact that different groups of employees might have different experiences of organisational change. Stratification was also important to enable the researcher to generate a diverse perspective around factors that can influence employee resilience by identifying any commonalities or differences in the way diverse employee groups articulate their experiences of working at the LA. Specific to the first qualitative study (chapter 4), the researcher made an active decision to purposefully recruit trade union members and occupational health counsellors. This was done as members of these groups were viewed as 'information rich cases'. Having dealt with multiple employee issues surrounding organisational change and everyday working life within the LA, they embodied the potential to provide specific examples as well as a more global perspective about variables that impact employee resilience. Additionally, on a more practical note, due to their exposure to a greater number of employees than it was possible to interview for this study their accounts were deemed valuable.

3.3.2 Sample size

Traditionally the sample size sufficiency within a study is determined on the basis of achieving saturation (Charmaz, 2006; Bowen, 2008), i.e. the point at which the process of collecting data ceases to generate new insight, having reached a consensus, where no new categories of data emerge (Charmaz, 2006). However, Recently, it has been argued that viewing saturation as a generic quality marker for sample size is inappropriate; there being a need to address the study's theoretical assumptions in relation to sampling (Caelli et al., 2003; O'Reilly & Parker, 2012). Taking the epistemological stance adopted in this project into account and the need to move towards a more multidisciplinary perspective of resilience the goal of this thesis was to seek completeness as opposed to convergence of the data. Therefore, it was not seen as appropriate to

base the sample size on saturation; sampling adequacy was used as a criterion instead.

O'Reilly and Parker (2012) argue that sampling adequacy is not purely based on the number of participants but is determined by the appropriateness of the data participants will generate. Therefore, the researcher identified the need to select a sample of 20 or more participants which tends to be common in studies that aim to identify patterns in participant accounts (Braun & Clarke, 2013; Terry & Braun, 2011). However, the key driver was to acquire an appropriate sample to gain a diverse perspective and fuller understanding of the occurring social and psychological phenomena. A cross-section slice of staff by function was deemed appropriate to gain such insight (see appendix I and J for job and directorate breakdown).

3.3.3 Recruitment

Initial contact with potential participants in both studies was made via the participating organisation, via a global email to make potential volunteers aware that the study was being conducted. The researcher followed through by contacting the potential participants who expressed an interested in participating in the research. The email contained a copy of the information sheet (see appendix C and F) in order to offer additional details of the purpose and procedures used in the studies. The email also clearly stated the independence of the University of Bath as a research body from the LA in order to address any employee concerns around concealed agendas. Finally, volunteers who were still interested in taking part in the research were screened for eligibility based on the inclusion criteria (see box 1 and 2) and then contacted to set up an interview date and time.

Box 1. Participant Inclusion criteria for study one and five

> ➢ Participant was above the age of eighteen
>
> ➢ Work at or for the LA
>
> ➢ Was able to give informed consent
>
> ➢ Different jobs types and status
>
> ➢ Direct experience or knew of colleagues that were experiencing organisational change

Box 2. Additional Participant Inclusion criteria for NWoW for study five

> ➢ Organisation had established policy/programme of flexible working
>
> ➢ Participant's jobs need to be deregulated i.e. different from traditional dimensions of how work operates
>
> ➢ Variation of flexibility (eg. extremely flexible manager vs less flexible admin assistant)

3.4 Data collection method

3.4.1 Focus Groups vs One to One Interviews

A range of qualitative data collection methods exist; widely applied examples include interviews, focus groups and qualitative surveys. A key decision the researcher had to make related to selecting either an individual (one to one interviews) or a group (e.g. focus group) elicitation technique. The majority of qualitative research guides suggest adopting a data collection method best suited to answering the proposed research question (Braun & Clarke, 2013; Breakwell, 2012; Sullivan, 1998). For both studies the researcher considered the merits and drawbacks of both elicitation techniques; a discussion of these is provided below.

Proponents of focus groups have argued that often multiple participants can feed off each other providing a much richer discussion than if they have been interviewed alone (McManus, 2007; Merton et al., 1990). A richer discussion can emerge as respondents reduce their inhibitions and speak feely as well as stimulate conversation with details that other respondent may have forgotten. However, McManus (2007) cautions that the relative position each has within the organisation needs to be considered when conducting focus groups. Moreover, study one's findings were to provide a strong empirical grounds for a future survey development study. Focus groups have been argued to be beneficial in the development of surveys as they provide insight on relevant language and topics respondents relate to (Fuller et al., 1993). From a practical standpoint, the advantage of conducting multiple interviews at once via the use of focus groups was deemed beneficial. This would allow the researcher to increase the number of participants and variability of responses formed by cohorts of employees with similar relative position within the organisation; "to explore shared ways of making sense of critical issues" (Weyman et al., 2006).

The drawback of employing focus groups is that there is the possibility of group think effects; individuals of the group may change their views to correspond to that of the majority of the group (Morgan, 1993). Conversely, one to one interviews, avoid group think dynamics as the interviewer guides the agenda for the interview not the group. Furthermore, proponents of one to one interviews suggest that such interviews can be useful in addressing 'influencing factor type' research questions (Michie et al., 1996). This corresponded with the overall purpose of the project to identify factors that influence employee resilience. Additionally, one to one interviews are recognised as especially fit for purpose in exploring participant experiences and perceptions around a topic that participants view themselves as having a stake in (Robson, 1993; Braun & Clarke, 2013).

While focus groups and one to one interviews both had their merits ultimately the reality of what was configurable was dictated by the practicalities of operating in

a large organisation. Once embedded within the organisation it became very clear that the practicalities of the configuration of work in large busy organisation and the context of work can preclude, or at least restrict the opportunities to use focus groups. At the time of data gathering the participating organisation was experiencing unprecedented changes and the researcher was made aware that team and/or interpersonal dynamics might be unstable. For instance two team members in the same position within the organisation could be competing for the same job due budget cuts and loss of jobs. While the relative job position of each participant could be taken into account and dealt with the dynamics of working relationships of the same level employee could not be known prior to the interview. Therefore, it was deemed an important issue that might compromise the flow of information due to employees not feeling comfortable and inhibited over discussing private and/or sensitive experiences around fellow co-workers (Sullivan, 1998). Given the turbulent context within the LA the researcher deemed an individual elicitation strategy most appropriate. Over and above issues regarding group dynamics, in study five, given that employees were now working flexibly made it increasingly hard to arrange a time and location that suited more than one staff member. This also made one to one interviews a more suitable choice.

3.4.2 Semi structured interviews

Having decided that individual interviews constituted the best fit, a presenting issue related to the most appropriate format and structure. Semi structured interviews were selected due to their capacity to provide a degree of direction and focus while at the same time affording respondents latitude in the scope of the accounts. Moreover, semi structured interviews are widely cited as embodying the capacity to provide rich and detailed responses to the specific questions asked (Denzin & Lincoln, 1994) but also allow for a degree of flexibility in relation to the information the participants disclose (Breakwell, 2012). This flexibility allows participants to discuss issues that they see as being

highly relevant to themselves but also provides the researcher with scope to follow up on unanticipated issues that might spontaneously emerge. A final point to add is that interviewing as a method of data collection is well suited to the sampling strategy (purposeful in conjunction with stratification) employed in this study (Patton, 2002). The flexibility that accompanies semi structured interviews allowed the researcher to adapt the schedule to the needs of the diverse group of employees recruited.

3.4.3 Design of interview schedule

A well designed interview schedule is a fundamental component for collecting rich and detailed data (Stainton-Rogers, 2011) and making participants feel comfortable with answering the questions asked (Breakwell, 2012). The development of both interview schedules was informed by the researcher's knowledge of relevant research and theory (Joffe & Elsey, 2014). Additionally, insight of organisational changes and climate at the time of both qualitative studies was also used to develop initial line of questioning.

Good practice suggests that an interview schedule should be able to guide the participant through a set of issues which seem sensibly related and in a sequence that will make sense to them (Breakwell, 2012). Therefore questions were ordered from general to specific. The researcher was also aware that the wording of the questions could influence how comfortable participants felt in disclosing information (Smith, 1995). In response to the difficulties often encountered in generating accurate questions and appropriate ordering of the questions, the interview schedules utilised in this thesis were piloted. A small sample (N=2) was drawn for piloting the respective interview schedules developed for studies one and five. In each case the pilot interviews were conducted with one manager and one front line staff. The main purpose of piloting the schedule was to test if participants could comprehend the questions included and to elicit respondent view on whether any important topics had been omitted. In particular, the researcher wanted to test if participants could understand broader level questions

that were often ambiguous due to their exploratory nature and if particular technical terms were known to the respondents.

The pilot involved the researcher conducting each interview and, immediately after completing this, asking participants if they found any of the questions ambiguous, confusing or perturbing. After completion of each pilot interview the researcher also generated field notes on the progress of the interview. Analysis of the progress was also made by listening back to the interview's audio recording. A breakdown of issues identified and the composition of the final interview schedule for each study is discussed below.

3.4.3.1 Study one

The first interview schedule targeted the ongoing organisational change and the impact of organisational change on employee resilience.

It became apparent after reflecting on findings from the pilot that the broader and more exploratory type of questions, such as 'how would you describe working for this organisation' were well understood and elicited an in-depth and considered response from participants. A number of the questions were supplemented with elaborative probes (extracted from Kreuger, 1998) used in order to obtain more detail but on the whole participants were very open and descriptive. Moreover, it became clear from the pilot that discussing the day to day situations and operations provided more detailed examples and discussions of factors such as communication, leadership and organisational vision.

In contrast to the broader questions, the researcher deemed it appropriate to refine the wording of more technical type questions such as 'what are the biggest organisational challenges that impact upon employee resilience'. The use of the word 'resilience' was appropriately interpreted by the manager as it was terminology or a buzzword used among senior management at the time of the project. However, the front line interviewee found it hard to relate to the term and asked for clarification as to what the researcher meant.

Consideration and discussion of this issue with the researcher's supervisor and contacts within the LA proposed that questions were refined to discuss a healthy workforce as opposed to a resilient one. It is transparently important as a general principle to use language that respondents are familiar with; in this case the ambiguity around resilience needed to be translated to more familiar parlance. Atman et al. (1994, p779) argue that "whatever the goal of a communication, its designers need to address the mental models that recipients bring to it, that is, the pattern of knowledge gaps, overly general understandings, and outright misconceptions that can frustrate learning." Thus there is a need to acknowledge a possible disparate understanding of terms such as wellbeing or resilience among academics/ senior management and lower ranked employees. Moreover, there is ambiguity regarding the conceptual clarity and practical relevance of the concept of resilience in the literature (Hanisch, 2016; see chapter 2 for conflicting conceptualisations). Therefore with no fixed general definition of resilience it is unlikely that we can expect laymen to have a clear interpretation of the concept.

The term healthy workforce was selected as the term health at work was familiar to employees at the LA as it was used in organisational surveys previously distributed that targeted physical, productivity and mental health concerns. While the researcher did not deem resilience and health as synonymous the term healthy as portrayed in the LA did seem to be an appropriate alternative to resilience as both enabling and risk factors could be identified. The decision to add in a further question regarding how employees define a healthy workforce was made. This would allow the researcher to have a clear picture as to what behaviours, beliefs and attitudes interviewees were referring to. Congruence of responses to the definition of employee resilience as provided by this thesis could be determined. If participants' frame of reference was far from the definition provided the researcher could clarify what they meant. An alternative was to provide a definition of resilience from the outset of the study however this ran the risk of probing and leading participant responses which the researcher wanted to avoid.

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Despite the differences in technical meaning of health and resilience on balance the researcher considered the best compromise to be to use a phrase, i.e. healthy workforce, where there was likely to be least ambiguity and greatest consensus across the sample. Ultimately, any error attributable to the inherent difference between the terms could reasonably be considered to constitute common (same for all demographics) rather than systemic (bigger impact on responses one demographic compared with the next).

Finally, as it was important to make sure any issues of high relevance to participants were not ignored the interviewer asked participants at the end of the pilot sessions if there was anything that had individual or organisational relevance that had not been covered. All respondents stated that they were happy by what was covered and believed all issues important to them and their colleagues were prompted through the questions asked.

The final version of the first interview schedule (see appendix E) covered how participants felt about the organisation they worked for and the teams they worked in, how organisational change had affected them, organisational culture, their experiences around health and wellbeing at work, as well as organisational factors that may play a part in building a healthy workforce.

3.4.3.2 Study five

The second interview schedule was focused on the change employees were experiencing around increased flexibility in the way they were working. The nature of the questions asked were in line with the first interview schedule as the process of change was to also be examined in this study. However, the questions needed to be more specific to the introduction of new ways of working (NWoW). Therefore, the second interview schedule included questions about changes to the location and nature of work, the introduction and usefulness of technology, the alignment of the change and the requirements of one's job and finally what employees perceived as the benefits and/or drawbacks of working flexibly.

The pilot study for the second interview schedule highlighted the fact different terminology was used in different parts of the organisation to describe the transition to more flexible work conditions. For instance the terms hot desking, home working, agile working and flexible working were all used to describe the situation of new ways of working. Given this lack of coherence the interview schedule included NWoW as an overarching term (refer to appendix H) but the researcher deemed it more appropriate to substitute NWoW with the way in which individual employees labelled their flexible working conditions at the start of the interview. For instance, if the interviewee mentioned working agilely, NWoW was substituted in the interview questions.

Furthermore, discussion with the manager interviewee raised concern about what new ways of working meant for new employees or employees that get relocated into a new team. As a result of this insight an additional question regarding staff experience of or perception of how NWoW could impact new comers was included in the final schedule. Similar to study one's pilot the researcher asked participants at the end of the pilot sessions if they felt they had the opportunity to express all issues relevant to the introduction of flexible work conditions. Overall, both interviewees expressed feeling satisfied with the depth of discussion.

Overall, the researcher also viewed the pilots as an opportunity to practice and improve the techniques used in conducting interviews. Insight obtained from listening to the interview recording revealed that the researcher needed to leave more time for the participants to reflect and expand upon their view before using prompts. Additionally, the researcher became more experienced at explaining the importance of the research and the significance of the participants to feel comfortable and open in his/her response. Using expressions like 'you are the expert', 'we want to hear about your opinion and experiences' seemed to be appreciated and influential on the respondent's willingness to be honest and open.

3.5 Data collection process

The Interviews were conducted at two separate points, July 2013 for study one and May 2015 for study five. Participants interviewed in 2013 were interviewed using the first interview schedule which aimed to capture employee experience of the general organisation upheaval employees were experiencing. The second qualitative study was conducted in 2015 when the introduction of NWoW had begun using the second interview schedule. The interview phase and process for both studies is detailed below.

3.5.1 Order of Interviewees

Across both studies typically the initial interviews were conducted with individuals in more senior (typically managerial) grades. This sequence was purposive, being designed to enhance the researcher's background knowledge of the changes and the central issues the respective service/function was facing. This enabled the researcher to have a better understanding/ contextualisation of the issues and concerns expressed by front line interviewees.

3.5.2 Location and duration

For both studies the duration of the interviews ranged between 30 and 65 minutes. An important consideration was that participants felt comfortable in the location the interview was conducted in. Therefore, participants had the choice of deciding where they felt most comfortable; in their own office environment or if they preferred a neutral location if they did not want others to find out they were participating in the study. Subsequently, the researcher made sure the set-up of the selected location did not create an intimidating environment; this was to facilitate a more conversational rather than formal interview style (Braun & Clarke, 2013).

3.5.3 Recording

Interviews were audio recorded with the permission of the participants; participants agreed to be recorded prior to attending the interview session and confirmed this in person on the day. Audio recording was selected to facilitate rapport development between the participant and the researcher. It is difficult to engage and conduct a successful interview when the focus is not on the participant but on note taking (Breakwell, 2012). Furthermore, audio recording provides a permanent comprehensive record of employee experiences allowing the researcher to have an accurate record of participant accounts to refer to after the interview (Fasick, 2001). Alongside audio data the researcher also made field notes after concluding each interview. Charmaz (2006) proposed that this technique facilitates the collection of detailed and rich data. The researcher reflected on the progress of the interviews, for example how the researcher felt participants reacted to the questions asked or if it felt like participants were forthcoming or holding details back. Additionally, a record was made of important features disclosed by participant alongside ideas for subsequent or follow-up questions for the subsequent interviews.

3.5.4 Interview process

All interviews began with the researcher outlining the objectives of the research project without revealing the central research agenda that related to employee resilience. This was done so as to not compromise the validity of participants' subsequent answers; the researcher did not want participants to discuss what they thought the researcher wanted to hear. All participants were asked if they were comfortable with being recorded and were explicitly reassured about confidentiality issues. Each interviewee was presented with the information sheet for a second time and given the opportunity to ask any questions before signing the consent form.

The interviews began by the researcher emphasising that the participant was the expert and the researcher was simply interested in hearing the participant's 'voice' and therefore there were no right or wrong answers. The researcher wanted to empower the participants and build a rapport with them so that they would feel more comfortable talking about their experiences. Additionally, the opening question for both studies related to the change process within the LA and what this experience had been like for the interviewee. This was designed to facilitate discussion as the researcher was certain that all participants had recently experienced some amount of change within their working lives. The interviews proceeded with the researcher using the interview schedules as a guide to stimulate discussion. The discussion developed around the question prompts outlined in Appendix E and H, particularly if interviewees showed hesitation or uncertainty in how to proceed.

Throughout all interview processes the researcher attempted to facilitate and moderate the conversation using probes and showing interest in the participants' experiences (Rubin & Rubin, 1995). Once the interviews felt like they came to a natural end participants were asked if they had anything further they would like to add or discuss.

At the end of the interview sessions the full research agenda and future ambitions were explained to the participants. The participants were once again assured that their identities would remain anonymous and that they were allowed access to their transcription and/or findings of the studies. Additionally, all participants were provided with a debrief sheet (see appendix D and G) where they were provided with support details had the interviews caused any distress. Finally, the researcher addressed any last queries the participants had and thanked them for their time.

3.6 Sample characteristics

A total of 20 staff members were recruited to participate in the first qualitative study and 16 LA employees took part in the NWoW study. As previously mentioned, the diversity by role and relative positions employees have within the LA is substantial due to the size of the organisation. While a comprehensive sample by job role was difficult to obtain given the various service provisions (see appendix J for detailed breakdown of service provision) a cross section representative range of grades was achieved in each study Table 1 represents a breakdown of the sample used in this study (see appendix I for detailed breakdown by job role).

Table 2. *Face to face interview sample*

Job Description	Number of Participants	
	Study one	Study five
Managerial Staff	7	6
Trade Union Representatives	2	-
Front Line Staff	10	10
Occupational Health Counsellor	1	-

3.7 Data Analysis

Thematic analysis as described by Braun and Clarke (2006) was selected as the analytic strategy for both qualitative studies. Thematic analysis (TA) is a method utilised for identifying and constructing patterns, interactions and/or themes within data (Braun & Clarke, 2013). It is important to note that TA is purely an analytic tool (Boyatzis, 1998) and not an approach to conducting qualitative

research such as discourse analysis or grounded theory (Braun & Clarke, 2012). Braun and Clarke (2012) argue TA's strength lies in the fact that there are no theoretical assumptions built into TA. Subsequently it can be flexible and analysis can be conducted in various ways. For example, Braun and Clarke (2012) propose that if it is central to the research agenda to produce a fully developed grounded theory analysis the researcher can utilise TA and not adhere to all the theoretical commitments within a grounded theory framework. However, due to the flexibility of the method it is vital the researcher makes an active decision regarding what form of TA will be adopted and this must be informed by the research question under investigation (Braun & Clarke, 2006).

As discussed in the section 3.1 the researcher is situated within a critical realist or contextual framework; focus is on the way participant make sense of their experiences and how the broader social context influences those meanings (Ussher, 1999; Willig, 2000). Therefore, an empiricist view of knowledge acquisition was adopted; this refers to the notion that any knowledge claims must be grounded in data (Chalmers, 1999; Willig, 2000). According to Braun and Clarke (2013) analysis conducted from a critical realist perspective best suits an inductive approach to Thematic Analysis. Analysis using an inductive process is focused on patterns and themes that will be derived from the data itself and not from a set of prior theories or preconceptions the researcher brings to the data (Braun & Clarke, 2006; Boyatzis, 1998). Such a data driven approach would be of benefit as few qualitative studies have previously examined organisational change and the impact it has on employee resilience. This would allow for identification of unexpected themes in the data (Braun & Clarke, 2006).

Nonetheless, Braun and Clarke (2006) argue researchers rarely analyse data completely free from a theoretical standpoint. At the very least researchers conduct a literature reviews prior to data collection to know whether the topic or proposed research question is one worth answering. In this project a

comprehensive review of the literature was conducted prior to coding the transcripts to inform the research questions created.

Moreover, the literature review was performed to sensitise the researcher to any concepts/themes that could be missed or ignored in the data if not acknowledged prior to coding. Boyatzis (1998) suggests that knowledge relevant to the topic being studied is vital for the researcher to be prepared to see what is in the data. However, when the analysis is positioned as inductive it is essential for the researcher to remember that prior conceptions and theories represent only one view among many (Charmaz, 2006). The researcher needs to be cautious as to not impose his/her preconceptions on the data, instead pre-existing ideas should earn their way into the analysis.

In conclusion, the researcher predominately adhered to an inductive form of TA that prioritised participants own framing of their experiences (data-driven) with the conducted literature review simply highlighting any major gaps. However the researcher was aware that data analysis was approached with pre-existing ideas about change processes and factors relevant to resilience, but tried to remain inductive when examining the data.

The next sections will describe the processes the researcher engaged in when analysing the data. The analysis was conducted in accordance with Braun and Clarke (2006) guidelines for performing their proposed six phase thematic analysis approach (see Box 3 for a summary of the phases).

Box 3. *Braun and Clarke's (2006) six phases of Thematic Analysis.*

Thematic analysis phases
Familiarisation of the data
Generating initial codes
Searching for Themes
Reviewing Themes
Defining Themes
Producing the report

3.7.1 Transcription and Data familiarisation

Transcription is the process of transforming audio data into written text (Halcomb et al., 2003; Oliver, Seovrich & Mason, 2005). The depth and detail included in the written text will depend on the methodological design employed in the study (Tashakkori & Tedddlie 2003; MacLean et al 2004). Denaturalism was adopted as a strategy for transcription of both qualitative studies. It refers to the transformation of speech into written text with the removal of micro details such as stutters, pauses or accents. The emphasis lies in the accurate depiction of the informational content disclosed by individuals during the interview (Oliver et al., 2005). The written text in denaturalised transcripts represent participants use of speech to construct and convey their perceptions and experiences (MacLeod et al., 2004). MacLeod (1995) argues that if the researcher is interested in the information shared during the interview, then the mechanics of speech are less important than the content of the interview. Therefore, the use of denaturalised transcription practices was deemed congruent with the needs of thematic analysis (Halcomb et al., 2003) and with the researcher interest in employee experience of the day to day working life at the LA. Having participated in the interview process the researcher thought it to be beneficial to transcribe the verbal accounts on her own in order to retain the participant's intended meaning as much as possible and not take what they said out of context.

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Furthermore, research suggests that the act of transcribing forms a part of the data analysis process (Braun & Clarke, 2006; Halcomb et al., 2003; Wellard & Mckenna, 2001). It is considered as a technique for researchers to familiarise themselves with the data. Braun and Clarke (2006) include the transcription process in their primary thematic analysis phase of data familiarisation. The process of transcribing is thought to enhance the researcher's understanding of the data and will allow the researcher to become immersed in the data at an early stage (Braun & Clarke, 2012).

3.7.2 Initial coding

In each qualitative study, after the transcription process was completed the researcher read over the entire transcript collection actively and analytically to generate initial ideas about what the data means. The researcher manually made notes of data and immersed themselves in the data searching for codes and preliminary patterns. Lines, sentences and paragraphs in the transcripts were assigned codes that closely reflected participant's accounts (refer to appendix K and L for example of initial codes). Additionally, the researcher organised and grouped meaningful features of the data together. As aforementioned the researcher's approach to the coding process was data driven. Codes were assigned to as many patterns in the data as possible and then data extracts relating to the assigned codes were collated. This was done by copying the representative data extracts into Microsoft Word and placing them under the identified codes. The purpose of generating initial codes was to create a fairly succinct summary of what kind of story the data was conveying.

3.7.3 Identifying themes

Once all data was coded and the codes were collated the researcher started to analyse the codes generated for meaningful themes. This phase of analysis intended to identify relationships between and within codes; this involved

analysing codes at a more global level to see how they can combine together to form a theme (Braun & Clarke 2006).

A theme represents broader features in the data and is often formed of multiple codes (known as sub-themes). Unlike a code that represents one idea, a theme captures a 'central organising concept'. A central organising concept is a concept that tells us something meaningful about the content of the data in relation to the research question (Braun & Clarke, 2013). Identifying central organising concepts involved checking transcripts for patterns of variability and consistency across all codes.

During this process the researcher actively made decisions regarding the creation of themes. Certain codes were complex enough to stand alone as concepts (see Charmaz, 2006) so the researcher decided to make the code a theme. Such themes captured salient patterns in the data on a semantic level, meaning they could easily be identified directly from what participants said (see appendix L for example theme and subthemes). Finally, themes were also generated using a latent approach; this is a more analytical process where interpretative claims are made about the data overall (Braun & Clarke, 2013). At this level of analysis the themes were informed both by the data/codes and by knowledge gained from the review of available literature. The purpose of this level of analysis was to interrogate and take apart what participant said in attempt to identify underlying assumption or conceptualisations that shape what has been said (Braun & Clarke, 2006). In this context, the researcher acknowledged that analysis of participants accounts required reflexive practice where the researcher's own position (interest in organisational level factors) in relation to employee resilience needed to be taken into account. For instance, making sense of participants accounts from an individual level perspective might have produced a different understanding of the same data (Braun & Clarke, 2006). However, such reflexivity is deemed appropriate for when working within a contextualist framework (Charmaz, 1995;

Wilkinson, 2000). Charmaz (1995) proposes that the researcher will identify different codes depending on the researcher training or interests.

Finally, the researcher acknowledges that the stages of evolution of a coding system can be infinite as more and more accurate characterisation of themes is sought. Weston et al. (2001) commented of their own qualitative work that "we have come to accept that the process of developing codes is never finished" (p391). Coding themes can always be 'tweaked' but at some point must be accepted and applied as consistently as possible in order to progress the study further. Therefore, themes and subthemes were mapped to ensure a good fit with the data and a broad concept-map was developed (see figure 1 and 2 for final version of mind map)

3.7.4 Refining and defining themes

After preliminary themes were constructed the next phase involved discussion with thesis supervisor (A.W.) to examine themes identified and their significance in the context of the research studies. This phase involved discussing emergent themes with the second researcher reviewing the original transcripts and the initial codes and themes described by the first author. Remaining close to the original interview transcripts both authors refined the organisation of emergent codes and themes. The final product from this process was agreement among both researchers regarding the central organising concepts of themes and their significance in relation to phenomena under investigation.

In addition to the above mentioned process the researcher followed Braun and Clarke's (2012) quality control guidelines for the emergent themes in both studies. The main questions the researcher considered during this process are summarised in Box 4. Similarly, Patton's (1990) 'internal homogeneity' criterion for judging the quality of a theme was applied throughout the reviewing phase. Internal homogeneity was also concerned with regard to the extent to which data in particular themes cluster together coherently. In developing and reviewing the

themes the researcher referred to Patton's (1990) second criterion of external heterogeneity. This criterion assesses the extent to which themes present as bold and stand alone; the purpose is to ensure each category has a clear and distinct difference to other themes. The emergent themes were also reviewed in relation to the entire data set to check that each accurately captured the most prominent features of the entire data set and told a meaningful story in relation to the research question (Braun & Clarke, 2006).

Box 4. *Quality control questions as described by Braun and Clarke (2012)*

Is this actually a theme or simply a code?
Does this theme tell me something meaningful about the data in relation to the research question?
Is there enough evidence in the data to support the theme's central organising concept?
What are the boundaries between themes (do they need to be collated)?
Are the themes too broad or too specific?

Subsequently, the researcher refined the thematic map (see figure 1 and figure 2). The next phase in the analytical process was to define the themes by determining their scope and boundaries and creating appropriate names. Henwood and Pidgeon (1992) emphasise the importance of defining themes. A definition of the theme provides a statement reflecting the researcher's interpretation of concepts and categories that can then be examined by peers to evaluate how well the themes fit the data extracts (Henwood & Pidgeon, 1992). After identifying the essence of the themes the author used the generated definition to develop names for each. The aim was to develop names that would capture the essence of the theme when taken out of context (see appendix M for definitions and scope of each theme).

To conclude the six phase TA approach, guidance on how to write up thematic analysis (phase six of Braun and Clarke's TA approach) was taken under consideration and incorporated in writing up the results of the data analysis. A detailed write up of the result section of study one and five can be found in chapter 4 and 8 respectively.
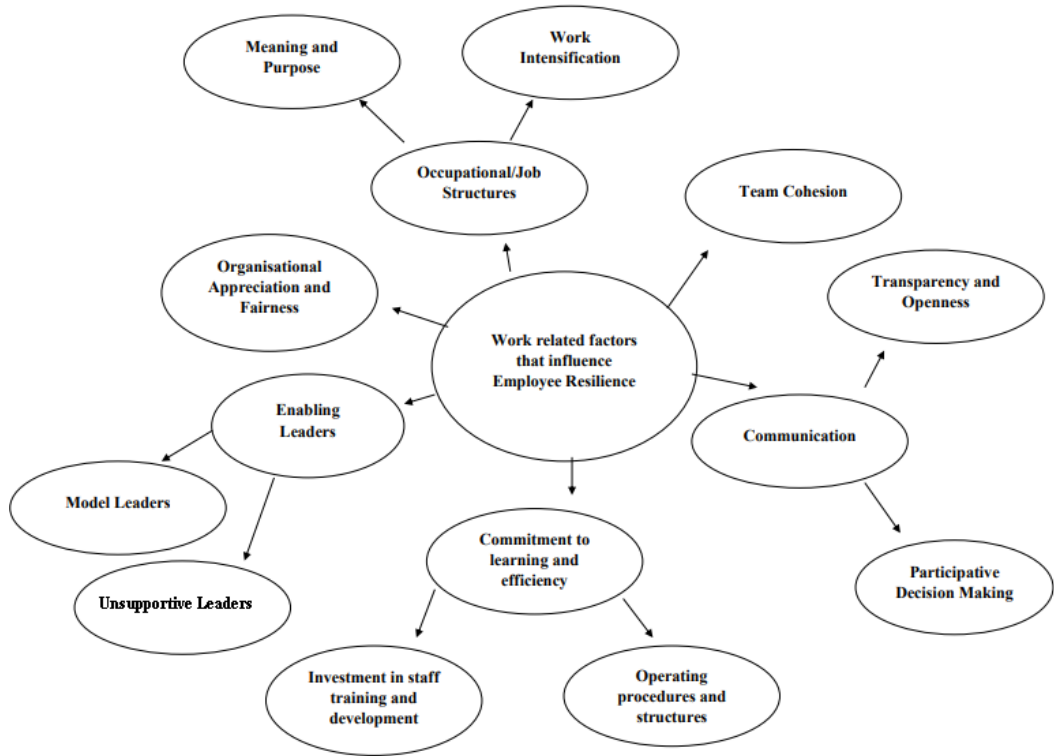
Figure 1. *A map of themes relating to employee resilience*
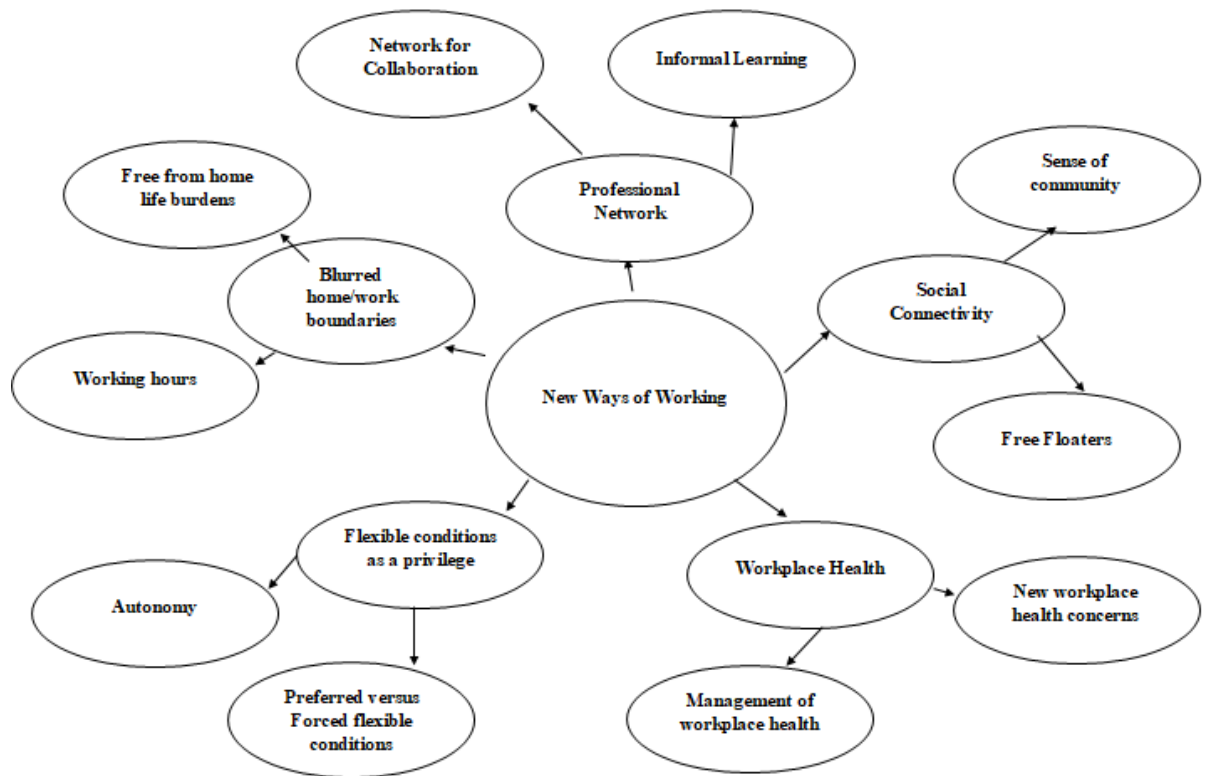
Figure 2. *A map of themes relating new ways of working*

Chapter 4

Study one

A Qualitative Exploration of Employees' Perspectives on Variables That Enhance or Erode Employee Resilience.

This chapter offers a framework consisting of six themes that have been identified as enabling or eroding work related constructs of employee resilience. The chapter discusses employee experience of organisational change and how it was managed. Using thematic analysis it identifies six major themes that characterise the work environment, and these are: Occupational structures, Team Cohesion, Enabling leaders, Organisational Commitment to learning and efficiency, Communication and Organisational appreciation and fairness. Interviewee accounts and quotes are provided as evidence for the six themes. Finally, a descriptive summary of key findings from the interviews is reported.

4.0 Introduction

After the global financial crisis of 2008, justified on grounds of averting financial collapse, the UK government declared a state of austerity (Farnsworth & Irving, 2018). Unprecedented budget cuts to the public finance of local government have by far been the most dominant measure of austerity between 2010 and 2015. Local Government lost over half it's funding during this period. The cuts to Local Authority budgets have been a key driver in the restructuring of local government and public service provision in the UK (Gray & Braford, 2018). However, some suggest that the financial crisis was used to justify neo-liberal ideological ambitions to reduce the size of the government. Regardless of the driving force behind the cuts Local Authorities in the UK have experienced an upheaval in their day to day functioning.

As discussed in the literature review, at a time when Britain's workforce is experiencing unprecedented changes in their everyday working lives, there needs

to be a cultural shift in the workplace such that organisations focus on providing the necessary support for staff to do their job and to remain healthy and well in work (Leka & Houdmont, 2012; Russ et al., 2008). To date, research and practices focusing on employee well-being have instead focused on supporting individuals at the point at which job demands and processes have already had a negative impact on their health and well-being. There needs to be a shift to a resilience-based approach whereby both risk and protective factors are considered in order to build systemic support for the workforce before they have to leave or take time off work from issues such as stress or burnout (Bauer & Jenny, 2007; Wright, 2003).

To date the concept of resilience at work has been examined mostly at the organisational level (Hodliffe, 2014; Williams et al., 2017). There is limited empirical research that takes into consideration the important role employees play in organisational success (Nilakant et al., 2016; Lee et al., 2013). Therefore, there needs to be a greater focus on understanding resilience at work from an employee level. Thus far, contemporary perspectives on employee resilience can be seen as partial, tending to be more focused on capturing resilience as an individual characteristic (trait based), rather than something that can be enabled by the organisation (Robertson et al., 2015; Kuntz et al., 2016). The default focus is on how work organisations can make employees more resilient to a possibly hostile structural and sociotechnical world, (i.e. an individual focus), rather than a systems perspective focus on how to increase resilience by making changes to the design and configuration of work (Bardoel, Pettit, De Cieri, & McMillan, 2014; Kuntz et al., 2016). Rather than focusing on stable traits within the individual there needs to be an employee-level model of resilience that focuses on work related/ organisational factors that have the potential to contribute to the development of resilience at work need.

Due to the lack of empirical evidence that has examined direct links between organisational enabling factors and employee resilience in the workplace or how

organisations can better equip employees to handle challenges at work (Hodliffe, 2014; Naswall et al., 2015; Kuntz et al., 2016; Williams et al., 2017) the current study adopted an exploratory nature. Through direct engagement with employees, this study aimed to explore work related influences on employee resilience through a period of unprecedented organisational change.

4.0.1 Aims

To gain insight into variables within the organisational context that employees perceive to be vital for facilitating or eroding employee resilience during a change process.

4.0.2 Objectives

1. Negotiate access to engage with case study LA employees within a range of departments

2. Explore and characterise employee perspectives on contributory influences to building a resilient workforce.

3. Use these insights to inform the development of a quantitative supplementary study aimed at quantifying key issues raised.

4.1 Findings

The findings in the following sections are structured to reflect the themes identified in the qualitative analysis of study one that sought to explore work related factors that can build or erode employee resilience (see appendix M for definitions and scope of each theme).

4.1.1 Occupational/job structures

4.1.1.1 Meaning and purpose

A prevalent topic of discussion amongst respondents was the value they placed in the work they did in relation to 'giving something back to the community'.

Whilst this might be anticipated for caring professions such as mental health workers perhaps less expected was the discussion of this amongst professionals in areas such as parks and allotments. A wide array of professionals interviewed commented on being proud to work for the LA in relation to what the LA represents (work identity). Research has suggested that the meaning assigned to work is a component of intrinsic job motivation (Thomas & Velthouse, 1990; Spreitzer, 1995; Tulgan, 2003). Meaning is the value placed on a work goal or purpose, judged in relation to an individual's own ideals or standards. In particular, altruistic rewards such as helping others or contributing to society have been identified as examples of perceived value placed on the meaning of work (Johnson, 2002; Twenge et al., 2010). Research has identified the importance of assigned meaning of one's job to prosocial behaviour at work in relation to positive organisation outcomes (Smith et al., 1983; Puffer, 1987; Twenge et al. 2010). However, in the context of this study participants discussed the meaning assigned to work as a buffer or protective factor to perceived poor treatment received from the organisation. The comments presented below offers support for the notion that meaning and purpose at work can mediate the job related stressors.

Urban Design Manager: "I feel proud to wear this shirt and to be part this council you know I do think that we should be proud of what we do and I've always said that. I hate it when I hear people saying that uhh I'm fed up of this place or whatever well in that case what the hell are you doing here um we all have days like that don't get me wrong but I think if you feel you're making a difference to the people of this city in what you do and that your job is important its worth it."

Housing Advisor: "I mean there's certainly a feeling in local government that you're not getting massively paid you know so you're not in it for the money that's for sure. I suppose in my case I think what I do make a difference to kind of help people so that makes a big difference to me because at the moment as I said

if we can get this homelessness strategy right then that's going to improve the lives of you know people who are unfortunate enough to find themselves homeless. I suppose what I'm saying in a way is its quite nice to be working for an organisations that's kind of improving the lives of people in this city that's a kind of good sort of motivating factor you know"

One participant reported feeling happier working in a public setting as opposed to a private organisation.

Safeguarding adult care Manager: "the work we do is you know very important work and it for me it's the best move I made to move into the public sector it's a nice feel about it because people are doing really important stuff and its done quietly and without a fuss and you know looking after the vulnerable and all those types of things."

Interestingly, there appeared to be a disconnect between the LA as a name and what it represents and the internal day to day management practices within the Council. The altruistic rewards employees get from helping others or contributing to society seemed to offset the job related stressors participants discussed. Identifying with the organisation and what it contributes to society seems to act as a buffer that offsets dissatisfaction with the day to day reality working for the LA. The importance of identity at work as a protective factor warrants further investigation in relation to employee resilience. Identifying with meaningful work might acts as a resource for employee to draw upon when other resources are lacking or absent. This can be seen directly by the quote from Park service manager who stated that everyone can experience bad days at work however the provision of a meaningful service makes it worthwhile.

4.1.1.2 Work intensification

A negative dimension of budget cuts and changes occurring in the LA regularly voiced by interviewees emphasised the intensification of work; staff shortages have contributed to an unrealistic workload.

One respondent commented on the difficulty employees often face with balancing demands of work in a working day

Housing Advisor: "I have too much work and I can't fit it in, I work nearly 12 hours each day. I have avoided learning how to set up the alarm just so I make sure I go home before the security guard"

Similarly, some employees expressed a degree of fear about loss of service provision and what this meant for the amount of work they would need to take on as well as the pressure they felt to not complain about the work intensification.

"The fear is from almost everybody that we might be subject to cuts and that various parts of the service may disappear and less people will be forced to the same amount of work"(Allotments Officer)

Museum Learning Officer: "I've had to pick up some work and I suppose that's being resilient that fact that if we lose people there is extra work and people will take it on because they don't want to be seen not to take it"

Furthermore, employees discussed the intensification of workload as a driving factor of presenteeism; coming into work when unwell *"we are busy you know I have got a heavy work load. I sometimes think it is not worth having time off work if you are sick who knows what I will come back to you know what I mean I will have to catch up with so much".* This suggests that heavy workload can impinge on an employee ability to be efficient at work and has the potential to create a bigger problem with people coming into to work sick.

In light of the comments made, unrealistic workload seems to be a source of pressure and stress for frontline staff and investigating the impact it has on workforce resilience warrants further investigation.

4.1.2 Team cohesion

Johnson and Hall (1988) suggested that social support from supervisors and colleagues can act as a buffer between job-related stressors and wellbeing. This process is known as the stress-buffering hypothesis. Research proposes that higher levels of social support can ameliorate the impact of work stressors on psychological health and wellbeing (Scheck et al, 1997; Moyle & Parkes, 1999). The stress-buffering hypothesis argues that social support protects individuals from stressful situations, therefore, is an important resource to have at work whether in the form of emotional or practical support (Leka & Houdmont, 2012). However, evidence supporting the buffering hypothesis is inconsistent with some studies finding no evidence at all for the hypothesis (LaRocco et al., 1980; Viswesvaran et al., 1999). Insight from the conducted interviews lends support to the argument that social support in fact plays an important role in helping employees cope with difficult work situations.

The importance of social cohesion within a team was discussed by a number of respondents. The following extract is a typical example of the sentiments expressed by employees about the importance of social exchange at work.

Social worker: "we sometimes see and have to deal with very traumatic situation involving children but being able to come back into the office and have friends to discuss it with makes it more bearable because they can also give you advice".

The quality of team bonds was also discussed in relation to trust. Frontline staff expressed the view that trust in their own team could make up for the lack of trust in in the organisation to support staff through the change process.

Public Health Officer: "I have full confidence in my colleagues and team manager's ability to support me but above that forget it".

Moreover, social isolation at work was framed as a potential risk factor to employees as social networks often can provide a sense of support and a sense of being understood by fellow colleagues.

Trade union representative: "We had an issue in park and services where a review was done by external consultants that said instead of having teams everyone should come in on different shifts, what we found is that stress levels spiked. I reviewed this and said no no what you have done is all wrong you have taken away all their support mechanisms, people were getting stressed because they felt like the next person to take on their shift wouldn't be aware of their idiosyncrasies at work. We had grievances going up, problems happened, sickness went through the roof. When we changed it around sickness dropped and everyone has seen a reduction in incidents as well".

The sense of team cohesion can be capitalised on to ensure that individuals feel that they belong to a network and that they can depend on the relatedness of that network. Therefore, team cohesion can be characterised as protective factor enhancing employee resilience and wellbeing whereas isolation can erode resilience.

4.1.3 Enabling Leaders

4.1.3.1 Model Leaders

A point of discussion that was emphasised in the interviews relates to how employees perceive managerial expectations in relation to the amount of hours they work. This discussion was particularly common amongst service managers. They expressed a belief that the senior management within the local authority condone and encourage a culture of long working hours.

Strategic Housing Manager:"I will tell you one bad thing about this organisation is the number of hours that senior managers work, you are contracted to work 8 hours a day and I would say they work 12-14 hours a day. I get emails at 2

o'clock in the morning and there is an expectation to work longer hours. There is also an expectation to work on weekends or at least check your emails on weekends. I don't see that as being healthy for long term health"

Senior management expectations that people beneath them should be available at all times to respond to work related issues models a negative behaviour and could act as a source of pressure which impacts employee work-life balance.

Additionally some participants explained that long working hours are not only a result of bad role models in managerial grades within the organisation, but also stem from the lack of insight manager have into the demands placed on their team.

Communications Officer: "There is a lack of [managerial] awareness of team capacity and so they have unrealistic expectations of us and the work we can get done"

Managers on the other hand claimed that the reported imbalance between job demand and resources was more related to financial constraints and service delivery objectives than to lack of insight on their part. This imbalance was outside their control given that they had a service to deliver. Managers explained that they believe this issue is less to do with management per se and more to do with the current pressure on local authorities to meet more bottom line targets and to expand services. Accordingly this has placed greater pressure on employees to work longer hours.

Neighbourhood and city development Officer: "there's been an increased level of stress I'd say with the amount of work and the expectation on us increasing our service put on you know by how the current state of the organization. We still have to do our day jobs we still have customers ringing up none of that changed at all we are just expected to do more"

Employee health was also associated with the discussion of management expectations. Staff and service managers reported feeling the need to come into to work whilst being unwell [presenteeism] as a result of their supervisor's expectations around the matter. The view that "*My manager won't take time off if he is ill and then will criticise and get snippy if I go off ill because he didn't*" *[Litigation officer]* was echoed by most participants. If management expect their subordinates to model their behaviour it could run the risk of creating a culture where people are afraid to take time off, having consequential effects on employee health.

A mental health worker described the situation in the following comment *"I feel pressure, my manager said she hasn't had a day in sick in 27 years so it's a lot to live up to isn't it. There are work ethic expectations in this culture, one of the senior managers struggled in, he had an ear infection he had a terrible cough and shivering from head to foot and he was in. I mean I just wouldn't come in like that but then that is the pressure you are facing here"* [mental health manager].

However, this issue seems to be one that originates primarily from people high up the management hierarchy, as one service manager disclosed employee concerns that she has encountered. *"One admin person here said recently oh, I have struggled in today normally I wouldn't have come in but I feel I just can't not come in when *** doesn't take time off "* *[Children's commissioning manager]*. The service manager followed this statement by expressing her disagreement with the current situation *" I just won't do that, I won't expect my staff to come in it is going to cause anxiety about getting ill in the first place which is not going to be good for anyone"*.

It would appear that senior management set precedent for what behaviours are modelled in the organisation and their expectations have a greater influence on employee behaviour.

4.1.3.2 Unsupportive Leaders

There was a general sentiment across groups of frontline and office based employees that bottom line outcomes took priority over their health and wellbeing. One participant's comment *"I feel like a drone just coming in to do a job" [Housing advisor]* reflects the general picture portrayed. It was apparent that respondents associated the perception of the organisation as not 'caring' towards its employees, closely to their immediate managers.

The majority of front line staff described situations where they did not feel like their managers were equipped to support them or committed to staff health and wellbeing. Participants reported feeling like they were not treated as human beings *"You are managing human beings not projects" [Occupational Health Counsellor]*. Even when managers were described as 'good managers' respondents expressed feeling that it was hopeless as managers don't have the time to be committed to employee wellbeing *"He has his own projects to manage what time has he got to assess my emotional state?" [Communications officer]*.

Frontline staff held the belief that their managers were not open to discussing issues around wellbeing at work. Perhaps an extreme example, but one that exemplifies the extent to which a lack of openness around general wellbeing and mental health issues can have detrimental effects is the following quote *"we had a staff member about 5 years ago who actually committed suicide and none of us knew that he was um going through that you know" [social worker]*. It was mentioned that the staff member in question was particularly stressed the last few days leading up to the unfortunate event. However, no one questioned his behaviour. The "*old fashioned*" culture that exists within the council was offered as explanation for the avoidance of health issues. Trade union representatives made reference to what they characterised a male dominated management culture where the stereotypes of need to be a "*rough toughie*" in the workplace proliferated., i.e. the expectation that employees should be tough enough to cope with stresses in and out of work .

Trade Union representative: "People are coming into work are expected to cope. When I ask you how you are I want you to say I'm fine, I don't want you to start telling me about your problems or feelings."

Moreover, several participants who reported having a personal history of or experience of others with psychological issues asserted that even if managers were approachable to discuss personal issues they lacked empathy in their way of dealing with the matter. One participant opened-up about experiencing a death in his family, he discussed talking to his manager about how his personal struggles were affecting his performance at work. He commented on feeling that being honest about his struggles was 'pointless' as the manager was not flexible in his approach of addressing the matter by marking the participant down in his end of year review *"My manager is a nice bloke but he lacks emotional intelligence, he said my performance has dropped off and that's gone in my review"(HR Officer)*

Interviews with several managers reinforced employees' perceptions regarding the lack of support from management with regards to staff wellbeing. From the accounts offered it seems that reactions range from a lack of ownership to not feeling equipped to deal with personal issues.

Comments on managers feeling ill equipped to deal with staffs' personal issues such as those of mental health were reported. Certain managers described the experience of managing people as *"intangible, you know what I mean people are not like budgets" [HR manager]*. They also expressed their desire to be able to understand human complexities "*It would be nice to have some sort of understanding of managing people. I mean you get a little sheet dipping but no training not really and not on managing people" [Strategic housing manager]*.

One respondent offered an interesting perspective having recently moved into the LA from the NHS. She argued that managers working in the LA lack general knowledge and skills around mental health. In contrast to other managers, she reported feeling more compassionate towards employee concerns and better equipped to help employees due to the fact that she has worked in a mental health

setting and was exposed to a variety of professionals that had extensive knowledge around psychological ill health.

Public health officer: "I think if you were talking to me and I was working in a different part of the organisation it would be a lot worse, I don't think people would be so understanding. I think because I come from mental health if someone comes to me and said they feel low I would be giving them skills and techniques that I know that work but I don't think that managers outside mental health would know the answers to that."

Therefore, knowledge around mental health could be potentially important in building a resilient workforce. With such knowledge managers would be able to help employees through difficult times and offer some form of support. This view was expressed by the manager with a mental health background

Operational MH Manager: "I think all managers should have that knowledge to maintain their workforce that would be a positive thing, and you are not trained on that as a manager. I think it would be useful thing if everyone knew certain skills to help with mental health. I am not saying they should turn into counsellors that would be a different role but just the basics or knowing where to point someone to."

Moreover, some managers discussed finding the role of managing people intangible compared to the projects/services they run *"yeh it is hard and its the sort of thing that you do and some of it's a bit intangible do you know what I mean its not like budgets with budgets you've got this and you've got that and then you will achieve it its people so its harder its individuals personalities"* *[Urban Design manager]*

The second idea mentioned above regarding management's unwillingness to get involved with wellbeing issues is exemplified by a comment made by a manager who managed a particularly vocal group in relation to their feelings *"for me I sort of feel like I just want to like bang everyone's head together you sort of feel like*

oh just come on and get on with it there is no need to talk about everything"
[Safeguarding adult care Manager].

In addition some managers discussed the challenges they faced with managing different groups people *"the main challenges are just different cultures and different people coming together so in housing I suppose we're very much outcome driven we're here to provide this service and that's what I'm aiming on doing whereas health and social care are a bit fluffier I suppose a bit about ooh lets analyse what everyone needs and talk about it and not the urgency of what am I suppose be achieving". [Strategic Housing Manager]*

Trade union representatives argued that this is the norm and expressed the desire for manager to seek out training is the exception *"Good luck trying to get them [managers] on an equalities training good grief its awful, they don't see it as a part of their job" [Trade union representative].* Occupational health services reiterated the trade union's view elaborating on the possible reasons managers may not want to get involved *"I think various levels of management need soft skills training however understanding complexities and emotions can be seen as fluffy and as being too soft and not necessary" [Occupational Health Counsellor].*

4.1.4 Organisational commitment to learning and efficiency

4.1.4.1 Investment in staff/ training and development

Participants expressed their concern for the recent cuts in training and development opportunities staff are provided with. Respondents discussed the issue of training being an easy target to eliminate in the current economic climate.

Children's commissioning manager: "when the first round of cuts came around one of the easy targets was CPD- personal development and training, that's an easy thing to cut out of your budget because it is something that is an aspiration for a lot of people in the workplace it's not something that supervisors see as

intrinsic to services delivery so throughout the council we have seen a massive reduction in training that is available to members of staff".

Employees positioned training opportunities as an essential component to enable them to cope and keep up with the changing world of work. Respondents, both managers and frontline staff, reported feeling unable to cope with the changes in job demands and not equipped with the skills needed to do their job.

A service manager commented *"in this change process presumably we will need training opportunities to gain new skills. I think that's a very important part of the process if you haven't got the skills that can be a real stressor because you feel vulnerable you don't feel able to take on the new tasks that's expected of you" [Safeguarding adult care manager]*.

The general sentiment amongst frontline staff can be summarised by the frustration that one employee exhibited in trying to obtain the necessary skills to perform his daily job and being met by an organisational barrier in relation to the changes in training regimes. *"They implement change with a steep learning curve for some and no support, training is either piss poor or non-existent. How can you roll out a new finance system and expect people to do their jobs without training everyone it creates a lot of additional stress" [Housing officer]*.

Additionally, participants conveyed their dissatisfaction with the process involved in identifying and receiving relevant training. The process known as Performance Management and Development Systems (PMDS) was portrayed as a *"tick box"* exercise for managers. Evidence of this can be seen in one employee's description of the current situation around training and development *"we sort of do our PMDS and sort of put down what training needs we want but then its all left to the individual.. you know at one time there was a clear way of identifying necessary training you know there would be a list of training courses sent out to managers and you could book yourself or your staff on it and all that seems to*

have been lost now and we are left to figure out the new job by ourselves"
[Communications Officer]

Lack of training was also discussed in relation to managers not feeling that they could help staff through the change process. Managers reported struggling to be enablers in supporting their staff onto training courses that would help their staff deal with the changes in the services they provide *"they are looking for guidance and there is none available and I can't get them on training now" [HR manager]*.

4.1.4.2 Operating procedures and structures

This subtheme relates to systems that are in place to promote efficiency. Specifically, the right procedures/rules/ regulations are in place to make the job as efficient as possible.

Some employees commented on disparity between organisational pressure to meet public expectations and their ability to follow the defined procedures to meet such expectations. There was a sentiment that meeting customer expectations in relation to response time targets are not an efficient way to get the job done and could potentially decrease the quality of the service if it is causing stress and pressure. In particular, front line staff that deal with the public in person or over the phone expressed the view that there is often an expectation to do things in a particular way, regardless if this is the most productive way to spend their time.

Allotments officer:"We have this policy were the telephone rings and we have to pick it up in no more than 5 rings and that is fine you know customer value etc but now we don't have a team of 10 anymore there are only three of us. Sometimes there is only one person in the office and I am there doing my work and you are expected to pick the phone up so my work goes out the window"

Communications officer: There doesn't seem to be a culture of let's try and be as effective as possible it is very much about just getting it done no matter what it

take, not this is unacceptable how can we work more efficiently or what can we cut out that we don't need to do.

4.1.5 Communication

4.1.5.1 Transparency and openness

Adkins, Werbel and Farh (2001) propose the effects of organisational change has on employees may depend on the extent to which they receive sufficient and accurate information about the change. Therefore, consistent and open communication is key component in allaying employee fears and maintaining a healthy work environment. One respondent summarised this idea perfectly by stating *" I think communication is a big problem in that there is not enough of it and when there is communication there is too much of it in one go so you are getting email after email and that just drives you potty [Urban design manager].*

Respondents expressed their frustration of being kept out of the loop in relation to organisational changes *"9 times out of 10 you don't know what the hell is going on" [Housing advisor].* Due to the lack of openness about the current changes within the organisation employees tended to rely on rumours to find out what was going on as exemplified in this extract, *"we hear things through the grapevine, I'll speak to colleagues who are in other departments and they know all about it because their manager had involved them so things like that are a worry or a concern because we don't know what's going on nobody shared it with us and then we hear things" [Litigation officer].* Inaccurate rumours can create a state of unnecessary panic among employees emphasising the importance of honesty and transparency. This example also highlights the vital role managers' play in allaying employee concerns by being open and honest. There was a general sentiment that 'good managers' are those who are open and honest and that employees wanted to know their fate whether it was positive or negative. This can be seen in the following extract:

Museum learning officer: "I'm very lucky that I have got a line manager who is very open and very honest and she is very visible but I wouldn't like to say that it's the case across the whole council. I think the positive thing is by being so opened and honest transparent it really helps to tell people even if you don't know what's happening that you don't know what's happening rather than pretending"

Finally, similar to involvement, communication and honesty could also play a role in empowering employees and allowing them to feel they have some control over what happens to them. One participant reported staying awake at night as a result of not knowing what was going on. *"I know it bothers me because I wake up in the early hours of the morning I am having dreams where I can't get out of I can't escape of something and nobody will help me and I know that's because here I can't do anything about the situation because I don't know what will happen to the service" [Children's commissioning manager].*

4.1.5.2 Participative decision making

Research exploring the impact of involving employees in decision making processes has demonstrated that such involvement yields positive results at organisational and individual levels. The role of participative management has been linked to an increase in job satisfaction in local government agencies (Kim, 2002). Additionally, Probst (2005) found that employees who perceived they having an input into organisational decision making experience fewer negative outcomes in relation to job insecurity. These findings suggest that participative decision making offers employees a sense of control of their futures as they are involved in the organisational decisions that have the potential to affect their job security. An example demonstrating employee frustration with the lack of involvement in relation to their jobs and the organisational change the LA was experiencing can be exemplified in the following comment:

"if we are not being taken along on the journey or involved then it is like how can we help, how can we understand what the change is and what the implication is for us and our job. It affects people and they come to work and they think oh what is the point and so they switch off and that leads to mistakes and it leads to dissatisfaction."[Community development officer]

Talking to frontline staff about the changes to structure and working arrangements that the organisation was undergoing, there was a general sentiment amongst staff that lack of management consultation leads to feelings of despair.

Occupational Health Counsellor:"staff feel disconnected and don't feel as though they are going forward as they are not involved in the process, it feels like we are on the titanic."

Conversely, manager's perceptions in relation to participation were the opposite of those expressed by frontline staff. Managers reported being involved in decisions around changes to services. *HR manager: "I've been really involved in the planning and in the engagement of how to roll the new service". As a result of this they felt more secure about their future at the council "I think there's a genuine wish amongst senior management that we are involved and I think the more we're involved the more likely we are to staying still on the bus at the end of the process so that I see as a very positive thing".*

Overall, respondents who felt they were not involved or consulted with in relation to the change process expressed feeling disengaged. In contrast staff who reported being consulted characterised their involvement as positive and desirable. Therefore, involving staff in decision making processes presents as a component of getting employees on board and facilitating proactive work behaviours.

4.1.6 Organisational appreciation and fairness

When discussing organisational change with employees the notion of not feeling valued and being unfairly treated within the organisation was a key feature that stood out across participant transcripts.

Research has identified organisational justice as a key risk factor in relation to employee health, wellbeing and productivity (Grynderup et al. 2013; Robbins at al., 2012; Ndjaboue et al., 2013). Organisational justice refers to the perceived fairness of outcomes and practices in the workplace. In particular, fairness is the distribution of resources and fairness in process and procedures, by which outcomes are assigned, have been associated with poorer health (Robbins at al., 2012; Ndjaboue et al., 2013).

A number of the respondents commented on the lack of consultation with regards to organisational change with the general sentiment being that employees did not feel that management valued their expertise and knowledge of the day to day work they do to involve them in the decision making process. *Housing advisor: "People think the best way forwards is to hire a consultant but this consultant comes in and tells you to do something and actually ends up costing us a fortune because they don't talk to the people doing the jobs. They just don't want to believe staff umm they want a consultant who will come in and say yeah it's a good idea and support them, instead of saying well let's not pay out that consultant let's use the workforce and their skills and see what they have to say. It's just madness"* as a result of this participants expressed feeling a disconnect from management *"You get the feeling that this is our business not yours we know best."*

There was a strong sense of unfairness in relation to recruitment procedures amongst employees that had to reapply for their jobs as a result of the ongoing programme of reviews of public services. Participants felt that the experience they have from working in their field and for the LA for a number of years should

be taken under consideration. Some respondents discussed the perceived unfairness with respect to newcomers.

Pollution control officer: "I think its unfair that you know people the way people get employed, I have this bloke sitting next to me and he has no idea what he is doing. You know some people cant do the actual job they have 45 minutes or an hour of brilliance in an interview and then the rest of the time they are absolutely crap. I just think that sometimes the wrong people end up in the wrong jobs because of it."

Others discussed feeling that they had been treated unfairly in comparison to their colleagues. What seemed to drive this feeling of unfair treatment was again not feeling valued as a staff member for the efforts and resources the employees have to offer.

Communications officer: "you know a few years ago there were 3 jobs going here 2 permanent 1 temporary and they gave one of the permanent jobs I got the temporary job but one of the people they gave the permanent job to is a real bully in the office it really upset me that they kinda gave her that job over me when the management knows what she like. You know that upset me coz I thought they know I'm 10 times more helpful than she is to my colleagues you know and I don't make my colleagues upset or but they've given it to her coz she's just done better in the interview and that really upset me."

As a result of the ongoing change and constant restructuring the LA was experiencing, the process of employee having to re-apply for their job increased. There was a sentiment amongst employees that the process itself was unfair. The above evidence would suggest that employees perceive a fairer recruitment system as one that is based on employee experience or employee job fit as opposed to their interview skills. Whether or not such beliefs are legitimate it appears they are driving employee perception of unfair treatment. Therefore this theme does not seem to reflect how employees are directly treated per se as much

as it encompasses employee beliefs around the opportunities provided to them subject to the effort they believe they have invested into the organisation. There was a general consensus among frontline staff that their effort has not been recognised and valued which in turn lead to the perception of unjust treatment. In light of evidence provided by research regarding the impact organisational injustice has on employee wellbeing it would appear that such beliefs could erode employee resilience.

4.2 Summary of findings

This study utilised semi-structured interviews (N=20) that allowed for an in-depth exploration of employee experiences of organisational change in the LA under investigation. This study identified six categories that seem central to employee resilience in times of change. These are *Occupational structures; Team Cohesion; Enabling leaders; Organisational Commitment to learning and efficiency; Communication; and Organisational appreciation and fairness.* The study tried to ensure variability in employee experiences by interviewing employees that represented different levels and job functions within the LA, although the majority of respondents were front line staff (see section 3.6). Using thematic analysis the researcher identified a total of 6 themes and 8 subthemes. Broadly, there was a high degree of homogeneity in the experiences and issues that respondents expressed. The core themes seemed to be prominent among all discussions. However, the way employees represented the issue, i.e. in a positive or negative light, was highly dependent on their experience with change and how the change process was managed. Below an overview of each theme and what constructs of work it represents is discussed.

Team cohesion was deemed a vital element for resilience amongst employees (Kuntz et al., 2016). In a turbulent climate, employees are forced to respond to external pressures, technological advances, changes in government policy, and changes to the way they perform and complete work, often with only limited resources (Nilakant et al., 2014). Respondents discussed their team and social

relationships with colleagues as being a resource they could draw upon in times of need. When employees could use their established social networks to connect and collaborate with others, this expanded their resources and their capacity to respond to everyday work stresses and the ongoing upheaval. In particular, teamwork enabled knowledge sharing as participants could draw on colleague experiences with work related issues. Furthermore, caring relationships among team members were positioned as a contributing factor to feeling cared for at work and understood. Support from team members and colleagues in various forms seemed to ensure more adaptive response to change.

The role of leadership emerged as another essential feature of resilience. Specifically, respondents discussed the key role managers play in identifying employee needs and responding to these needs with empathy and placing value on staff wellbeing. When employees felt that management prioritised staff wellbeing over profits or bottom line outcomes they felt appreciated and more empowered and therefore more engaged (Macy & Schneider, 2008). The emotional literacy of management plays a key role in creating a caring culture at work where both parties (employees and managers) feel better equipped to deal with the evolving nature of work. Furthermore, the need for manager to model healthy work behaviours in terms of workload and well-being was evident. Management expectations with regards to working long hours and coming into work when unwell has the potential to create an environment that is debilitating as long work hours and presenteeism become the working norm and engrained into the organisations culture.

Furthermore, communication was seen as a critical part of the change process. Ongoing communication, including participative decision making and transparency, was discussed as an antecedent to engagement and getting on board with change at work (Elving, 2005; Tanner & Otto, 2016). Internally, organisational silos characterised by a lack of open communication whereby employees had to guess or learn about upcoming changes through the grapevine

made it harder for employees to respond to change and support it. The key role managers can play in keeping employees in the loop was discussed where 'good managers' were described as open and honest. Transparency throughout the organisations seemed to boost respondents sense of control and allayed concerns they had regarding work. Furthermore, involving employees in the change process through two way communication contributed to employees being more willing to get on board and share the organisation's vision for change.

Moreover, organisations characterised by features such as valuing its employees and treating them fairly was another crucial feature discussed in relation to the change process. This theme did not necessarily reflect how employees are directly treated per se as much as it encompassed employee beliefs around the opportunities provided to them subject to the effort they believe they have invested into the organisation. There was a general consensus among frontline staff that their effort has not been recognised and valued which in turn lead to the perception of unjust treatment. Moreover, this theme was related as part of a broader phenomenon that involves staff involvement, staff welling and treatment by leaders however the distinct element here was that it seemed to reflect organisation- wide practices. Employees discussed issues of value centred culture and appreciation in relation to the organisation as opposed to management. Leaders, however, will play a participatory role in creating a culture that employees feel valued and appreciated (Nilakant et al., 2014).

In a dynamic environment, identifying with work and the meaning and purpose of one's job was a central feature discussed amongst employees. Meaningful work seemed to facilitate adaptation to everyday challenges as well as more prominent workplace changes. Similarly to teamwork, employees describe meaningful work as a resource they could draw upon to respond to workplace adversity. On the other hand the work intensification that has accompanied organisational change tended to be perceived as a negative dimension of one's job that causes

exhaustion, spill over into home life and sometimes does not afford employees with the ability to switch off from work.

Finally, commitment to learning emerged as a sixth essential feature. Staff perceptions of the lack of organisational commitment to training and development procedures adversely affected their perception of having the necessary skills to complete their job in light of the constant changes to service provisions. Employee adaptation to the ongoing changes was articulated as being contingent on continuous learning opportunities at work. Furthermore, organisational procedures were deemed as lacking situational awareness, i.e. awareness of team capacity in enacting them. Strict rules and procedures tended to be seen as a source for decreasing productivity and diminishing innovation at work.

Overall, a strength of the current study was the employment of a qualitative research methodology which provided detailed exploration of the aspects of organisation change and its impact on employee resilience. In light of the employee experience analysed, relating this set of themes to the overall concept of employee resilience suggests the factors function in differing ways. For example enabling leaders and participative communication can be viewed as creating a positive environment that fosters resilience whereas team cohesion and meaningful work are needed to sustain employee resilience, i.e. they are a resource employee can draw upon. However, when such factors are missing or lacking this can create a negative environment which will be more challenging and adversely influence employee resilience. It is possible that what is missing/lacking is simply more cognitively available than what it is present. Nevertheless, whether positive or negative this study has highlighted several work related themes that are deemed important in adaptation to change. Consideration of strengths and weaknesses can be found in chapter 9.

Chapter 5

Study Two

Quantitatively exploring work related variables impacting Employee Resilience

Building on insights from the literature on employee resilience and employee experience of change from study one, this chapter focuses on the development of items relating to workplace factors that can erode or enable employee resilience. The chapter begins by discussing key issues that relate to item development such as the number of items used and scaling used. This is followed by a discussion of the cognitive pilot performed and how items were amended in light of the pilot. Next an extensive consideration of decisions relating to the EFA process is considered such as number of factors to retain and factor rotation methods. The factors are then named and discussed in relation to study one to offer a degree of triangulation of themes that emerged from study one.

5.0 Introduction

As discussed in chapter 3, the qualitative study conducted was rooted in the subject matter; it focused on an employee perspective and was deeply embedded in the organisational change and climate/culture the employees faced at the time of the study. While this afforded invaluable insight, little could be concluded with regard to the relative strength, or salience of the identified constructs. Therefore, the primary purpose of the study was to provide a degree of triangulation and confirmation of findings from Study one. Beyond issues of confirmation, there was scope for study two to identify new constructs, component facets and new insights, that complement findings from Study one. The strength of this combined methods approach is held to be that each (qualitative, Study one and quantitative, Study two) feed from the other, i.e. study one has the potential to enhance the pertinence and relevance of the survey questions, while study two offers a degree

of verification and testing of study one relationships on a larger, potentially more representative, sample.

An additional output will be the development of the basis for a psychometric measure with the capacity to quantify, profile and benchmark salient organisational influences on employee resilience e.g. profiling the relative salience of variables impacting on the resilience of different sub-populations, by job role / function and grade, etc. The output from the measure is envisioned as a tool for use by the LA to identify relative strengths and weakness in their practice, in managing/supporting individuals through conditions of stress and change and managing well-being issues.

5.0.1 Exploratory factor analysis Vs Confirmatory factor analysis

Research suggests that in situations where the researcher has little theoretical basis to make inferences about how many factors can be expected to emerge and how measured variables will load onto common factors a more suitable approach for common factor analysis would be an EFA as opposed to a CFA (Finch & West, 1997; Fabrigar et al 1999). An EFA is primarily a data-driven approach. EFA provides procedures for determining an appropriate number of factors and the pattern of factor loadings primarily from the data with no prior empirical or theoretical foundation.

As previously discussed, identifying aspects of organisational practice that facilitate or erode employee resilience has not yet been comprehensively worked through in the literature. The research aim for study 2 was to arrive at a more parsimonious conceptual understanding of a set of measured variables in explaining employee resilience. Since the number and nature of common factors and the nature of the variables were purely data driven (based on study 1) this study adopted an exploratory rather than confirmatory approach, in the first instance. However, reflecting recommendations by Fabrigar et al. (1999) the

results of the EFA formed the basis for specifying a CFA model in study 3 (See chapter 6).

Aim

To explore and refine variables elicited through study one with the aim of exploring and characterising relationships and underpinning constructs that enhance or erode employee resilience.

Objectives

1. To use the insights form study one and the literature review to develop an employee survey question set that could be explored to identify and define core constructs impacting on employee resilience.
2. To provide a degree of triangulation and confirmation of the constructs identified in study one.
3. To explore the degree of generalisability / verification of findings from Study One on a large sample of employees.
4. To develop the foundation for development of a psychometric measure with the capacity to characterise / profile / benchmark employee perspectives on structural organisational and cultural influences on workforce resilience.

5.1 Survey development

5.1.1 Item generation

Hinkin (1998) proposes two approaches to the development of items with content validity; a deductive and inductive approach. The deductive method follows a top-down approach driven by theory. In contrast, the inductive approach has been defined as 'classification from below' meaning it is rooted in the subject matter as opposed to being theoretical driven (Hunt, 1991).

Due to the exploratory nature of the study an inductive approach was considered more appropriate to generate items of work related factors that influence

employee resilience. Critics of the inductive approach argue that there are challenges in interpreting the descriptions provided by participants in order to use them to develop items (Hinkin, 1998). Item generation was based on employee interviews from study one, however, this challenge was addressed through the engagement of one other academic psychologists to discuss and agree the themes and generate a concise definition of each construct developed in study one. This provided some assurance of concept consistency.

Moreover, the strength of taking such an inductive approach to generating questionnaire items lies in the provision of a degree of direction frequently absent from exploratory work of this type. Specifically, it permitted the germination of a range of contextually-driven items. Where possible items were generated from direct quotes provided by respondents in study one.

Drawing on insight from participant accounts in Study 1, including their own interpretations with reference to published findings, a battery of 45 Likert-type attitude statements was generated. Respondents were also asked to enter demographic information relating to: age; gender; job title/role; nature of their contract (permanent or temporary) and tenure.

The table 3 below provides examples of the generated items.

Table 3. *Example of items generated based on emergent themes from Study One*

Themes	Items Generated
Theme Occupational/Job Structures	
Sub theme Meaning and purpose *I hate it when I hear people saying that uhh I'm fed up of this place or whatever well in that case what the hell are you doing here um we all have days like that don't get me wrong but I think if you feel you're making a difference to the people of ***** in what you do and that your job is important its worth it."*	I feel the work I do makes a difference

Sub theme Work Intensification *"I have too much work and I can't fit it in, I work nearly 12 hours each day. I have avoided learning how to set up the alarm just so I make sure I go home before the security guard"*	I regularly work late in order to get all my work done
Theme Team Cohesion *"we sometimes see and have to deal with very traumatic situation involving children but being able to come back into the office and have friends to discuss it with makes it more bearable because they can also give you advice".*	People I work with will support each other during difficult situations at work
Theme Enabling Leaders	
Sub theme Model Leaders *"I will tell you one bad thing about this organisation is the number of hours that senior managers work, you are contracted to work 8 hours a day and I would say they work 12-14 hours a day. I get emails at 2 o'clock in the morning and there is an expectation to work longer hours. There is also an expectation to work on weekends or at least check your emails on weekends.*	My manager expects me to be available to respond to work related issues outside normal working hours
Sub theme Unsupportive Leaders *"People are coming into work are expected to cope. When I ask you how you are I want you to say im fine, I don't want you to start telling me about your problems or feelings.""*	My immediate manager cares about my emotional well-being
Theme Organisational commitment to learning and efficiency	
Sub theme Investment in staff/ training and development *"in this change process presumably we will need training opportunities to gain new skills etc. I think that's a very*	This organisation always provides staff with the skills and expertise needed to do the job properly

important part of the process if you haven't got the skills that can be a real stressor because you feel vulnerable you don't feel able to take on the new tasks that's expected of you."	
Sub theme Operating procedures and structures *"We have this policy were the telephone rings and we have to pick it up in no more than 5 rings and that is fine you know customer value etc but now we don't have a team of 10 anymore there are only three of us. Sometimes there is only one person in the office and I am there doing my work and you are expected to pick the phone up so my work goes out the window"*	The procedures in place at work make sense

Theme Communication

Sub theme Transparency and openness "*9 times out of 10 you don't know what the hell is going on.*"	People in this organisation always know what is going on
Sub theme Participative Decision Making *"I've been really involved in the planning and in the engagement of how to roll the new service*	Staff are always consulted about change at work
Theme Organisational Appreciation and fairness *"They just don't want to believe staff umm they want a consultant who will come in and say yeah it's a good idea and support them, instead of saying well let's not pay out that consultant let's use the workforce and their skills and see what they have to say. It's just madness"*	Staff are rarely involved in important decisions regarding the work they do

5.1.2 Number of Items

The number of items a scale contains plays an important role in determining the response rate and internal consistency a scale will elicit. Therefore, the appropriate number of items to generate was a key consideration for the scale development process in this study.

Evidence suggests that between three and five items per scale are required to test the internal consistency of latent constructs (Harvey, Billings, & Nilan,1985; Cook et al., 1981, Hinkin, 1985). Scales with many items have been found to produce deceivingly high internal consistency reliabilities even though inter-correlations between items are indeed low (Cortina, 1993). This suggests that there is more risk than benefit with including a large battery of items per scale. However, the initial item generation pool should be relatively larger than the final scale as it is anticipated that approximately one half of the items generated will be retained for use in the final scales (Hinkin, 1985). At least two to four times of initial items should be generated to be administered in the survey so that the best items can be selected for the final scale (Devellis, 2017).

Guidelines specify that to maintain a good response rate keeping an item set as short is desirable. This minimises the chance of poor response or dropout rates dues to boredom or fatigue (Schmitt & Stults, 1985; Schriesheim & Eisenbach, 1990; Yammarino et al*.,* 1991). Additionally, there is evidence that suggests that the time taken to complete a survey may play a more important role than the number of items included (Duetskens et al., 2004; Ganassali, 2008) and, relatedly, that shorter surveys are prone to achieve a higher response rate than longer surveys. A number of sources recommend that self-complete surveys should take less than 30 minutes complete (Kelley et al., 2003)

In light of the above, and taking into consideration the number of items that needed to be generated to represent the themes developed in study one, a

relatively large number of items was produced. The researcher needed to balance the risk of inducing respondent fatigue with the risk of not producing enough items which would result in weak latent constructs. Therefore, the initial battery of items consisted of 45 statements.

5.1.3 Directionality of item wording

The issue of positively and negatively worded items is a contentious topic within scale development literature (Winwood et al, 2005). In particular, advocates of utilising both positively and negatively phrased items for the development of a scale argue that by doing this the researcher may reduce response bias amongst respondents. If all items are worded favourably or unfavourably, respondents can slip into just agreeing or just disagreeing with all of them.

Including reversed scored items allows the researcher to identify unengaged responses and response acquiescence whereby the respondent goes into 'auto-pilot' and provides the same rating for all items (Price & Mueller, 1986; Spector, 1992).

Others, however have suggested that negatively scaled items can still produce errors by respondents inadvertently answering items as if they were positively phrased resulting in an artificial response set (Schmitt & Stults, 1985; Colosi, 2005). Additionally, critics of reverse scored items caution researchers who negatively word items that the semantic meaning of the construct could change (Idaszak & Drasgow, 1987; Oppenheim, 2000). Reversing an item does not imply it is the opposite of the initial positively worded item and may lead to the formation of a new dimension within the questionnaire. Therefore, if the researcher does intend to reverse the direction of an item they need to be cautious with wording the item to assure the meaning and interpretation by participants will remain consistent with that of a positively phrased item (Schriesheim, Eisenbach, & Hill, 1989). Close attention must be paid to the factor loadings and

communalities of reversed items at the factor analytic stage solution (Harrison & McLaughlin, 1991; Doty & Glick, 1998).

After careful consideration it was decided to include negatively keyed questions in the scale item list but sacrifice the criterion of an equal split between positive and negative frames. The decision on the number of reversed items included in item battery was determined by their semantic cohesion. Five of the 45 items were reversed to be able to detect any potential response bias. However, the number of items was kept to a minimum to avoid developing confusing or unnatural items.

5.1.4 Item scaling

Although there are a number of different scaling techniques available, as this study was about identifying a finite quantifiable set of variables that characterise employee beliefs/attitudes/perception a Likert type scale was deemed most appropriate (Cook et al., 1981; Kerlinger, 1986). Following precedents from other studies of organisational climate / culture (Pidgeon et al., 2003; Weyman & Boocock, 2014) the generated items were configured as statements referenced to which respondents were asked to indicate their degree of agreement / disagreement. Turning to the issue of the most appropriate number of scale anchors, despite the widespread use of a five-point Likert scales, research has indicated that surveys with fewer points for respondents to indicate their agreement to a set of statements can lead to a response set bias (Krosnick & Presser, 2010). There can also be subtle differences that may not be understood in the same way by all respondents (Stone, 1978). Using a larger number of anchors allows for greater nuances between options to be made (Furr, 2011). Therefore, a 7 point scale was deemed to be more appropriate due to the sensitivity that can be examined between responses. Additionally, including more anchors offers greater flexibility for participants in selecting a response they feel reflects their beliefs and attitudes more accurately. Specifically, a 7-point Likert scale ranging from 1

= *strongly agree* to 7 = *strongly disagree* was utilized to generate sufficient variance among responses.

5.1.5 Aggregated constructs

Johns (2006) argues that individuals typically work in a group where they share the same workplace and similar experiences. Additionally, he suggests that due to their daily interaction they have the potential to influence each other and therefore their perceptions and beliefs about their workplace are likely to converge. Support for such a conceptualization emerges from literature that proposes employee perceptions are a product of context and culture (Schabracq, 2003; Johnson & Down, 2012). Consequently, gaining insight to a particular workplace requires understanding individual and collective (shared) perceptions of that workplace.

Due to the fact that the envisaged measure aimed to target organizational level factors that impact employee resilience the wording of statements should reflect unit-level items (i.e. Team, department, or a division). Group-level constructs are often derived from individual-level data. Such a process entails utilising a composition model that can identify how the lower level data can be combined to compose the higher level constructs (Van Mierlo et al., 2008). Limited research has examined how to generate group-level constructs in relation to psychometric measures. However, the most commonly utilised construction model has been the referent shift consensus model (Chan, 1998; Klein et al., 2001; Van Mierlo et al., 2008). The referent shift model suggests that group level constructs can be used to assess shared experiences (Klein et al., 2001). This is done by wording survey items in relation to the intended nesting; the unit of reference the researcher is interested in (Van Mierlo et al., 2005). For example instead of asking employees to rate the statement "I have flexibility regarding working hours" this item would be phrased as "My workplace offers flexibility regarding working hours." It was not possible to word all items using the referent shift model however wherever

possible (questions relating to team or organisation) items were worded with reference to the unit of interest.

5.2 Cognitive pilot

Prior to distribution of the survey, a cognitive pilot was performed to test the ease of use and respondent comprehension and interpretation of the items (Tourangeau et al., 2000) using Bristol Online Survey software platform.

The pilot questionnaire was distributed among 17 employees from the LA comprising of 11 females and 6 males. The participants were informed that the questionnaire was about their experiences at work. The participants were asked to rate the extent to which they agreed or disagreed with the 45 scaled response statements.

After completing the survey a feedback section was provided for respondents to make comments relating to: accessing the survey, the usability of the survey's format and layout, the comprehensibility of the introduction and ethics statement and detail regarding the actual survey items.

In particular, respondents were asked the following questions about the questions/items:

1. Identification of items that they considered lacked clarity or were confusing
2. Identification of items that they considered were poorly written or difficult to comprehend
3. Identification of any omissions
4. Appropriateness of respondent demographic classification
5. Appropriateness of the 7 point Likert scale

5.2.1 Results of the pilot

5.2.1.1 Accessibility of Survey

Participants reported no misunderstandings relating to the instructions provided to access the link in the email sent. Moreover, they experienced no technical issues accessing the survey.

5.2.1.2 Survey Introduction and Ethics Statement

Participants were asked to comment on the clarity of the introduction provided prior to completing the survey. Specifically, whether they understood the purpose of the research and what would happen to their data. One participant mentioned that some employees might need assurance of the independence of the University of Bath as a researcher unit from the organisation itself. As a result small paragraph was included in the introduction to clarify that the research project was impartial to the organisation being investigated and the researcher stressed the importance of confidentiality and anonymity.

5.2.1.3 Format and Layout

All participants seemed happy with the layout and font of the survey. Positive comments relating the usefulness of the progress bar were made. The researcher added in the logo on the UoB to remind participant of the independence of the research mentioned in section 4.2.1.2.

5.2.1.4 Likert Scale

During the pilot, participants answered the Likert style questions using a 7-point scale. Following the pilot study, this was changed to a 6-point scale. When asked about the usefulness of the scale several participants noted that they believed that their fellow colleagues may select the middle option (neither agree nor disagree) due to fear that their manager might see their results despite confidentiality being stated in the introduction.

The issue of whether to include a midpoint or not in a survey is a point of contention within the survey design literature. Krosnick (1991) asserted that if respondents answer a survey diligently this imposes a cognitive burden whilst performing the task (Optimising). He argued that most respondents do not optimise and instead they satisfice by avoiding spending effort while answering a question. The inclusion of a midpoint provides an easy choice with no justification needed increasing satisficing.

Moreover, the inclusion of a midpoint may forego useful data collection as midpoint can discourage people to a take side (Krosnick & Fabrigar, 1997). *If* respondents will most likely use the midpoint choice to avoid answering the question then there may be reasons to exclude a neutral midpoint (neither agree nor disagree) (Fabrigar et al, 1999; Streiner et al., 2015; DeVellis, 2017). However, others argue that some people may truly have a neutral view and by eliminating the midpoint respondents will be forced to pick a point either on the positive side or on the negative side of the scale, resulting in measurement bias.

Contradictory findings exist with regards to the midpoint and reliability/validity of a scale. For instance, Alwin and Krosnick (1991) found that the inclusion of a midpoint made the scale less reliable. On the other hand, O'Muircheartaigh et al., (1999) found that adding midpoints to rating scales improved the reliability and validity of ratings. The researcher considered both perspectives but ultimately decided that the needs of the particular research project were more important than precedent of survey design. Given that the middle option might give respondents an easy way out to avoid inaccurate data and impact to the kurtosis of data, the researcher decided to move to a 6-point scale to somewhat force participants to include some opinion. In addition, a sentence was added to the survey instructions to clarify that participants should answer the questions based on their personal experiences within the organisation so as to reflect their beliefs and attitudes as accurately as possible.

5.2.1.5 Draft Survey Questions

Pilot participants were also asked for feedback on the questionnaire items. Overall, they reported positive comments about individual items leading to a limited number of revisions needing to be made a few comments were received which lead to some minor amendments to the following four items:

1. Original- I feel that I am part of a community at work
   Amended- I feel that I am part of a community whilst at work
2. Original- This organisation gets in the way of me doing my job properly
   Amended- This organisation gets in the way of me doing my job properly because of bureaucracy /processes
3. Original- Staff are often micro managed in this organisation
   Amended- I have control over prioritising tasks and responsibilities when faced with multiple demands at work
4. Original- This organisation trusts employees to do their job autonomously
   Amended- This organisation trusts its employees enough to make executive decisions at work

In addition to these amendments some respondents raised the concern that different teams might use different language to describe their job role. For example, manager, team leader, supervisor, and line manager are all interchangeable terms that might not be used by all teams in the LA. Therefore a statement was included in the survey instructions that noted: The following questions use the terms 'employee', 'staff', 'manager', 'management', 'organisation' and 'employer', however your workplace may use different language to describe these roles. Please respond keeping in mind the terms appropriate for your workplace e.g. 'manager' might represent your supervisor or line manager in your team. A copy of the revised and finalised survey is provided at appendix N.

5.3 Data Gathering

5.3.1 Sampling

In common with study 1, the sample was drawn from the case study LA. For the initial explorative study (study 2) this produced a voluntary opportunity sample of 250, in response to an emailed invitation.

5.3.2 Sample Size

Exploratory factor analysis has been found to be particularly susceptible to sample size effects. Therefore the researcher needs to ensure an adequate sample size has been gathered to more accurately conduct the factor analysis.

Methodologists have recommended a number of guidelines for estimating an adequate sample size for an EFA. The majority of these guidelines determine the adequacy of the sample size based on the number of items included in the analysis. Often such recommendations vary considerably resulting in inconsistent guidelines for researchers to follow. Below is a table 4 summarising various guidelines the author examined.

Table 4. *Guidelines for sample size*

Recommended sample size	Authors
item-to-response ratio 1:4	(Rummel, 1970)
item-to-response ratio 1:5	Gorsuch (1983)
item-to-response ratio 1:10	Nunnally (1978); (Schwab, 1980)

Recent research has proposed that mechanical guidelines such as item-to-response ratios lack the ability to be sensitive to the nature of the data (Guadagnoli & Velicer, 1988; MacCallum et al., 1999). In particular how well items load on the different factors is now considered a superior determinant for sample adequacy (Stevens, 2002). Research suggests that when at least 3 or more

items represent each common factor and communalities/loadings are high (above .70) accurate factor solutions can be obtained with samples as small as 100 (Guadagnoli & Velicer, 1988; MacCallum et al., 1999). As communality estimate decrease a larger sample size is needed.

Table 5. *Criteria for sample size based on loadings.*

Recommendations	Sample Size (N)
3 or more variables with loadings of 0.8	*N≥50*
4 or more variables with loadings of 0.6	*N≥100*
10 or more variables with loadings of 0.4	*N≥150*
Factors with only a few loadings	*N≥300*

Based on Stevens (2002)

Based on the above, the sample utilised in this study relative to number of questions and predicted number of constructs exceeded the minimum criteria.

5.3.3 Administration of survey

The survey configured for on-line completion using Bristol Online Survey (BOS) software (see Appendix N). A link to the survey was sent via email to members of the volunteer group. The link was active for a period of three weeks from the 21st of March 2014 to the 10th of April 2014. The link respondents to the survey site and all completed responses were submitted directly to the researcher via BOS. Reminders were sent out asking non-responders to complete the survey during the second week.

5.3.4 Sample characteristics

The sampling strategy produced 146 completed data sets (a response rate of 58.4%; N = 250). The response rate was considered high compared to quoted ranges (5%-21%) for online surveys (Deutskens et al., 2004; Kaplowitz, Hadlock, & Levine, 2004). The sample included a range of personnel grades and job roles, ranging from senior managers to frontline staff from a variety of different

directorates / departments ranging from City Directors to Neighbourhood and city development. Table 6 provides a breakdown of the sample by a range of demographic details.

Table 6. *Sample Demographics for study two*

Demographic	Number of respondents (N)	Percentage of sample
Full-time employees	108	74%
Part-time employees	38	26%
Male	51	35%
Female	95	65%
Business Change	27	19%
City Director	5	3%
Neighbourhoods	34	24%
People	56	38%
Place	15	10%
I do not know	9	6%
Senior management	4	3%
Supervisor/line manager	48	34%
Front line staff	51	36%
Administrative staff	25	18%
I don't know	18	12%
>1 year	4	3%
1-5 years	16	11%
5-10 years	54	37%
10-20 years	44	30%
20+ years	28	19%

5.3.5 Sampling error

Simsek and Veiga (2001) identify two main issues when discussing sampling bias; representativeness and control. These authors recommend that researchers need to be cautious when considering the nature of the sample they select. Overly homogeneous samples are prone to produce lower variance on measured items, thereby, weakening the correlations among items (Cattell, 1978; Comrey & Lee, 1992; Gorsuch, 1983; Tucker & MacCallum, 1997).

The sample was limited to a single Local Authority. This was purposeful as the researcher was investigating the impact of change on employee resilience within a specific LA. However, it reflected notable heterogeneity with respect to the range of job roles and grades

The researcher examined the ratio of full time and part time staff as well as the ratio of gender roles within local government. The Office for National Statistics (ONS) estimates that 46% of the local government workforce is employed a full time and 54% part time (ONS, 2016). There was a considerable disparity between full and part time employees reported by the ONS and the current study; in this study 74% of workforce was classified as fulltime and 26% as part time. Additionally, the 2016 ONS employment survey revealed a gender split of 24% male and 76% female within local government. This study's sample reflected a gender split of 65% female and 35% male.

Over and above representativeness, sampling control needs to be examined. Sampling control refers to control over potential deception from respondents completing the survey. It covers issues such as participants forwarding the survey links to people who should not be in the sample, or submitting more than one response to influence their results (Simsek & Veiga, 2001). Due to the detailed demographics participants were asked to complete it is unlikely that an individual from outside of the sample responded to the survey without the researcher knowing, or respond more than once. The researcher would be able to pick up on this from the submitted responses.

5.4 Exploratory Analysis

5.4.1 PCA VS EFA

A primary aim of this study was to examine the underlying structure of constructs, or to group variables meaningfully based on their interrelationships from items generated based on study one. The study aimed to develop a scale and test the relationship between the variables for the first time. Therefore, as discussed previously EFA was selected over CFA.

Upon selecting EFA as the methods of analysis the researcher had to decide between selecting common factor analysis or principal components analysis (PCA). Fabrigar et al., (1999) cites that often research uses these terms interchangeably however the two procedures are inherently different.

The objectives of EFA and PCA are fundamentally different. The goal for PCA is data reduction; the procedures involved in the statistical analysis are designed to reduce the large set of items measured to a smaller set whilst retaining as much information from the original large set of items as possible (Fabrigar et al., 1999; Velicer & Jackson, 1990). This approach assumes that items form a composite component; performance on each item defines the component (Costello & Osborne, 2005; DeCoster, 1998; Velicer & Jackson, 1990). In contrast, common factor analysis assumes responses to the items reflect participants underlying attitudes. Therefore, the objective is to identify latent constructs that reflect the measured variables (Gorsuch, 1983; McDonald, 1985; McArdie, 1990). Here the items are a result of an underlying construct. The goal of EFA is to model the structure of associations among the original variables (Fabrigar et al., 1999).

Moreover, the researcher notes that the methodological advantages that common factor analysis has over PCA also played a role in deciding which method was most appropriate for the study. Proponents of the common factor analysis suggest that most psychological measure contain some degree of random error. The common factor model takes such error into consideration as opposed to the

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PCA model, therefore, making the common factor method a more realistic representation of the structure of associations between variables (Gorsuch, 1973; Bentler & Kano, 1990). Additionally, the common factor model can be tested for model fit. In contrast, because PCA does not provide information on which one could base a decision to reject or accept the model (Bentler & Kano, 1990; McArdle, 1990)

However, a frequently discussed limitation of exploratory factor analysis is the degree of subjectivity involved in the methodological procedures. The researcher must make several decisions with regards to the analysis resulting in the accuracy of the latent structure being largely dependent on the subjectivity and quality of these decisions (Henson & Roberts, 2006; Tabachnick & Fidell, 2013). The following section will discuss the decisions made by the researcher with regards to this study.

A number of factor extraction procedures exist. For the purpose of this study Maximum Likelihood (ML) was deemed most appropriate. ML provides fit statistics and allows the researcher to test differences in model fit (Cudeck & O'Dell, 1994). This primary advantage is useful for the development of a scale based on exploratory analysis.

5.4.2 Pre analysis checks

Factor Analysis is sensitive to the sizes of correlations between items, to outliers and missing data. These were carefully considered prior to analysis.

5.4.2.1 Missing data

The extent of missing data was examined and best practice guidelines were followed to take account of it. Guidelines suggest that any missing data below 2% on each question could be considered negligible (Tabachnick & Fidell, 2013) however due to the medium sample size and the fact that certain items had more than 2% of missing data (Item 8 generated the highest percentage; 5%) a Missing

Values Analysis was conducted. Specifically, to determine the nature of the missing data Little's MCAR Test was run for each item. This revealed a non-significant result (χ^2 (6070) =6158.156, *p*=.211) , suggesting that the pattern of missing data was random, rather than systematic, therefore it was considered appropriate to deal with missing data using mean-substitution imputation (Judd & Kenny, 2010).

5.4.2.2 Outliers

A second pre analysis check was performed to check for the presence of outliers using Mahalanobis' Distance statistic (Stevens, 1984; Ullman, 2013). The Mahalanobis D2 (MD) statistic measures the relative distance of variables from the mean (centroid) of a multivariate distribution (Tabachnick & Fidell, 2013).

To this end, a new variable was generated to calculate the MD statistic in SPSS by running a linear regression model with each of the items as predictors, requesting the Mahalanobis distance to be saved. The significance of each distance was calculated using the CDF.CHISQ(?,?) command in SPSS. This allows the probability of a chi- square distribution test to be assessed using the Mahalanobis distance and the degrees of freedom which is the number of variables minus 1. The command generates a probability variable for each MD point. Any probabilities of less than 0.001 are classified as potential outliers (Tabachnick & Fidell, 2013). Two cases with significant distances (*p* < .001) were identified and were excluded from the analysis.

5.4.2.3 Normality checks

To determine if normality assumptions were met measures of skewness and kurtosis were examined. Recommendations on acceptable values for skew and kurtosis suggest -3 and +3 and -10 and +10 respectively (Kline, 2005; Brown, 2006). The author applied the stricter criterion in each case. In line with other researchers values between -2 and +2 where considered acceptable for skewness and -7 and +7 for kurtosis (West, Finch, & Curran, 1996; Field, 2000; George &

Mallery, 2010; Gravetter & Wallnau, 2014). All items adhered to the above criteria suggesting the data was normally distributed (see appendix O).

This was an important criterion to assess as the researcher selected ML as a method of extraction.

5.4.2.4 Multicollinearity checks

Multicollinearity and singularity are situations where the correlation amongst items are too high. Two or more items in the model are correlated and provide redundant information about the response (Tabachnick & Fidell, 2013). Multicollinearity was measured by variance inflation factors (VIF) and tolerance test. VIF values that exceed 4 or tolerance values that are less than 0.2 indicate multicollinearity (Hair et al., 2010). Reviewing the VIF values two items were removed from the analysis. Other items did exceed this strict criterion however the researcher examined each item case by case based on face validity and decided to only eliminate items well above 4 (refer to appendix P for VIF values).

5.4.2.5 Factorability of R and Communalities

Due to the ordinal nature of Likert scales the researcher used polychoric correlations to examine the correlations between items. A matrix that is factorable should contain several substantial correlations (Tabachnick & Fidell, 2013). However, sizable correlations do not always mean that latent factors exist. For this reason methodologists suggest reviewing correlation but also conducting several test to measure how suitable the data is for factor analysis. In particular, Bartlett's sphericity test and the Kaiser-Mayer-Olkin (KMO) index were used to examine the factorability of the dataset.

Correlations in excess of .30 were found between some variables indicating the appropriateness of FA. Bartlett's test of sphericity, which tests the hypothesis that the correlation in the matrix are zero, was significant (χ^2 (861) = 27603, p=.000).

The Kaiser-Mayer-Olkin measure of sampling adequacy indicated that the strength of the relationships among variables was high (KMO = .964). The above results indicate the dataset was adequate for analysis.

Furthermore, communalities represent the amount of variance of each item that can be accounted for by the factors. MacCallum et al (1999) suggest communalities should be in the range of .50; any variables with lower communalities coefficients should be considered for removal. Communalities were examined and two items were identified for removal.

5.4.2.6 Low and Cross loading items

Low loading items were examined; loadings lower than .45 were removed and deemed unacceptable (Comrey & Lee, 1992; Field, 2000). Items with low loading that did not load highly on another factor were removed. In total seven items were completely removed. Other items with substantially higher cross loading on one factor than another were examined for face validity. If the item fit in with the semantic nature of the other items on a given factor it was retained.

After combining all the pre analysis checks a total number of 11 items were removed (see table 7).

Table 7. *Items removed after pre analysis checks*

Removed Items
My supervisor encourages me to develop new competencies and skills
There is a strong emphasis on staff development in this organisation
I have regular meetings with my manager to discuss my personal development
Dedication and hard work is never recognised in this organisation
The staff appraisal system is fair and just
Staff are treated fairly regardless of their position at work
I have a clear understanding of my responsibilities at work
In my job, I know what is expected of me
Staff are rarely involved in important decisions regarding the work they do
This organisation is caring towards its staff
I have a clear idea of the purpose of my job

5.4.3 Determining the Number of factors to retain

Factor analysis (FA) is one of the most commonly applied techniques in scale development therefore the determination of the number of factors to retain is one of the most important decision in exploratory factor analysis (Zwick & Velicer, 1986).

Empirical research suggests that retaining too few factors in a model increases the likelihood of substantial error (Cattell, 1978; Fava & Velicer, 1992; Wood et al., 1996). Specifying too few factors can results in measured items that load onto factors not included in the model lowering factor loading for items that do actually load onto the factors in the model. This can cause factors to merge and can obscure the factor solution (Comrey, 1978).

Methodologists argue that is safer to specify too many factors in order reduce the potential for error (Fava & Velicer, 1992; Wood et al., 1996). They argue that overfactoring generates solutions where factors are accurately represented by the measured variables and any excess factor will simply not have any items load substantially on them. However this is does not mean that overfactoring should be seen as desirable. Latent structures with too many factors may reduce parsimony (Comrey, 1978; Comrey & Lee, 1992). The researcher might speculate that certain latent constructs exist making the development of the scale or theory more complicated than it needs to be.

To avoid over or under factoring the researcher decided to apply plural criteria to determine the number of factors appropriate to retain. Below is a discussion of the procedures used to specify the number of factors.

Perhaps the simplest known procedure for determining the number of factors to retain is the Kaiser Criterion that examines the eigenvalue distribution of the correlation matrix (Gorsuch, 1983).The amount of eigenvalues greater than 1 are then used as the number of factors.

Methodologists attribute the popularity of the eigenvalue-greater-than-one rule to its simplicity, objectivity and ease of implementation. However, the Kaiser criterion has a number of problems when it comes to the interpretation of the eigenvalues. Firstly, the wrong eigenvalues are often identified from the reduced correlation matrix as opposed to the unreduced matrix (Guttman, 1954). Secondly, applying the technical rule of greater than 1 has been criticised as being meaningless (Gorsuch, 1980; Horn, 1969). Fabrigar et al. (1999) give the example of the suggestion that an eigenvalue of 1.01 is seen as a major factor whereas a factor with an eigenvalue of 0.99 is not. Finally, evidence suggests that the Kaiser procedure tends to lead to the retention of too many factors (Cattell & Jaspers, 1967; Cattell & Vogelmann, 1977; Zwick & Velicer, 1986).

An initial Exploratory Factor Analysis extracted 7 factors (see Appendix Q for pattern matrix) with Eigenvalues >1, accounting for 60.72% of the total variance explained. The first factor to emerge was considerably larger comprising of 16 items and accounting for 38% of the total variance.

Due to the limitations of the Kaiser criterion this study further used the scree test as another factor retention approach. Once again the eigenvalues of the correlation matrix are computed and are then plotted on a graph in descending order (Cattell, 1966; Cattell & Jaspers, 1967). The researcher examined the graph visually for the last prominent drop in the size of eigenvalues. Following the procedures guidelines the researcher retained the number of common factors that reflected the number of eigenvalues prior to this last substantial drop. The scree plot indicated that five factors should be retained.
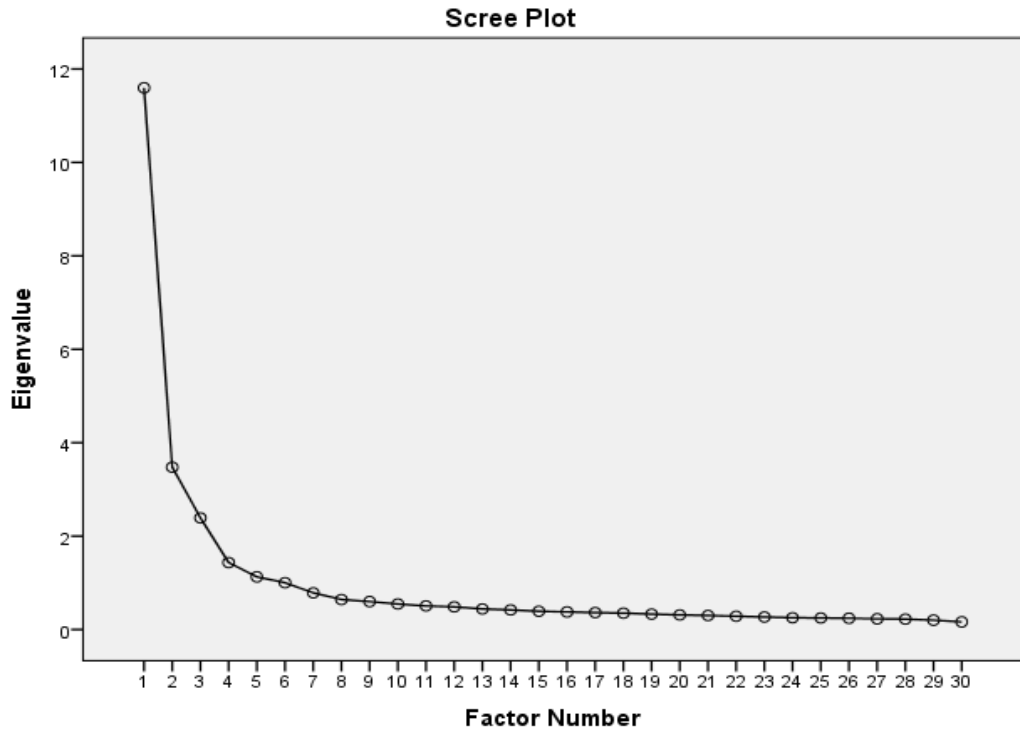
Scree Plot

However, the scree plot is subject to the researchers' own interpretation of the plot. To verify the scree plot parallel analysis was judged to constitute a more objective measure. This method is based on the comparison of eigenvalues produced by the actual data to eigenvalues from simulated data (i.e., the predicted means of eigenvalues produced by repeated sets of random data) (Horn, 1965; Montanelli & Humphreys, 1976; Field, 2000). The number of common factors retained is based on selecting the number of real eigenvalues that are greater than the eigenvalues expected from random data. Parallel analysis revealed that six factors should be retained (refer to figure 3.)

Figure 3. Results of parallel analysis

Parallel analysis using ML and principal axis factoring

Parallel Analysis Scree Plots
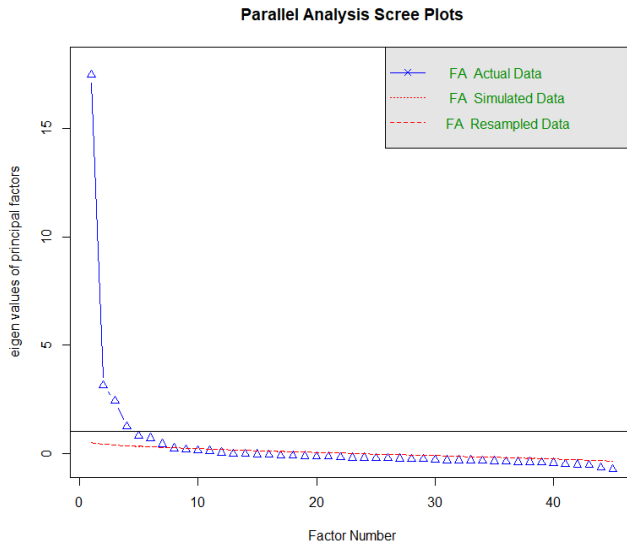
Result: retain 6 factors

Finally as the ML method of factor extraction was utilised the model fit was examined to determine the appropriate number of factors to retain. Fabrigar et al (1999) propose that the best model structure is that which constitutes a substantial improvement in fit over a model with one fewer factor but for which a model with one more factor provides little if any improvement in fit. A number of measures to determine model fit exist. The ones used in the study and there parameters are summarised in table 8.

Table 8. *Criteria for model fit*

Model Fit Index	
Chi Square	Larger model significant at P<.001
Root Mean Square Error of Approximation (RMSEA)	Values close to zero. RMSEA < 0.08
Tucker Lewis index(TLI)	≥ 0.95
Bayesian information criterion(BIC)	Lower BIC; better model fit

The analysis revealed that as the number of factors increased so did model fit (see table 9). The χ^2 was significant for all models but the larger model (model with more parameters/factors) is preferred. Additionally, RMSEA, TLI and BIC improve with more factors added.

Table 9. *Fit indices for factor models with different number of factors retained*

Factors retained	n	χ^2	df	p	TLI	RMSEA	BIC
5	146	4021.2	775	<.001	0.87	0.07	-1256.6
6	146	3068.72	735	<.001	0.90	0.06	-1936.7
7	146	2444.94	696	<.001	0.92	0.05	-2294.9

The goal of EFA is to generate the best simple structure. A seventh factor did not improve the model fit substantially and Parallel analysis as well as the Kaiser criterion suggested six factors are appropriate. Therefore, the researcher decided that six factors should be retained.

5.4.4 Factor rotation

For any given model with two or more factors there exists an infinite number of other possible structure orientations that can explain the data comparably well (Fabrigar et al., 1999). There is no unique factor solution for EFA model with more than one factor. This results in the researcher being required to select one of the infinite and equally fitting solutions. Research proposes that the selection of the most appropriate factor solution should be based on parsimony; the simplest and easiest interpretable factor structure should be retained.   The best 'simple structure' refers to a model whereby latent factors are defined by a subset of items that have a large loading relative to the other measured variables and each item loads highly onto a single common factors (Thurstone, 1947).

The most significant decision a researcher needs to make in relation to the analytic rotation method is to make the decision between selecting orthogonal or oblique rotations (Gorsuch, 1983; Ferguson & Cox, 1993).

Orthogonal rotations produce a loading matrix were all factors are uncorrelated with each other (Gorsuch, 1983). Instead the orthogonal rotation constrains correlations between measured variables and factors. The loading matrix is interpreted by examining the relationship between each observed variable and each factor. The most dominant method of orthogonal rotation in psychological research is varimax (Costello & Osborne, 2005).

On the other hand, oblique rotation methods produce correlations among factors. The analysis generates the structure matrix which provides the correlation between the factors and measured variables. Of more interest for exploratory work a pattern matrix is also produced (Gorusch, 1983). The pattern matrix contains the loadings (similar to regression coefficients) of standardised observed variables expressed as a function of the factors.

Contemporary researchers have indicated a preference for oblique rotation as they argue that constructs measure in psychology such as attitudes, personality traits can be expected to correlate. Therefore there is an argument that by adopting oblique rotation methods the researcher adheres to a more realistic representation of how latent factors are related to one another (Fabrigar et al., 1999).

As discussed above oblique rotation provides estimates of the correlations among common factors. This enables researcher to examine the extent to which factors correlate with on another allowing for large correlation among factors to be identified. Substantial correlations among factors could indicate that that higher order factors exist which would facilitate the researcher in further refining his/her understanding of the data (Gorsuch, 1983).

Finally, factors are not required to correlate when using oblique rotation. If the simplest structure contains factors will low or zero correlation the oblique rotation method will simply generate a solution similar to that of an orthogonal

rotation (Fabrigar et al., 1999). Several oblique rotation procedures exist such as oblimin, quartimin, and promax (Tabachnick & Fidell, 2013)

The researcher selected Promax as an oblique rotation procedure as it is fast in its computation in addition to it providing the best simple structure that includes which variables do and do not correlate with each factor (Tabachnick & Fidell, 2013).

5.5 Finalising EFA Analysis

5.5.1 Results of EFA

An initial ML extraction analysis was used to estimate the number of factors, presence of outlier and multicollinearity and factorability of the data. Items were examined for appropriateness of inclusion in the final FA; 11 items were removed. Following the initial exploration of the data, a forced six factor solution was tested using ML as an extraction method and Promax as a rotation method. Six factors emerged from the EFA which together accounted for 62.4% of the variance. The table 10 below summarises the factor structure will item loadings (refer to appendix R for pattern matrix and Variance explained). Table 10. *ML factor analysis with oblique rotation*

Factor	Item	Loading
Factor 1	Staff are respected in this organisation.	.649
	This organisation appreciates employees who go the extra mile.	.600
	The decisions management make about employees are usually fair.	.674
	This organisation is committed to minimizing unnecessary stress at work.	.944
	This organisation supports its staff.	.974
	Senior management are primarily concerned with employees' needs and wants.	.707
Factor 2	I can always rely on my supervisor to defend me if things go wrong.	.799
	People in my team trust our manager.	.714

	My manager is interested in my viewpoint/ opinion on important issues relating to work.	.893
	My manager cares about my emotional well-being.	.881
	My supervisor recognises my contributions through supportive feedback.	.802
Factor 3	There is a high level of trust between the people in my team.	.755
	There is a genuine sense of cooperation between people I work with to reach common goals.	.670
	My colleagues are willing to listen to my work-related problems.	.605
	I can usually rely on other members of my team for help when I need it.	.864
Factor 4	I often work more hours than I am paid for.	.774
	I feel under pressure to work long hours.	.792
	I often spend time thinking about work when I am at home.	.545
	I regularly stay late, or take work home in order to get everything that I need to do done,	.930
Factor 5	I feel the work I do makes a difference.	.551
	I feel a strong attachment to what my team is trying to achieve.	.537
	I am proud to tell others that I am a part of this organisation.	.838
	I feel a strong attachment to this organisation.	.842
Factor 6	I am informed about important changes at work in a timely manner.	.775
	People in this organisation always know what is going on.	.600
	I am informed of important changes that may impact how my work is done.	.828
	This organisation provides me with all the information needed to do my job properly.	.620

Factor criterion: A six factor solution was specified

5.5.2 Naming EFA Factors

Each of the factors that emerged were readily identifiable from their face validity and their correspondence to themes identified in the exploratory qualitative study (study one; chapter 4).

5.5.2.1 Factor 1

Factor one comprised of six items, this factor was assigned the label 'Organisation Valuing Staff'. This factor mapped onto the following subthemes identified in qualitative study one: Unsupportive Leaders; Organisational appreciation and fairness; Participative decision making; and investment in staff/ training and development. The items that comprise factor 1 related to the extent to which employees perceive that the organisation: treated them fairly; offered support and minimised their stresses; recognised their contributions to the service; and respected their needs and desires in relation to their jobs and the service as a whole. The items within this factor appeared to complement elements which comprise Factor 2. Factor 2 focused more specifically on management support for individual employee wellbeing, whilst Factor 1 was more broadly related to how organisations value their staff.

5.5.2.2 Factor 2

Factor 2 was identified as 'Supportive Management'. This factor shared some elements with Factor 1 as it similarly related to how well employees feel supported within the organisation. However, this factor more specifically addressed whether or not employees think that managers cared about their well-being, defended them, respect and listened to their opinions, and provided supportive feedback. Furthermore, this factor directly assessed whether employees trust their managers. This factor mapped directly onto the following themes which were identified in qualitative study one: Enabling Leaders and

Communication. This factor not only addressed how supported employees felt but also considered the extent to which employees felt they could share their views and communicate with their managers.

5.5.2.3 Factor 3

The third factor identified in the EFA was labelled as 'Team cohesion'. This factor mapped directly onto Theme of 'Team cohesion' in qualitative study one. This factor related to the extent employees perceived themselves as belonging within a team, and how they experienced team relationships. Items assessed how comfortable employees felt asking other team members for help, how much they trusted their peers, and the extent to which they felt they belonged to a team with shared goals.

5.5.2.4 Factor 4

Factor 4 was identified as 'Work life balance' and this mapped closely onto the subtheme 'Work Intensification' identified in qualitative study one. Items that comprise this factor assessed aspects such as working overtime, working at home, and thinking about work at home. Additionally, this factor maps onto the subtheme of 'Model Leaders, as it included an item which assessed whether or not employees feel pressured to work long hours. In qualitative study one common perceptions which led to the identification of this subtheme included the idea that managers work over-time and come in when they are unwell, therefore there are expectations for employees to do the same.

5.5.2.5 Factor 5

Factor 5 was assigned the label 'Purpose and meaning'. This factor mapped directly on to a subtheme identified within study one; 'meaning and purpose'. Items related to how employees value and feel proud of the work they do and question whether employees feel sense of attachment to the organisation and the

overarching aims of the organisation. This factor did not directly consist of elements which complement issues addressed in other factors or subtheme.

5.5.2.6 Factor 6

Finally, four items comprise factor 6, which was identified as 'Quality of communication'. This factor mapped on to subthemes of Participative decision making and Transparency and Openness. Broadly this factor related to the extent to which employees feel that their organisations inform them of changes within the service, and communicate with them appropriately. Moreover, this factor mapped onto another subtheme of 'Investment in staff/ training and development'. This related to one item within this factor, which assessed whether staff felt they were provided with the necessary information and training in which to complete their roles.

5.6 Summary of Findings

The aim of the present study was to develop an initial measure of work related factors that have the potential to act as enabling conditions for the development of employee resilience. The exploratory factory analysis revealed that 27 out of the 45 initial items formed six identifiable factors. The factors were examined for face validity in regards to themes identified in study one.

While there was some variance between study one themes and the factors to emerge from Study two, overall the revealed six constructs complemented and closely aligned with the themes identified in study one. Most similar in scope was Factor 3, Team cohesion which reflects aspects of the study one theme Team cohesion; Factor 4, Work life balance, which reflects aspects of the study one subtheme Work Intensification, and Factor 5, Purpose and meaning, which also reflects the Study one subtheme Meaning and Purpose. Factor 1, Organisation valuing staff, Factor 2, Supportive management and Factor 6 Quality of communication encompass aspects of more than one theme/subtheme identified in study one.

Factor one, Organisation Valuing Staff (OVS), reflects aspects of four of study one's themes/subthemes Unsupportive leaders; organisational fairness and appreciation; participative decision making; and investment in staff training and development. The common thread running through this factor relates to the provision of recognition, appreciation, fair treatment and respect. Items pertaining to how employees perceive they were treated within the workplace and the fairness of resource allocation emerged. This is congruent to employee perceptions of organisational injustice were discussed in study one in relation to recruitment practices and felt that managers did not recognise or respect their efforts. Components of involvement and feedback are also prominent in this factor. In study one, employees expressed feeling increasingly disengaged with work and disconnected from the organisation due to the lack of engagement and involvement in decision making at work. Feedback in the form of participative communication is essential in enabling employees to disclose and discuss the aspects of any change process that may not be working for them, and also promoting a sense that employees are valued as their concerns are taken into account (Saksvik et al., 2007). All the above have the potential to facilitate employees perceptions of feeling appreciated and recognised in their workplace. This in turn can promote resilient behaviour at work as employees are more motivated and engaged alongside lower work related stress and increased wellbeing (Siegel & Ruh, 1973; Lunt et al. 2007; Sert et al., 2014; Elovainio et al., 2015).

Factor two, Supportive Management (SM), relates to the dyadic employee-manager relationship and spans two of the Study one themes: Communication and Enabling Leaders. Whilst this Factor does not align exclusively with the Study one theme relating to the role manager play in supporting their staff, Enabling Leaders, the majority of items do relate directly to this Study one theme. Specifically, employee perceptions on their manager emotional intelligence and support provided at work were key items of this factor. The additional aspect reflected in this factor related to of the communication and

honesty managers can use to empower employees. This is similar to high levels of involvement but it reflects a more fundamental relationship of open communication between employees and managers that facilitates trust and participation. This factor shared some elements with Factor 1 as it similarly related to how well employees feel supported within the organisation. However, this factor more specifically addressed whether or not employees perceived their managers are supportive. Factor 1 reflects overall beliefs of how employee perceive they are being treated within the LA whereas factors 2 relates more to day to day practices at work and how supportive managers are with work related issues. The subject of enabling leaders is a vital in relation to employee resilience as research suggest that the provision of support and involvement from management creates a sense of trust and purpose (Meneghel et al., 2016; Aldana et al., 2012), increases employee commitment (Greenleaf, 2002) and foster employee wellbeing (Leka & Houdmont, 2012).

Factor three, Team cohesion (TC), relates to the quality of team relationships and sense of connectedness within a team. This factor aligned directly with the study one theme of Team cohesion. The potentially important role team cohesion can have on employee resilience is evident from the literature on social networks. Caring relationships at work amongst colleagues creates a sense of team identification and belonging which in turn acts as a protective mechanism against stressors at work (Pisarki et al., 2008); Kirkwood et al., 2008) and has been found to enhance emotional well-being and work performance (Bruque et al., 2016). Moreover, team cohesion enhances collaboration among team members which has been linked to improved work performance and engagement (Gagnon & Vaandrager, 2012; Bringsen et al., 2012).

Factor four, Work life balance (WLB), maps closely onto the subtheme 'Work intensification' identified in study one. In addition, one item assessed whether or not employees feel pressured to work long hour which aligns to subtheme of 'model leaders'. This Factor relates to working long hours, working at home

outside of work hours and thinking of work at home at the end of the working day. This factor aligns with study one where employees expressed feeling unable to switch off from work and suggested that working long hours is engrained in an LA's culture. Working long hours and finding it difficult to switch off from work has been associated with negative spill over of work into home life which can in turn have a negative impact on employee wellbeing (Olson-Buchanan & Boswell, 2006; Baruch & Nicholson, 1997). Moreover, insight from research on organisational cultures at work suggests that if working long hours is engrained in an organisations culture management it will have a detrimental impact on employee wellbeing and increased levels of presenteeism (Baker-McClearn, Greasley, Dale & Griffith, 2010).

Factor five, Purpose and meaning (PM), directly aligned with aspects of the Study 1 subtheme Meaning and purpose under Occupational/Job structures particularly in relation to aspects of feeling value and proud of the work employees do and feeling committed to the organisation and what it represent. This Factor reflects aspects of meaningful work present in the literature. In study one meaningful work was attributed as a protective factor that helped employees cope with the adversity and ongoing change. Employees appeared to form a sense of work identity derived from what the LA represents (i.e. public service) which seemed to offset the job related stressors. When employees align themselves with the values of their job this increases work engagement and satisfaction (Kahn, 1990; Wayne, Randel, & Stevens, 2006; Grant, 2007).

Finally, factor six, Quality of communication (QOC) relates to the extent to which employees feel that their organisations inform them of changes within the service and communicate with them appropriately. The items in the Factor aligned with the theme 'Communication' which was identified in study 1. One of the four items loading onto this Factor also aligned with the theme 'Commitment to learning and efficiency' which was also identified in study 1. This item was still closely associated with communication, as it focused on whether or not

employees perceived that they were provided with the necessary information to perform their job properly. The factor reflects aspects of transparency, honesty and dissemination of accurate information. Clear and transparent communication should be accompanied by commitment to change from employees and overall the wellbeing (Power, 2004; Stone, 2004; McManus, 2007; Kelloway et al., 2012).

Whilst the factors did not directly reflect the theme structure from study one, the majority of themes identified in study one are reflected in the items comprising each of the study two factors. One subtheme was not reflected in any of the factors; operating procedures and structures. Study 2 offers a degree of triangulation of Study 1 findings, increasing confidence in the core components identified in Study 1. Furthermore, it offers a starting point for the development employee resilience climate tool. Core workplace components from both studies propose that potential aspects of work that are important for employee resilience, relate to: perceptions of fair treatment and recognition; the relationship between leader and subordinate; the ability to satisfactorily balance work and home life; work identity; quality of communication and team support.

The identified pattern structure provided in study two is only preliminary. Exploratory factor analysis does not consider the relationship between the factors it only allows for investigating item loadings on latent constructs. A confirmatory factor analysis based on a second comparable dataset would permit testing of the derived factor structure. Indeed the next step of this project was to further validate and determine reliability of the factor structure in study three (see chapter 6). Chapter 9 presents a comprehensive review of strengths and weaknesses of this study.

Chapter 6

Study Three

Validation of a scale to measure work-related factors that influence employee resilience

This chapter offers a detailed account of the overall fitness and psychometric properties of the factor structure, identified in study 2, to assess the validity of the potential scale. In particular, the CFA is used to examine the factor structure found in study 2. Initially elements of model specification, estimation and testing are considered followed by assessing model fit. Once elements of the model fit are discussed the relationship of the sub scales are examine with respect to employee resilient behaviours (EmpRes scale). Next, the interaction of sub scales in explaining employee resilience is considered. Finally, demographic variations in the six sub scales are examined and reported. The chapter ends with a summary of key findings.

6.0 Introduction

The previous chapters of this thesis sought to explore factors relating to the workplace environment that employees perceived as enabling or eroding to their ability to function at work. Chapter 4 outlined a range of topics of discussion regarding change at work and what work-related factors employees perceived as supportive or corrosive. A number of themes including team support, managerial support, recognition and valuing staff, and work life balance were identified as salient themes from the interviews conducted. For each of these identified domains, individual survey items were developed, and EFA was used in study 2 to explore how the items related to the hypothesised constructs. In particular, the EFA study sought to select items from a larger pool to identify and triangulate latent constructs that reflected the measured items. On the basis of encouraging results, a potential standardised scale was proposed, and the next step was to examine how the factor structure identified through the EFA study functioned

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within a larger sample. A confirmatory factor analysis (CFA) was thus used to investigate the overall fitness and psychometric properties of the factor structure, identified in study 2, to assess the validity of the potential scale.

The intended output of the EFA and CFA studies was a reliable psychometric measure that could be used to benchmark and profile factors contributing to employee resilience. The scale is envisioned to be used by the LA and potentially other organisations in the public sector to identify relative strengths and weakness in their practice, in managing/supporting individuals through periods of stress and change.

As discussed in chapters 2, 4 and 5, in order to enhance the resilience of employees, it is important to understand and identify the organisational enabling factors that foster employee resilience in the workplace. There is scarce research on any direct links, though it has been proposed that the presence of an open, supportive, collaborative, empowering and feedback-oriented work environment fosters employee resilience (Bommer, Rich, & Rubin, 2005; Bouckenooghe, Devos, & Van den Broeck, 2009; Egan, Yang, & Bartlett, 2004; Gill, 2002; Marsick & Watkins, 2003). The factors investigated in the present study reflected the list of factors that emerged from the EFA conducted: purpose and meaning, supportive leadership, corporate communication quality, valuing and recognition of staff, team support and work-life balance. The examination of these factors in relation to employee resilience was used to assess the predictive and convergent validity of the new scale (hypothesis 1).

Moreover, research into antecedent work factors that contribute to / potentially degrade employee resilience have highlighted the complex nature of work and systems within the working environment. For instance, research suggests that the positive benefits of flexible work are contingent upon good supportive relationships between employees and managers, and positive supervisor support has been linked to reduced work-family conflict, improved wellbeing and higher

work performance (Gajendran, Harrison & Delaney-Klinger, 2015; Lapierre & Allen, 2006). This suggests that resilient behaviours are context-sensitive, and operate within a complex system whereby employees may only benefit from certain organisational practices or employees will only exhibit certain behaviour such as seeking out support based on situational cues they experience within the organisation. Therefore, it is hypothesised that variables impacting on resilience may be subjected to an array of contextually related moderating influences. For example, if employees benefit from co-worker and supervisor support in combination with high levels of team cohesion, this may result in higher employee resilience levels than if only one dimension of support was present. Conversely, if employees believe the quality of communication in the organisation is poor, their perceptions of the organisation valuing staff could be likewise diminished, which could have a compound negative effect on employee resilience.

Finally, a key objective of this research was to develop a climate assessment tool for work- related factors with the capacity to capture and profile headline influences on employee resilience. The development of a climate tool of this type would afford the Local Authority the ability to benchmark employee perspectives, characterise demographic differences by job-role, gender etc. and use the output to identify priorities for intervention/improvements with regards to the work environment.

This chapter's primary purpose was to confirm the EFA and examine the scope for developing factors into sets of subscales. Following on from this the study aimed to provide an account of the profile of the LA as a whole and an array of constituent demographics. We propose that there will be differences by gender, age and job grade, due to the fact that the workplace places different demands on employees according to their personal characteristics and experiences (Hypothesis 3). Finally, the study will aim to use the output from the tool to

identify contrasts and explore associative and predictive relationships with employee resilience measures. This chapter provides an account of an exploration of demographic differences on the six subscales.

6.1 Aim(s)

1. To validate the measure developed from EFA conducted in study 2
2. To investigate the relationship between organisations/work factors and employee resilience
3. To examine interactions between subscales and levels of employee resilience
4. To examine demographic differences

6.1.1 Hypotheses

Hypothesis 1: All six constructs will be positively associated with higher ratings of employee resilience

Hypothesis 2: Two-way interactions between constructs will be associated with employee resilience; higher subscale scores (more positive) will be positively associated with higher ratings of employee resilience.

Hypothesis 3: The six subscales will vary by age, gender and job grade

6. 2 Method
6.2.1 Participants and Procedure

The design and content of the second survey was similar to the first survey detailed in Chapter 5, and only a brief description is offered here. The survey ran throughout June 2014 and was advertised via email to all staff based at the case study LA. The survey was built using Bristol Online Software. As previously detailed, the survey began by outlining the purpose of the research and the consent process, and participants were asked to provide basic demographic

information on gender, job role, age and tenure. The survey then included subsets of items identified as most strongly representative of the six domains: Purpose & Meaning (PM), Work Life Balance (WLB), Team Cohesion/Support (TC), Management Support (MS), Organisation Valuing Staff (OVS), Quality of Communication (QOC).

The only modification to the survey was the inclusion of an additional nine items that made up the Employee Resilience (EmpRes) Scale, a standardised measure that measures employee resilient behaviours at work (see Näswall et al., 2015). The EmpRes Scale consists of nine items rated on a 5-point Likert scale ranging from 1 to 5 (1=almost never; 5=almost always). An example item is "I effectively collaborate with others to handle challenges at work."(see appendix S for full item set).

An email was sent to all employees at the LA (N = ~7000) to raise awareness of the opportunity to participate in the survey, and 911 respondents completed the survey, [13 % response rate]. Participant characteristics are presented in Table 11. The majority of participants were female (65%); 97% were between the ages of 25 and 64. Eighty percent (80%) of participants had spent at least 4 years working for the organisation, and 47% had been in the organisation more 11 years. Most (74%) were full-time employees, while 25% were part-time. Less than half (41%) of participants were office- or public-faced front-line staff, while others worked in management (27%) or administration (19%). About 13% of participants performed other roles such as IT workers, specialists, and researchers.

Table 11. *Characteristics of CFA participants* (N = 911)

Characteristic	N	%
Reported Gender		
Female	571	64.5
Male	314	35.5
Age		
18 – 24	26	2.9
25 – 34	140	15.4
35 – 44	212	23.3
45 – 54	304	33.4
55 – 64	215	24.7
> 65	12	1.2
Years in organisation		
< 1 year	57	6.3
1-3 years	123	13.5
4-10 years	306	33.7
11-20 years	239	26.3
21+ years	184	20.2
Contract		
Full-time	679	74.5
Part-time	228	25.0
Directorate		
Business Change	165	18.3
City Director	25	2.8
Neighbourhoods	200	22.2
People	372	41.3
Place	94	10.4
Unknown	45	5.0
Job function		
Senior Management	90	10.0
Supervisor/line manager	156	17.3
Front line staff	373	40.9
Administrative staff	169	18.8
Other*	113	12.5

Note. Column totals may not sum to the sample total due to missing data on some characteristics

*e.g. IT, project manager, researcher, specialist

6.2.2 Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) was used to assess statistically whether the hypothesised relations between observed items and the underlying factor

structure was consistent with the sample data. As CFA falls under the rubric of structural equation modelling (SEM), it is important to distinguish between the measurement model, which specifies how the various indicators relate to the latent factors, and the structural model, which specifies how the latent factors are related to one another or other external variables/measures. As the goal of the current study was to develop a standardised instrument, estimation of the measurement model was sufficient for addressing the research goals.

Schumacker and Lomax (2010) elaborate five key steps in SEM around which decision-making is organised: model specification, model identification, model estimation, model testing and model modification. These steps will be discussed in turn in relation to the goals and approach of the current study.

6.2.2.1 Model specification

Simply put, model specification means designing a model to explain a phenomenon. Prior to analysis, the researcher needs to develop the basis of the model, i.e. which items are to be included and how these items relate to each other. As this study was based on the previous EFA (see chapter 5) the model specification was already determined by the pattern matrix alongside insight from the literature to inform the face validity of the framework.

6.2.2.2 Model estimation

In the model estimation phase, parameters are estimated and the fit of the model is evaluated. In SEM, the sample covariance matrix is compared against a covariance matrix derived from the data, and the divergence between the two quantities offers an indication of model fit (Schumacker & Lomax, 2010). As all indicators were ordinal Likert-type items, the Weighted least squares with means and variances adjusted (WLSMV) estimator was used to model the data. When analysing ordinal data, WLSMV methods have been found to provide more accurate chi-squared values, lower bias in parameter estimates and standard errors, and improved performance of fit indices compared to other estimators

(DiStefano & Morgan, 2014). The WLSMV estimation proceeds by first estimating thresholds and polychoric correlations using ML. The parameter estimates are then obtained from the estimated asymptotic variances of the polychoric correlation and threshold estimates used in a diagonal weight matrix (Muthén & Muthén, 2007). The WLSMV is a "robust" estimator that adjusts the chi-square statistic so that it has its mean and variance equal asymptotically to those of the target central chi-square distribution (Xia, 2016). WLSMV has become the most common method in the SEM literature for analysing ordered categorical variables (Savalei & Rhemtulla, 2013). As WLSMV is not grounded in normal theory, no attention to the normality of indicators is required.

6.2.2.3 Model Testing

Several fit indices have been developed to evaluate the correspondence between the model estimated variances/covariances and the observed variances/covariances. These indices assess the degree to which the model supports the plausibility of the hypothesised relations (Wang & Wang, 2012). Kline (2005) argues that due to the number of indices that exist, researchers can often pick better-fitting indices to support their models. Therefore, I followed precedent to report several indices to demonstrate the full complexity of the model (Schumacker & Lomax, 2010). Indices chosen for this study are described below, and reflect the indices most commonly reported in the literature.

The model chi-square statistic

The model chi-square statistic evaluates the degree of correspondence between the observed and model-implied variance-covariance matrices. The model chi-square statistic is conceptualized as a 'badness-of-fit' measure in the sense that a large chi-square value indicates a bad fit to the data (Kline, 2015). This means that, in contrast to traditional hypothesis testing scenarios, a non-significant (e.g. $P > .05$) chi-square value is desirable. The model chi-square statistic is highly sensitive to sample size, and in large samples, may support rejection of a model even when the differences between the observed and model-implied variance-

covariance matrices are trivial (Bollen, 1983; Wang & Wang, 2012). For this reason, Kline (2015) recommends examining the correlation residuals (the difference between observed and predicted model correlations) when the model - chi-square statistic is significant. A large number of correlation residuals with absolute value > 0.10 may signal a potential source of misspecification.

Root mean square error of approximation (RMSEA)

The root mean square error of approximation (RMSEA) is also a badness-of-fit statistic that measures the average lack of fit per degree of freedom. Values < 0.08 are often interpreted as indicating an adequate fit, with values < 0.05 a good fit (Browne & Cudeck, 1993). RMSEA is the only fit index to produce a confidence interval around the estimate; the estimate along with its 90% confidence interval is typically reported (Kline, 2015).

The Bentler comparative fit index (CFI)

The comparative fit index (CFI) is an incremental fit index that compares the relative improvement of the model fit over a model that specifies zero covariances among the variables (null model). The CFI ranges from 0 to 1 and values $\geq$ 0.95 are often interpreted as indicating good model fit; $\geq$ 0.90 an acceptable fit.

Tucker–Lewis index (TLI)

The Tucker–Lewis index (TLI) is another incremental fit index that compares the fit of the model to the null model. The TFI ranges from 0 to 1 and values $\geq$ 0.95 are interpreted to indicate good model fit, though TLI values often run lower than CFI values. A limitation of the TFI and the CFI is that they depend on the average correlation among variables, and will be not be high when the average correlation is not high (Wang & Wang, 2012).

Weighted Root Mean Square Residual (WRMR)

The Weighted Root Mean Square Residual (WRMR) is "residual-based" fit index appropriate for ordinal data (Muthen, 1998). The WRMR estimates a value for fit that is based on the weighted average differences between the sample variance or covariances and the model estimated values. The WRMR is a badness-of-fit index, meaning smaller values indicate better fit. WRMR values <1.0 are often considered evidence of a "good fitting" model, though the index is somewhat sensitive to sample size and the number of item categories (DiStefano et al., 2018).

6.2.3 Assessing model fit

In SEM applications, it is recommended to report several indices to assess the fit of the model (Bollen & Long, 1992; Bentler, 2007). Model fit for all path models was evaluated using the model chi-square statistic, RMSEA (with its 90% CI), CFI, TLI, WRMR, and examination of correlation residuals. Likelihood ratio tests (LRT) were used to compare alternative specifications of nested models. When models are nested, the difference in deviances between two models follows a χ^2 distribution with degrees of freedom (df) equal to the difference in df between the two models.

To facilitate interpretability of factor loadings across difference factors, and to assess the relative magnitude of the effects of each subscale on employee resilience, standardized parameter estimates (β) were presented. Standardized estimates represent a one standard deviation change in the outcome according to a one standard deviation change in the independent variable.

6.2.4 Missing data

Full information maximum likelihood (FIML) was used to handle missing data. FIML uses all the available information in the data by maximising the likelihood function one case at a time and combining over all cases to estimate the ML

function (Graham, 2012). The analysis is conducted in a single step and avoids reduction or imputation of data. FIML has nearly optimal statistical properties and yields similar results as multiple imputations when implemented in comparable ways (Allison, 2003). FIML relies on the assumption that the data are missing at random (MAR), which means the probability of a value being missing does not depend on the value of the missing variable itself (Rubin, 1976). Because it is unlikely that respondents avoided certain items in relation to their resilience, this assumption was considered tenable.

There was very little missing data on the items. Of the 911 respondents, 79% (717) completed all the 31 items. Fifteen percent (15%) of respondents (140) were missing on one item, and 6% (54) were missing on two or more items.

6.2.5 Sample size

Simulation studies suggest the minimum sample size for CFA should exceed 200, and that the ratio of participants to estimated parameters should exceed 5 to 10 (Bentler & Chou, 1987; Ding, Velicer & Harlow, 1995). Given a sample size of N=911 and a participant/parameter ratio of almost 34, the current sample size far exceeded the necessary requirements. Although CFA models using categorical indicators typically necessitate larger samples than models using continuous indicators (Brown, 2006), use of the WLSMV estimator means the sample size requirements are far less restrictive than other estimators for categorical data (Flora & Curran, 2004).

6.3 Results

6.3.1 Descriptive statistics

The descriptive statistics, correlations and reliabilities of the research variables are presented in Table 12 and Table 13 below.

Table 12. *Summary statistics for the six subscales* (N = 911)

Construct	Cronbach a	Mean	SD	Min	Max
Purpose & Meaning	.81	4.448	1.063	1	6
Work Life Balance	.85	3.199	1.412	1	6
Team Cohesion/Support	.87	4.609	1.041	1	6
Management Support	.92	3.997	0.889	2	6
Organisation Valuing Staff	.91	3.349	0.358	2	5
Quality of Communication	.89	3.707	0.553	1	6
All items	-	3.759	0.827	1	6

Note. Items were coded such that higher subscales scores indicate greater participant support for the construct/dimension. Scores were calculated by taking the mean across all items to preserve the original metric of the items.

Table 13. *Association of derived factors from the 6-factor measurement model*

	PM	WLB	TC	MS	OVS	QOC
Purpose & Meaning (PM)	1.000					
Work Life Balance (WLB)	-0.147***	1.000				
Team Cohesion/Support (TC)	0.312***	-0.050**	1.000			
Management Support (MS)	0.271***	0.021	0.484***	1.000		
Organisation Valuing Staff (OVS)	0.354***	0.065*	0.364***	0.466***	1.000	
Quality of Communication (QOC)	0.341***	-0.002	0.388***	0.440***	0.588***	1.000

***$p<.001$, **$p<.01$, *$p<.05$, ~$p<.10$

6.3.2 Six-factor measurement model

A CFA was conducted to examine whether the six factor model could be reliably replicated in a larger sample. The goodness of fit indices confirmed that the 6-factor measurement model (Figure 4) fitted the data adequately. The model chi-square was statistically significant, $\chi 2(309) = 2142.0$, $p < .001$, though this result is not uncommon is large samples (Kline, 2015). Additional fit indices suggest the model fitted the data well. The Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) were both 0.95, with values $>=0.95$ indicating good fit; the RMSEA was .081 (90% CI: 0.077 to 0.084), with values < 0.08 indicating good fit; and the WRMR was 1.89, which was above the threshold for good fit (<1.0). Examination of correlation residuals indicated a good fit, as there were relatively few residual correlations > 0.10. Of the 120 pairwise residual correlations, only 19 (16%) were above the .10 threshold.

All items loaded very strongly on the derived factors (standardised loadings > 0.6; Table 14) and all loadings were highly statistically significant (p<.001). Most of the derived factors were positively and moderately strongly correlated with one another (Table 13), with the exception of Work Life Balance, which was weakly positively correlated with Organisation Valuing Staff, weakly negatively associated with Purpose and Meaning and Team Cohesion, and not associated with the other two constructs. None of the associations were near or above the threshold (>0.8) that would suggest a lack of divergent validity among the constructs.

Table 14. *Standardised factor loadings for the 6-factor model*

Item	PM	TC	WLB	OVS	MS	QOC
I feel the work I do makes a difference (Q7)	0.638***					
I feel a strong attachment to what my team is trying to achieve (Q8)	0.769***					
I am proud to tell others that I am a part of this organisation (Q10)	0.896***					
I feel a strong attachment to this organisation (Q12)	0.809***					
There is a high level of trust between the people in my team (Q14)		0.759***				
There is a genuine sense of cooperation between people I work with to reach common goals (Q18)		0.816***				
My colleagues are willing to listen to my work-related problems (Q23)		0.817***				
I can usually rely on other members of my team for help when I need it (Q27)		0.775***				
I often spend time thinking about work when I am at home (Q11)			0.698***			
I often work more hours than I am paid for (Q13)			0.840***			
I feel under pressure to work long hours (Q15)			0.806***			
I regularly stay late, or take work home in order to get everything that I need to do done (Q17)			0.918***			
Staff are respected in this organisation (Q30)				0.898***		
This organisation appreciates employees who go the extra mile (Q32)				0.782***		
The decisions management make about employees are usually fair (Q36)				0.809***		
This organisation is committed to minimizing unnecessary stress at work (Q47)				0.821***		

This organisation supports its staff (Q48)	0.915***		
Senior management are primarily concerned with employee's needs and wants (Q50)	0.799***		
I can always rely on my supervisor to defend me if things go wrong (Q31)		0.875***	
People in my team trust our manager (Q33)		0.849***	
My manager is interested in my viewpoint/ opinion on important issues relating to work (Q40)		0.890***	
My manager cares about my emotional well-being (Q41)		0.878***	
My supervisor recognises my contributions through supportive feedback (Q43)		0.852***	
I am informed about important changes at work in a timely manner (Q19)			0.811***
People in this organisation always know what is going on (Q22)			0.840***
I am informed of important changes that may impact how my work is done (Q26)			0.867***
This organisation provides me with all the information needed to do my job properly (Q28)			0.851***

Figure 4: *Six-factor confirmatory factor model* (CFA)

X^2 (330) = 2224.7, p < .001, CFI = 0.95, TFI = 0.94,
RMSEA = 0.079 (90% CI: 0.076 to 0.083, WRMR = 1.86
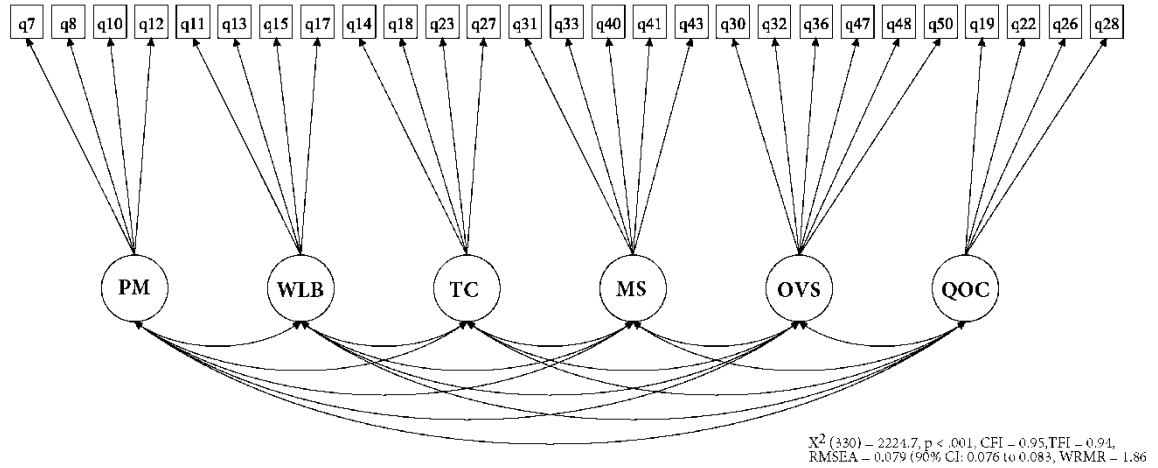
6.3.3 Regression of employee resilience on derived subscales

To assess the predictive validity of the derived subscales, we regressed employee resilience independently on each of the six factors. Independent regressions were conducted as it was evident from estimation of the measurement model that the subscales were correlated. All subscales were positively and significantly associated with employee resilience, with the exception of Work Life Balance, which was significantly and negatively associated with employee resilience. There was some variation in the size of the associations: Purpose and Meaning was most strongly associated with employee resilience (β = 0.384) while Quality of Communication was least strongly correlated (β = 0.139). When considered collectively, the six factors explained 18% of the variance in employee resilience (adjusted R-squared = 0.18).

Table 15. *Regression of employee resilience on each derived subscale*

Subscale	B	SE	*P*	95% CI
PM	0.384	0.031	<.001	[0.323, 0.444]
WLB	-0.182	0.033	<.001	[-0.246, -0.118]
TC	0.326	0.031	<.001	[0.264, 0.388]
MS	0.273	0.032	<.001	[0.210, 0.335]
OVS	0.335	0.335	<.001	[0.068, 0.197]
QOC	0.139	0.033	<.001	[0.075, 0.204]

6.3.4 Differential effects of subscales on employee resilience

As discussed previously, since it is reasonable that some of the subscales may have differential effects on employee resilience when considered in combination, we explored pair-wise interactions among all the derived subscale scores. Results showed there were no meaningful interactions between the subscales in their effects on employee resilience. After Bonferroni adjustment for the 15 tests, none of the interaction terms were statistically significant ($p < .003$) at alpha = .05 (See Table 16).

Table 16. *Regression of employee resilience on all factors and their pair-wise interactions*

Parameter	**Estimate**	SE	*P*	95% CI
PM	0.234	0.200	0.241	[-0.158, 0.626]
WLB	-0.100	0.125	0.422	[-0.346, 0.145]
TC	-0.437	0.205	0.033	[-0.838, -0.035]
MS	0.050	0.256	0.847	[-0.453, 0.552]
OVS	-1.336	0.452	0.003	[-2.223, -0.448]
QOC	-0.561	0.307	0.068	[-1.163, 0.041]
PM x WLB	-0.024	0.013	0.057	[-0.049, 0.001]
PM x TC	-0.016	0.019	0.418	[-0.053, 0.022]
PM x MS	-0.007	0.025	0.766	[-0.057, 0.042]
PM x OVS	0.051	0.060	0.394	[-0.066, 0.168]
PM x QOC	-0.026	0.036	0.474	[-0.096, 0.045]
WLB x TC	-0.006	0.015	0.678	[-0.037, 0.024]
WLB x MS	0.022	0.017	0.198	[-0.012, 0.056]
WLB x OVS	0.009	0.039	0.824	[-0.068, 0.086]
WLB x QOC	0.021	0.023	0.360	[-0.025, 0.067]
TC x MS	0.045	0.021	0.034	[0.004, 0.087]

TC x OVS	0.089	0.062	0.154	[-0.033, 0.211]
TC x QOC	0.039	0.036	0.287	[-0.032, 0.110]
MS x OVS	-0.032	0.073	0.658	[-0.176, 0.111]
MS x QOC	-0.034	0.041	0.410	[-0.115, 0.047]
OVS x QOC	0.185	0.092	0.045	[0.004, 0.366]
Intercept	7.101	1.259	0.000	[4.629, 9.573]

6.3.5 Derived subscales and participant characteristics

A further issue of interest related to determining the extent to which participants response profiles differed on the six subscales with respect to their personal characteristics (age, gender, and job role). Based on the regression of each derived subscale on gender, age, and job role (management/supervisors; public-facing front-line staff; office-based front-line staff, administration, and 'Other'), some trends were evident. In general, in comparison to male workers, female workers felt their work conferred more purpose and meaning, and female workers had more positive perceptions of the team cohesion, management support and quality of communication in the centre. However, females felt less strongly than males that they were able to maintain a healthy work-life balance. There were also differences according to age. Older participants were less inclined to report that management adequately supported staff, and less likely than younger participants to believe they had achieved a satisfying work-life balance.

With respect to job grade, administrative staff felt less strongly that their work carried purpose and meaning compared to other roles but had more positive perceptions about their work-life balance. Front-line staff were less inclined to report that they felt valued by the organisation, though they had better work-life balance

Table 17. *Regression of each derived subscale on participant characteristics*

	PM	WLB	TC	MS	OVS	QOC
Gender (female)	0.250**	-0.251*	0.276**	0.162*	0.047	0.077~
Age	0.010	-0.1113*	-0.027	-0.065*	-0.006	-0.022
Job role*						
Front line staff	-0.138	0.645***	-0.029	-0.097	-0.083**	-0.072
Administrative staff	-0.644***	-1.161***	-0.346**	-0.208*	-0.121**	-0.125*
Other	-0.144	0.463**	-0.065	-0.024	-0.110**	-0.002

* Reference category is management and supervisors/line managers

6.3.6 Alternative model specifications

Given that a five-factor model of work-related factors was plausible (see study 2 section 5.4.3), to confirm that there was not a better-fitting model, we also estimated a 5-factor model that did not include the latent factor for Quality of Communication, as this construct accounted for the least amount of variance in the six factor model compared to other constructs (See appendix R for variance). The results showed that the fit statistics were very similar to those for the six-factor model χ^2 (220) = 1701.84, $p < .001$, CFI = 0.95, TFI = 0.95, RMSEA = 0.086 (90% CI: 0.082 to 0.090), WRMR = 1.95; although the six-factor structure was marginally better (CFI= 0.95, RMSEA= 0.081, TFI= 0.95, WRMR=1.89) (refer to appendix T for full analysis in Mplus of 5 factor model).

According to Cheung and Rensvold (2002), differences in CFI ≤ 0.01 are sufficient for concluding equivalence of competing models. As there was no difference in CFI between the five- and six-factors models, we conclude the models are not significantly different.

Since Quality of Communication has been established as an important component of change readiness and employee resilience (Hodliffe, 2014; Denning, 2005) we conclude that the 6-factor model is most likely the best representation of work-related factors contributing to employee resilience.

6.4 Summary of findings

Below we provide a summary of the key findings from the CFA study conducted. A detailed discussion of the six factor model that emerged can be found in the main discussion section of this thesis in relation to existing literature and potential strengths and weakness of this study (see chapter 9).

The aim of the present study was to validate the measure of work-related factors developed in study two and to examine the relationship of these factors to employee resilience. The EmpRes scale that measures resilience as a behavioural construct was used; resilient work behaviours are operationalised as adaptive, proactive, support-seeking and learning behaviours (Naswall et al., 2015). It was hypothesised that there are six salient domains underpinning employee resilience: supportive management, team support, open communication, purpose and meaning of the job, work-life balance, and organisation valuing employees. Moreover, it was predicted that these 6 domains would be positively associated with employee resilience. In addition it was hypothesised that the influence of these factors on employee resilience may differ in interaction with one another. Finally, it was hypothesised that the six factors would vary by age, gender and job grade.

A key contribution of this study was the examination of employee resilience in the context of the organisational environment, which, to date, has received little attention in the literature. This study acknowledged the dynamic capacity of employee resilience and provides a framework for how organisations can potentially create enabling conditions to foster employee resilience. This study also highlighted the need for research on workplace resilience to go beyond organisational resilience (McManus et al., 2008; Seville et al., 2006) and trait-oriented scales of individual resilience (Robertson et al., 2015), which lack validity in the workplace context. Findings from this study suggest that supportive management, team support, work identity, and building an organisation that values its employees are important conditions for the development of employee resilience.

The six-factor structure derived by EFA was confirmed as plausible by the CFA, which showed that model fitted the data well, and that each subscale showed good

internal reliability. There was also some evidence that the scale demonstrated convergent validity, as five of the six work related sub-scales were positively associated with employee resilience (excepting work-life balance). However, the six derived domains only explained a small amount (less than 20%) of variation in employee resilience. It is possible that there may be other aspects of the work environment contributing to employee resilience that were not accounted for by the proposed tool. However, workplace factors would not be expected to explain the bulk of variance in EmpRes scale, as it is well-established that individual factors (dispositional factors) such as self-efficacy also contribute to employees' ability to navigate adversity and change. Thus the current subscales were considered an appropriate starting point for the development of a standardised tool of organisation-focused employee resilience. Future research could take into account trait based resilience at the individual level alongside work related factors to determine how much variation is accounted for by each level of analysis.

Furthermore, this study found no robust evidence of interaction effects between the six subscales and employee resilience, though interactions require substantially more statistical power than tests of main effects (Gelman, 2018). Though research investigating the interaction between factors in the work environment and resilience is very limited, a few studies (e.g. Halbesleben et al., 2014; Hagger, 2015; Kuntz et al., 2017) have indicated that aspects of support and feedback and management and work life balance interact. For example, Halbesleben et al. (2014) found that the joint availability of support and positive feedback predicted higher levels of employee resilience. Moreover, the positive benefits of flexible work conditions have been found to be contingent on support from the organisation and line managers (Gajendran et al., 2015). Therefore, further research with larger samples sizes may be required to adequately examine the interactions of all factors identified in this study.

Finally, in terms of demographic differences, this study found female employees felt their work conferred more purpose and meaning, reported higher levels of team cohesion and felt less strongly than their male counterparts that they were able to maintain a healthy work-life balance. Furthermore, older employees perceive less

management support and believed they had not achieved a satisfying work-life balance. Finally, managers reported higher levels of work identity and had more positive perceptions about their work-life balance as well as feeling valued and recognised by the organisation compared to those in manual and service or administrative occupations. Results showed that employee experiences of the workplace varied according to their demographic groupings. Not only do individuals utilise resources differently, based on their perception of resource availability, but they also value resources differently. A work- related resource (e.g. social support) will only be perceived as a positive thing to the extent that individuals value it, and view it as enabling. Therefore, future research could attempt to better understand the relative importance employees ascribe to various work-related factors. This is considered in study four (See chapter 7).

Chapter 7

Study Four

Determining the relative salience of workplace drivers of employee resilience

This chapter aims to assess issues of relative salience and consensus over key workplace resources /challenges with regards to employee resilience. The chapter begins with a detailed account of the method used; paired comparisons method. This is followed by a discussion of choice made with regards to the method used. Specifically, how the item set of workplace drivers was identified, how many items were included and how the word of the items can about. Next important pre analysis checks with regards to the paired comparisons method is considered. Results are then reported indicating the relative importance of workplace drivers of employee resilience and the degree of homogeneity / heterogeneity across different employee demographics is acquired. Finally, a summary of prominent findings is discussed.

7.0 Introduction

The preceding chapters have explored and quantified employee perspectives on work related factors that erode or enhance employee resilience at work. The interviews conducted, produced rich and detailed insight into organisational features and practices that can support or challenge employees in times of change. Analysis of themes from study one revealed both a degree of homogeneity and heterogeneity across different job functions in relation to their experience of change. In particular, heterogeneity between management and frontline staff could be found. For example, management experienced a high degree of involvement in the change process compared to frontline staff resulting in a difference of work satisfaction. Studies two and three aimed to determine some degree of consensus among staff with regards to workplace drivers of employee resilience. However, study three also allowed the researcher to draw tentative conclusions over demographic differences in the profile of employee perceptions of workplace drivers/influences. For example, females had a more positive perception of team support and collaboration than their male counterparts.

Some scholars argue that the workplace can be described as a collective experience. Individuals influence each other through communication, collaboration and knowledge sharing which contributes to a shared understanding of the workplace (Karanika-Murray & Michaelides, 2015; Johns, 2006; Schneider, 1990). This would suggest that there should be a high degree of consensus with regards to workplace drivers of resilience. In contrast other studies have posited that experiences of the workplace are personal/individual. Research has suggested that resources, in this case a workplace resource (e.g. Team support), will only be perceived as such to the extent the employee values it (Kuntz et al., 2016; Halbesleben et al., 2014). Individuals will ascribe different valence to different resources. Therefore, research needs to assess issues of relative salience and consensus over key resources /challenges with regards to employee resilience.

Prior to the current study, there appears to have been no attempt to produce a comprehensive picture of the relative salience of workplace drivers of employee resilience. From the perspective of intervention aimed at fostering employee resilience it is important to determine, not only, the relative importance of workplace drivers of employee resilience, but the degree of homogeneity / heterogeneity across different employee demographics, e.g. age and job grade, to inform decisions over whether a generic or targeted approach to enhancing employee resilience is required.

7.0.1 Aim

To explore employee perspectives on the relative salience of work related variables identified as contributing to employee resilience.

7.0.2 Objectives

1. To identify and define a set of items contributing to employee resilience that were largely applicable to the majority of employees
2. To determine the degree to which individuals exhibit consistency in ranking workplace drivers/influences on employee resilience
3. To determine the degree of homogeneity / heterogeneity across different employee demographics on workplace variables contributing to employee resilience

7.1 Method

7.1.1 Participants

Mirroring the previous studies, the sample was drawn from the case study LA. Participants were an opportunity sample of 228 volunteers, in response to an emailed invitation. While a probability or quota sample would have been desirable, the adopted sampling approach resulted in a notably diverse sample of respondents (see Table 18). Critically, the sample was sufficiently populated to permit formal testing of a range of demographic differences and to address the core question surrounding the degree of agreement between individuals over the relative salience of components of employee resilience.

Table 18. *Sample Demographic Breakdown for study four (N=228)*

Demographic Grouping	Demographic Breakdown	Percentage of sample (n=228)
Hours	Full-time	73%
	Part-time	27%
Gender	Male	35%
	Female	65%
Directorate	Business Change	17%
	City Director	5%
	Neighbourhoods	19%
	People	42%
	Place	16%
	I do not know	1%
Level in organisation	Middle management	13%
	Supervisor/line manager	29%
	Front line staff	40%
	Administrative staff	18%

Age	18-25	1%
	25-35	16%
	35-45	24%
	45-55	35%
	55-65	22%
	65+	2%

7.1.2 Design and method

A key issue with regards to methodology related to the choice of elicitation technique. Perhaps the simplest ranking technique is the direct ranking approach. Direct ranking provides an indication of salience through the development of an ordinal scale where participants rank items in a sequence (high to low). However, a criticism levelled at such approaches is that their output affords no insight beyond a simple ordinal listing with no indication of the relative 'distance' between the items (Oppenheim, 2000). Additionally, when participants have to deal with multiple items (> five) or multifaceted items, direct ranking tends to induce cognitive overload making it difficult for individuals to maintain all the relevant criteria necessary to make reliable rankings (Pidgeon et al., 2003). Finally, direct ranking is prone to weak reproducibility reliability, particularly for items that fall within the middle range (Bock & Jones, 1968). Alternative techniques that induce a lower cognitive load exist such as sorting techniques (e.g. Q Sort or Repertory Grid). However, a principal shortcoming of sorting techniques is their potential to induce fatigue from time taken to complete the task (Cromer et al., 1984).

While alternative ranking techniques are available due to their limitations, a method that arguably overcomes the above mention shortcomings is that of Thurstone's Case V paired comparisons method (Thurstone, 1927).The main reason for selecting Thurstone's Case V method was due to its notable advance over other ranking techniques. Paired comparisons not only provides a rank order of items but it is designed to "*determine the stimulus values themselves*" (Thurstone, 1959). It is a simple method in terms of completion and imposes low cognitive load on respondents

(Bock & Jones, 1968). Finally, the method has the capacity to demonstrate reliability of ranking among respondents (within participant consistency) and it can be used to test for differences in ranking between groups (extent of a shared perspective) (Sjoberg, 1967; Bock & Jones, 1968).

The method of paired comparisons is a simple way of collecting judgement data (Bramely, 2007). Participants are presented with two items or 'stimuli' and they simply have to choose between pairs of items; for all permutations of pairings within the item set. Early studies were based on psychophysical aspects such as sound and light intensity (refer to Thurstone, 1927). Based on this research, Thurstone aimed to apply his method to psychological or 'subjective' measurement of non-physical entities such as 'seriousness of crimes' (Bramely, 2007). Recent applications of the method include perceptions of risk (Ostberg, 1980); trust in risk management stakeholder groups (Pidgeon et al., 2003); rankings of priorities for emergency care patient safety (O'Hara et al., 2014) and salience of components of quality of working life (Blackford, 2016).

Thurstone's method is based upon judgement data of the type 'stimulus *A*' is preferred to, or larger than, 'stimulus *B*'. Each stimulus / item is presented in paired format, for all permutations of pairings within a given set. Respondents are simply required to indicate which of two stimuli they prefer according to a defined judgement criterion (Bock & Jones,1968).

Thurstone (1927) termed the procedure of how respondents indicate their preference between each pair of items '*discriminal process*'. As mentioned above, the Case V method aims to measure subjective stimulus items that are not measurable in any objective sense. Essentially, the discriminal process assumes that each comparison task, for each permutation of pairings of items, is based on an internal notion respondents have with regards to the items within a finite array (Thurstone, 1959).

Respondents repeat this subjective judgement for all permutations of pairings. This results in the production of a numerical scale of values for each item (Thurstone, 1959). When comparisons of pairings are made the frequency with which each item is judged as more important than each other item determines its position on the scale.

A principal advantage of presenting respondents with paired judgements over lists of items is that it has the potential to remove any bias in respondents subjective opinion of each item. A scale is produced that provides more information than a simple ordinal ranking in that it shows the relative salience of an item indicated by the 'distance' between each item and the rest of the set; this allows each item to be assigned a scale position and value (Bock & Jones, 1968).

However, a limitation of the method is that it only provides insight into relative salience of items when there is a greater than 'just noticeable difference' between items (Thurstone, 1959). There is a possibility participants may be indifferent to the items they are being asked to judge or they simply are unable to discriminate between them. If there is not a noticeable difference between items then the scale becomes insensitive to detecting preferences.

It is possible to formally test for evidence of indiscernible difference (Kendall's Coefficient K) by identifying the presence of intransitive triads in response sets. Intransitive triadic reposes are of the type A>B>C>A. Methodologists propose a K value greater than 0.7 as the criterion for accepting response sets as being consistently judged (Cromer et al., 1984). K values below 0.7 indicate problematic items in the response set that should be removed. Moreover, the Case V technique also permits testing for concordance (Kendall's W), to determine the degree of agreement across all respondents. The recommended value for acceptance is set at > 0.70 (Ferguson, 1981).

The resulting scale from the paired comparison task is not a probability scale, but can be translated into one through the inclusion of an anchor item against which all other items can be referenced to (Sjoberg,1967; Bock and Jones, 1968; Ostberg, 1980). Selection criteria for the anchor item is that it is related to the core items and the phenomenon of interest, in this case employee resilience. However, the anchor item also needs to discrete enough from the core item set. The anchor item's primary purpose is to provide "a common and unbiased reference" against which the items can be positioned (Ostberg, 1980, pp. 191). Refer to section 7.1.4 for selection of Anchor item.

7.1.2.1 Defining item set

The central objective of this task was to generate a relative ranking of employee perspectives on workplace drivers of employee resilience. A prerequisite, therefore, was the identification of a set of appropriate work related variables conforming to the following criteria: (a) they were context specific, to the extent that they reflected key components of the LA work environment which could reasonably be assumed to capture employee experiences of the workplace (b) they represented a range of workplace components that influence employee resilience.

Insight from studies one, two and three of the research reported here were used to identify items that adhered to the above criteria. Prominent points of discussion revealed six main themes for study one: Occupational/Job Structures (Meaning and purpose; Work Intensification); Team cohesion; Enabling Leaders (Model Leaders; Unsupportive Leaders); Organisational commitment to learning and efficiency (Investment in staff/ training and development; Operating procedures and structures); Communication (Transparency and Openness; Participative Decision Making); Organisational Appreciation and Fairness. Furthermore, study two and three provided some degree of triangulation of findings from study one and resulted in the development of the following subscales: Purpose & Meaning, Work Life Balance, Team Cohesion/Support, Management Support, Organisation Valuing Staff, and Quality of Communication. On the basis of the strength of comments relating to study 1 and factor structure from study 2 these components were found to meet the criteria for their selection and represented a set of empirically derived and widely cite list of workplace drivers.

A combination of themes and factors informed the development of the initial item set that would be included in this ranking study (see Table 19). Team support, meaningful work, work life balance and management support were workplace characteristics that appeared in both the exploration (study 1) and the quantification (Study 2 & 3) of workplace variables that have the potential to enhance or erode employee resilience. Although Staff training and development was not a part of the factor structure in Study 2 it was included as participants in study 1 expressed their concern that lack of training

provision could hinder their ability to perform at work. Moreover, Involvement and transparency reflected communication issues raised in all previous studies. Issues regarding openness, transparency and involvement in times of change were highlighted for change readiness and innovative behaviours. Finally, respect, equity and recognition aligned with the theme identified management enabling leaders with regards to fair treatment, feedback and appreciation as well as the subscale organisation valuing staff which again included item reflecting fair treatment, respect and appreciation.

Table 19. *Initial item set*

Item	
1	Work life balance
2	Meaningful work
3	Staff training and development
4	Team support and collaboration
5	Supervisor support
6	Involvement and transparency
7	Respect, equity and recognition

7.1.2.2 Size of Item Set

Methodologists have suggested that limiting the number of variables to a maximum of nine is best practice to avoid fatigue from the time taken for task completion and to prevent disengagement with the task (Thurstone, 1959; Wilson & Corlett, 1995). A maximum of nine variables also reflects alignment with previous studies of paired comparisons with subjective psychosocial constructs (refer to Pidgeon et al., 2003; O' Hara et al., 2014).

Paired comparison can be of either a complete design where all pairings are judged or an incomplete design, whereby respondents complete a sub-set of all pairings (Pidgeon

et al., 2003). An incomplete design allows for a larger set of items to be used as respondents do not need to judge all permutations of pairings. However, incomplete designs also require double the number of respondents and a higher degree of between respondent concordances.

Thurstone (1927) aimed to characterise shared judgement over a physical entity requiring him to simply alter the stimuli until the difference between them became noticeable. Due to the subjective nature of the variables contributing to employee resilience a more complex process is required to identify a shared common perspective. Additionally, it was unknown to the researcher if respondents were even capable of being consistent in their own judgement. An incomplete design was therefore deemed not feasible for this study.

This study used a complete design with eight items (including anchor item) for respondents to judge that reflected precedent but also aligned with themes and factors identified in previous chapters.

7.1.2.3 Wording of items

Items needed to be simple and clear to enable respondents to make quick judgements as to their preference of each pairing presented to them. Similar to other paired comparison studies (see Pidgeon et al., 2003, O'Hara et al., 2014) each item was characterised as a simple textual representation. The researcher needed to word the items to reflect terms that employees in the case study LA would understand. Therefore, quotes and themes from study one were revisited, alongside factors and items from studies two and three. An initial set of items was developed and worded based on three previous studies to minimise the complexity and maximise the transparency of the items for respondents (refer to Table 20 for the final item set).

7.1.3 Cognitive Pilot

To determine how participants interpreted the items a small sample of respondents (N=6) participated in a cognitive pilot. While a range of demographic groups would be have been ideal to ensure that a mixture of different educational, occupational, age and genders were represented, the sample was drawn from the resource available to the

researcher. The sample comprised of six employees from the Public Health Directorate at the case study LA, split into two groups of three. One group was given a paper with each of the seven variables and were asked to provide a definition of each item. The second group was presented with seven descriptions of work environments that were meant to portray each item (refer to appendix U). Participants were asked to provide a title or name for each description. Both tasks were to ensure that employee in the LA and the researcher has a similar understanding of the items. Results from both tasks informed amendments to the wording of the items (details of which can be found in appendix U)

7.1.4 Selection of the Anchor Item

Ostberg (1980) proposed that the criterion for selecting an item to act as the anchor was having intuitive link to the subject matter. but unrelated to the work context; but relevant to life outside of work. The anchor item 'Quality of life outside work' met the above criteria as home life and relationships outside of work do have an impact on employees, for example spousal relationships can impact work performance, but it is beyond the work context.

7.1.5 Quantitative Pilot

A quantitative pilot was used for the refined item set to determine the effectiveness of instructions to participants and if they could make reliable distinction between the paired items. The pilot was tested with a further sample of respondents (N=8). Participants were sent a link to the survey where item pairs were presented one at a time. Item pairings were presented in random order. Instructions were provided at the beginning of the survey; participants were asked to respond quickly and instinctively without lengthy deliberation. At the end of the survey participants were provided with a feedback box where they were encouraged to write down any ambiguities with the regards to the items, their meaning and the instructions for completing the survey. All respondents expressed feeling confident in the comprehension/meaning of the items. However, some participant stated feeling unsure of what the researcher meant by ability to cope at work. Therefore, the instruction content was changed to 'This research aims to find out what factors are important to you in relation to your '*ability*

to work effectively'. Finally, the decision criterion question participants were asked was also amended to reflect this wording change.

Which of the two items below do you feel has a greater impact on your ability to work effectively at work? To determine whether participants could make reliable distinctions between the paired items 'within respondent' internal consistency was assessed (Kendall's *K*) in each case. This assessment provided evidence for meaningful and reliable distinctions between items (*K* >0.70 in each case). The latter gave confidence that the entities being compared were meaningful to the Local Authority employees, they could reliably discriminate between the items and the item set had strong potential to elicit a logically consistent ranking.

7.1.5.1 The Final Item Set

The final item set as comprised of seven employee resilience related items with the addition of the anchor item (Table 20). The set of eight items was considered to adequately capture key work related factors that influence employee resilience as identified in studies one, two and three. The final item set is presented in Table 20.

Table 20. *Final Item Set*

Item	
1	Meaningful Work
2	Work Life Balance
3	Staff training and development
4	Team Support
5	Quality of life outside of work (Anchor Item)
6	Trust, transparency and involvement
7	Supportive management
8	Fair treatment and recognition

7.1.6 Procedure

The ranking task was completed using Google Forms Software. A web-based link to the task was sent to participants and was active for four weeks from the 1st June 2014. Prior to beginning the task participants were given instructions on how to complete it; they were asked to select which of the two items per pair they felt was most important to them in relation to their ability to work effectively at work. The necessity of repeated pairing was also explained in the instructions to avoid confusion and fatigue/ boredom of repetitive task. Finally, participants were assured the task would not take longer than ten minutes for completion. Operationally, the software randomised the order of pairings to remove the possibility of order effects. Each participant was presented with the same order of randomised pairings and asked to judge which of each pair constituted the stronger influence on their ability to work effectively, for all permutations of pairings.

7.2 Pre analysis checks

7.2.1 Calculation of (within respondent) Internal Consistency (K)

Prior to commencing the analysis tests of within-respondent consistency (Kendall's *K*) were performed. Reflecting the general method (see Thurstone, 1927; 1959) it was essential to establish whether respondents were able to rank the items consistently. A low level of within respondent consistency could reflect misunderstanding with regards to the nature of the task, or that the items presented to respondents for judgement were not useful in the sense that respondents could not make meaningful discriminations between them.

The proportion of response sets that exhibited inconsistency were examined with the selection criteria of problematic items reflecting instances where > 10% of response sets exhibit poor internal consistency (Bock & Jones, 1968). If the proportion of responses sets with a K value less than 0.70 exceeded 10% this would indicate that the assigned items were unclear or ill-defined or simply do not represent a single continuum. If the pre check analysis revealed such an outcome further analysis would be prohibited.

Following precedent, within respondent consistency was calculated by assessing the number of intransigent triads present in each response set. *K* values range from zero to one; 0 indicates no consistency and 1 indicates perfect consistency (Kendall, 1970). Consequently, desirable K values for the response sets tend to 1as they indicate that respondents are able to consistently judge which items are more or less salient in any given context.

A large proportion of response sets produced a *K* coefficient of > 0.70 and could be considered suitable for analysis. Response sets where *K* <0.70 resulted in 14 (6.1%) of individual response sets being excluded from further analysis, this resulted in a sample of 214 response sets being considered for analysis.

7.2.2 Calculation of Between Respondent Concordance (W)

After removing inconsistent response sets the extent of agreement (concordance) between respondents was also calculated, using Kendall's coefficient of concordance (W). Kendall's coefficient (W) examines the degree to which participants agree over the order of salience they assign to the set of items (Ostberg, 1980; Bock & Jones, 1968). Kendall W coefficient provides a measure of agreement on a zero to one scale; values close to 1 indicate a higher level of agreement while a score of 0 indicates no agreement.

To calculate the concordance for each respondent, each item must be assigned a rank position of one to eight reflecting the number of times is was selected/preferred in each response set. A rank of 1 was assigned to the item that was selected as 'most important' with each subsequent rank being assigned to the next 'most important' item. As noted by methodologists some items might be preferred equally and therefore would occupy the same rank position (tied ranks) (Ferguson, 1981; Bock & Jones, 1968). Tied ranks were considered for each respondent before calculating *W* using a tied ranks calculation *T* (see Appendix V for formulae). Additionally, the sum of squares of rank sums S was calculated prior to calculating W. Testing for concordance (Kendall's *W*), to determine the degree of agreement across all respondents produced a modest coefficient of *W* = 0.10. Kendall's coefficient of concordance (0.10) indicates fairly strong disagreement globally among the respondents (see table 21). Hence, it can

be said that the employees have different preference for different organisational attributes.

Table 21. *Kendall's W Test for all response sets*

Number of participants (N)	214
Kendall W	0.10
Chi Square	149.80
DF	7
Significance	.001

Further exploration examined concordance between a range of demographic sub samples (see table 22). Calculation of concordance within job grades, age group and gender, revealed coefficients within the ranges of 0.14 – 0.74; 0.10-0.22 and 0.10-0.11, respectively. Reflecting established precedent, as the number of items was greater than seven, the coefficient can be seen to reflect a Chi² distribution (Pidgeon et al., 2003; Cromer et al, 1984; Ferguson, 1981). Using Chi^2 tables the significance of this value can be determined. When the calculated Chi^2 value is greater than the tabled/critical value, at alpha level of 0.05, it can be concluded that there exists an acceptable level of agreement between respondents within the group. Calculation of Kendall's coefficient of concordance, for each of the available demographic groupings, revealed mixed findings. In most cases, groupings with a large number of respondents resulted in a low W value, although the Chi^2 value was significant. Management and Frontline staff had the highest consistency amongst groupings.

Table 22. *Concordance and Chi 2 Calculations N (214)*

Demographic Grouping	Demographic Breakdown	Concordance W	Chi^2 Statistic	Number of Respondents
Gender	Male	0.10	53.20	76
	Female	0.11	106.26	138
Age	25-34	0.10	26.60	38
	35-44	0.10	33.60	48
	45-54	0.10	53.90	77
	55-64	0.22	78.54	51
Job Function	Middle Management	0.26	58.24	32
	Supervisor/Line Manager	0.14	52.92	54
	Front line staff	0.74	466.20	90
	Administrative staff	0.14	37.24	38

Once within-respondent and between-respondent consistencies had been examined, it was possible to proceed with the analysis.

7.3 Results

7.3.1 Item scaling

Following the method outlined by Thurstone (1927) a proportions matrix was generated for the item set for the whole sample (N=214). The proportions matrix contained the proportion that each work related item was judged to be more important than each other item in the set.

The judgement proportions were then transformed to arcsine deviates (see Ostberg, 1980; Sjoberg, 1967). These transformed judgement proportions were summed and a mean calculated for each item. This analysis produced mean ranking of items presented in figure 5 relative to the anchor item. Overall, Team support was ranked the

highest, followed by Meaningful work and Staff training and development was ranked the lowest.

Figure 5. *Relative salience of workplace drivers (referenced to anchor item)*
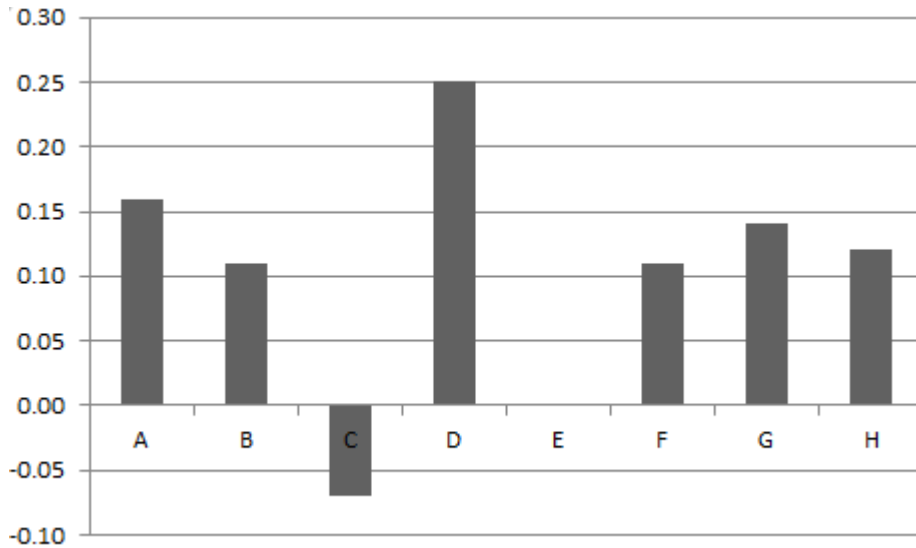
Table 23. *Key for workplace components*

Key	
A	Meaningful Work
B	Work Life Balance
C	Staff training and development
D	Team Support and collaboration
E*	Quality of life outside of work (Anchor Item)
F	Trust, transparency and involvement
G	Supportive management
H	Fair treatment and recognition

Using the paired comparisons method allowed for the development of a psychometric scale that gave an indication of the metric, or relative distance, between entities. To achieve this the anchor item (Item E- Quality of life outside of work) was set to zero

and the relative distance of all other items are calculated in relation to the anchor item to establish their relative salience. Figure 6 represents the scale.

Figure 6. *Psychometric scale indicating relative salience of workplace drivers of employee resilience*
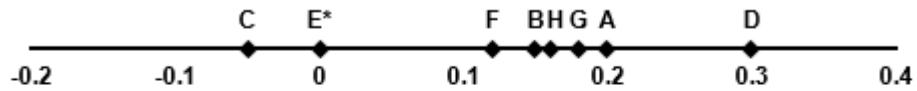
Note. *Anchor Item

7.3.2 Variations by Demographic Breakdown

The same process conducted on the undifferentiated sample was repeated on a differentiated sample (demographic sub samples). This was done in order to gain insight into the degree of homogeneity present between a range of sub-samples, namely, age, gender and job grade.

7.3.2.1 Gender

Demographic exploration by gender revealed females ranked team support and collaboration, work life balance, supportive management and fair treatment and recognition are being more salient than male respondents. Males on the other hand assigned higher salience to meaningful work, trust, transparency and involvement in the organisation and staff training and development than their female counterparts (Figure 7).

Figure 7. *Relative salience of workplace drivers by gender*
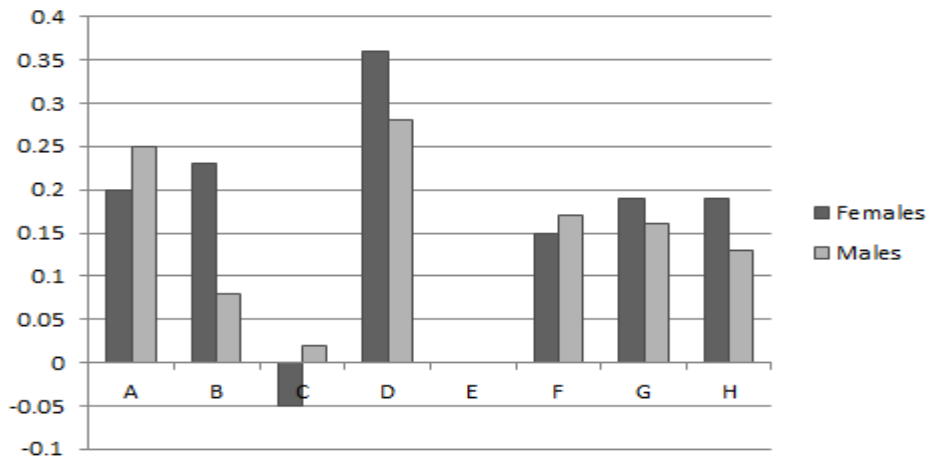
7.3.2.2 Age

In figure 8 the relative salience ascribed to variables by age group is depicted. Interestingly, the over 65 cohort ranked team support and collaboration as the most salient overall and between age groups. Additionally, the 65+ and 18-24 groups ascribed meaningful work, work life balance, staff training and development the lowest salience. The 35-44 cohort ranked work life balance as the most salient. Finally, amongst all age groups the 55-64 cohort assigned the highest ranking to trust transparency and involvement, fair treatment and recognition and supportive management.

Figure 8. *Relative salience of workplace drivers by age*
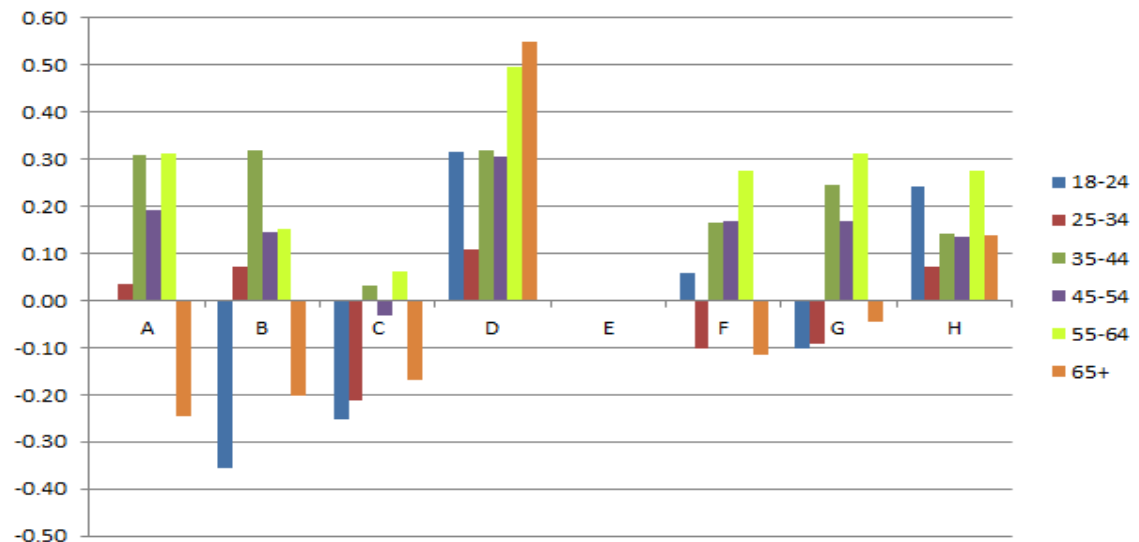
7.3.2.3 Job Grade

Figure 9 depicts the relative salience assigned to items by job grade. Notable differences in rankings were revealed between frontline/admin staff and management profiles with the exception of rankings of work life balance that was rated equally by all job grades. Front line and administrative staff assigned a similar profile of relative salience to all variables except team support and collaboration and fair treatment and recognition with front line staff ascribing higher salience to these variables. Overall front line staff ranked fair treatment as the most important across all job grades. Senior management and supervisory management again have similar profiles with the exception of their ranking of staff training and development. Line managers ranked staff training and development the highest out of all job grades.

Figure 9. *Relative salience of workplace drivers by job grade*
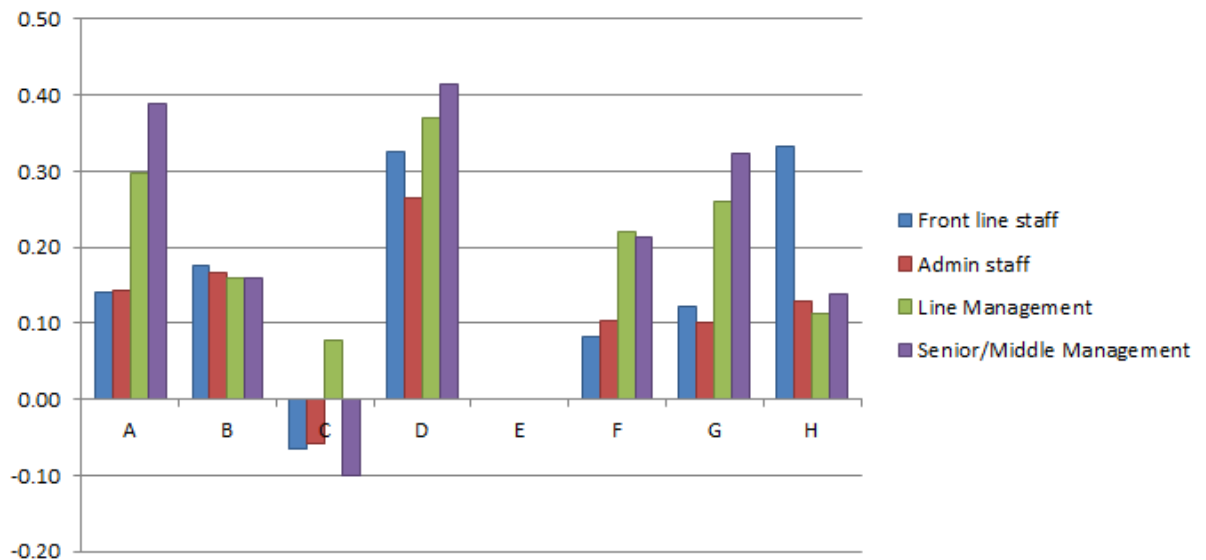
7.4 Summary of Findings

Presented below is an overview of key findings from this study. A detailed account of each finding in relation to existing literature can be found in chapter 9. The aim of this study was to determine salient workplace drivers for employees with regards to their ability to work effectively. This offers the promise of informing strategic decision-making to developing enabling work environments. Prior to this study there does not appear to have been any attempt to systematically, and quantitatively, determine the

salience of workplace constructs in terms of their relative influence on employee resilience. The selection of the method of paired comparisons was purposeful and was based upon empirical evidence of its strengths relative to alternatives, in particular its capacity to determine the relative distance between workplace drivers of employee resilience.

7.4.1 Global findings

The study revealed that respondents could make meaningful and consistent judgments between the set of workplace drivers. The workplace ranking task performed by respondents, using the method of paired comparisons, produced a ranking for a set of eight work related drivers of employee resilience. Team support and collaboration was the most salient followed by meaningful work, supportive management, fair treatment and recognition, work life balance, trust transparency and involvement and quality of life outside of work (anchor item). Staff training and development was ranked as the least salient of the workplace drivers.

The highest ranked workplace driver of employee resilience, perhaps unsurprisingly, was team support and collaboration. This finding reinforced similar findings from both qualitative and quantitative studies in this thesis. The apparent primacy of team support and collaboration echoes findings established in the literature of the importance of workplace relationships for employee resilience (Bardoel et al., 2014; Turner, 2014, Jackson et al., 2004). It seems to be a protective factor that provides some degree of counterbalance to the ongoing change.

Moreover, the low position ascribed to staff training and development would appear to corroborate findings from study 2 conducted within the current project, however, it is perhaps surprising given its high profile in study 1 and contemporary commentaries on the lack of continual development as risk factor for employee resilience (Nilakant et al., 2016; Dess & Sauerwald, 2014; Yeatts et al., 2010). This however does not mean it is necessarily unimportant, it could simply mean that given the ongoing changes it may not be as important as other items within the domain of workplace drivers.

Overall, findings from this study offer useful insights relevant to targeted interventions aimed at fostering employee resilience. There was a universal consensus relating to the

primacy of team support and collaboration. This suggests that the focus on team level aspects for creating enabling work environments has the potential to be facilitate the development of resilience. Moreover, at the global level meaningful work and supportive management were also salient drivers indicating the needs for organisations to focus on ways of strengthening organisational connections (work identify/meaningfulness) and support leadership practices that empower employees.

7.4.2 Demographic variations

Findings from this study found some evidence that different groups have a shared understanding of the workplace as there was higher concordance within demographic groups that at the global level. Although there was a significant level of agreement within groups, corresponding W values were still low in some groupings. However, it seems possible that this could be due to the sample size. It has been suggested that in instances where the number of respondents in a group is high (>10 cases), the W value can create noise in the data resulting in a low concordance value where, in actuality, concordance might otherwise be considered fairly strong (Cromer et al. 1984). Nevertheless, due to the low level of agreement between respondents, an array of demographic sub samples were examined to see if relative salience of headline workplace variables varied on this basis.

Low degree of agreement between respondents would suggest that employees do not have a shared understanding of the workplaces as some scholars have suggested (see Karanika-Murray & Michaelides, 2015). This finding aligns with proponents that describe the workplace as personal/individual. Individuals will ascribe different valence to different resource to the extent that the resource has value to the individual (Kuntz et al., 2016; Halbesleben et al., 2014). Below an overview of demographic differences is presented with a detailed consideration of these findings with regards to literature discussed in chapter 9.

7.4.2.1 Gender differences

Findings indicate that a gender difference exists in relation to the importance ascribed to workplace drivers of resilience. Females ranked team support and collaboration and work life balance as more salient than males. Interestingly males ascribed higher

salience to meaningful work than females. This finding is inconsistent with study 3 of this project where female workers were found to confer that their work had more purpose and meaning.

7.4.2.2 Age

This study in particular identified team support and collaboration as an issue that all age cohorts rated as most important. A noteworthy finding was the similarities of workplace drivers profiles between the 18-24 yeah cohort and 65+ cohort. Both groups rated meaningful work, work life balance, training and development and supportive management below the anchor item of quality of life outside work.

7.4.2.3 Job Grade differences

The demographic breakdown of job grade in the study suggests that work life balance and team support and collaboration were rated as equally important to all job grades. Interestingly, management level ranked all meaningful work, trust transparency and involvement and supportive management as more salient than front line and admin staff. Conversely, front line staff rated fair treatment and recognition as most salient between all job grades.

As seen above, examining demographic differences is necessary for effective intervention; interventions that are generic as opposed to targeted have the potential to do some good but perhaps not enough good. For example in this study females were found to place greater importance on WLB. If a generic intervention to promote employee resilience only focused on the top three global drivers, WLB would not be included. Addressing the top three drivers in the absence of WLB for female employees has the potential to develop employee resilience through enabling work environments but there are grounds for concluding that the organisation would be more effective enablers of employee resilience by addressing targeted features. However, a point worth mentioning is that ideally with a larger sample size multivariate analysis could have been utilised to investigate job grade and gender interactions that could have possibly offered more insightful explanations of the current demographic findings.

7.4.3 Strengths and limitations of Paired Comparison study

Overall, while this study provided an indication of the relative salience of workplace drivers of employee resilience it cannot tell us why respondents ascribe salience to the given drivers. Therefore the underpinning mechanisms as to why some drivers are more important than others cannot be uncovered from this study. Nevertheless, knowing the relative salience of these drivers still is insightful for targeted interventions in the workplace.

One strength of this study is that it used the paired comparisons method that provided participants with a comparative judgement. Nunnally (1978) argued that people are notoriously bad at making judgments about the absolute magnitude of a stimulus. If participants were asked how important team support is for their ability to cope with challenges at work they would make inaccurate judgements in relation to the amount of importance the stimuli has (Titchener, 1901). However, they are more likely to make accurate judgement when asked which stimuli, team support or management support, is the most important (comparative judgements).

Following on from the point made above the use of the paired comparison method has notable advance over other ranking methods. The paired comparison approach allows respondents to rank several stimuli/items with considerable ease. Each participant is presented with a binary choice at a time which reduces the cognitive load require to complete the task compared to ranking all items simultaneously (Pidgeon et al., 2003). This makes the approach a simple and easy method for eliciting judgements.

Potentially the most powerful strength of the paired comparison method is its ability to generate a continuum with relative scale values for a set of items. It allows for the quantification of intangible qualitative judgements that are loaded with personal biases. Most ranking approached provide an indication of preference producing an ordinal scale that only shows the rank order of items and not the relative distance between them on a continuum (Oppenheim, 2000). This is important to know, as it provides insight into the presence of clusters of items, relative to more distal/less salient items. However, a point that needs to be made is that the research cannot infer that low ranking items (on the lower end of the continuum) are unimportant. For

example in this study, a low ranked item may only be low in relative terms, within the domain of important workplace drivers.

One disadvantage of the paired comparisons method is the exponential increase in paired comparison needed when adding one additional item for ranking. In this study 7 workplace items (8 including anchor item) were deemed appropriate to capture aspects of the workplace environment that could facilitate resilience. However, if two additional items required ranking, 45 paired comparison (for 10 items) would be required compared to 28 (8 items). This would increase the risk of respondents becoming fatigued and, as a result, either failing to complete the study or becoming demotivated (Wilson & Corlett, 1995). However, Burroughs (1975) argued that the need for larger number of comparison if more items are included is not a problem as 'if this forces us to explore with the rapier of 5 items rather than the bludgeon of 100, it may be no bad thing'.

Finally, a potential weakness of this study is the sample size of the study (N=214). Although the sample surpassed the minimum criterion of 10 cases to conduct the analysis (Hunns & Daniels, 1982) confidence in the generalisability of the results presented here would be enhanced if corroborated by findings from a larger sample of stakeholders. In particular, when within group differences were examined a larger sample size would mean that sub sample sizes would diminish too much and multivariate analysis may have been possible. Future research might seek to build on these findings by exploring breakdowns with more than one demographic, for example, by obtaining a sample size sufficient enough to explore differences by gender and age simultaneously.

Chapter 8

Study Five

New ways of working (NWoW); the impact of flexible work on employee resilience

This chapter offers a framework consisting of five themes that have been identified as enabling or eroding work related constructs of employee resilience under new ways of working. The chapter discusses employee experiences during the role out of flexible work conditions across the LA under investigation. Using thematic analysis this study identified five major themes that reflect perceived risks and benefits of NWoW. These were: Blurred home/work boundaries, Workplace health, Professional network, Flexible work conditions as a privilege and Social connectivity. Interviewee accounts and quotes are provided as evidence for the five themes. Finally, a descriptive summary of key findings from the interviews is reported.

8.0 Introduction

As previously discussed throughout this thesis much remains unknown about work related factors that impact upon employee resilience in the workplace (see for example Britt et al., 2016; Rothstein et al., 2016). The empirical work conducted in support of this thesis aimed to provide insight into factors that can build or erode employee resilience. Study one was focused on general organisational upheaval as at the start of this project there was an unprecedented degree of taking place due to post 2008 central Government imposed financial austerity, with the prospect of further impacts in the near and medium term. At that point many of the changes to structures and working arrangement had not yet come into effect. Specifically, moving toward more flexible work practices (flexible timing and place of work) was something that was on the table but had not yet put into place. It was not until two years into the research project that new ways of working was rolled-out widely across the LA , with a large number of employees being expected to work NWoW (e.g. home working and hot desking). Given that at the start of the project specific elements of the impacts and implications of changes to structures and working arrangements could not be determined this study

presented an opportunity to examine impacts and how they relate to employee resilience in real time.

Traditionally work is governed by rules, regulations norms and practices set-out by the organisation that tends to reflect a gradual evolutionary process. Specifically these rules are known as constitutive rules (Searle, 1969; Allvin & Aronsson, 2003). They are defined by the organisation and it is said that employees typically act in accordance to such rules automatically (Allvin & Aronsson, 2003). If rules set out by organisations are functional then employees tend to adhere to them with very little awareness. For instance, if working hours are set as 9-5 then employees are expected to automatically follow such rules.

Organisational rules and regulations can be broken down into four main dimensions; Time, place, performance and relations (Peters et al., 2009; Allvin et al., 2011). Time rules and regulations relate to the extent and placement of time, e.g. five day week. Place rules specify the location of work. Performance regulation relates to employees being equipped to do their job and finally relation rules have to do with structural elements of the social network employees have to work with.

As discussed throughout this thesis, contemporary work has become increasingly changeable especially local government organisations in the UK. Work within LA's has become so turbulent that it has been said that the only thing constant at work is change itself. The two main drivers of such change are economic pressure arising from central Government funding policy and ICT developments. New ways of working have emerged where the four dimensions of regulation are no longer heavily specified or defined by the organisation; instead it is left up to individual employees to set out their rules. For example, with hot desking employees are left to decide what location of the city they will work from. This is not to say that organisations do not set boundaries and management functions do not decide upon what is desirable and permissible at departmental and individual level. It simply suggests that employees are granted a great deal of autonomy over the configuration of work on a day to day basis.

This chapter will consider the implications of the introduction of new ways of working within the case study LA for employees and service delivery. The following discussion

will consider the empirical findings in relation to published insights. Importantly, terms of NWoW, flexible work arrangements/design/practices are all used interchangeable but reflect flexibility with regards to when employees work (time flexibility) and where they work (location flexibility).

8.1 Background literature on new ways of working

Following the Global Financial Crisis (GFC) profound changes have taken place within the workplace. In the face of increased global competition, economic downturn and the need to react quickly to changing markets, work has become more insecure and uncertain (Hellgren, 2003; Allvin, 2008; Allvin et al., 2013). According to the principles of flexibility (Piore & Sable, 1984), in order to cope with uncertainty work organisations need to increase flexibility. In the current climate organisational flexibility is often used as a strategy to attempt to generate organisational resilience (Stephenson, 2010). This is done by downsizing, restructuring and outscoring (Harrison & Kelley, 1993; Harrison, 1994; Kalimo etal., 2003). Traditional structures that regulate and define work, increasingly dismantle the flexibility for when, where and how much employees work. The growth of atypical employment has set the trend for a new type of employee with a greater span of autonomy but also increased accountability (Allvin et al., 2011; Peters et al., 2009; Peters et al., 2014). Moreover, advances in information and communications technologies (ICT) have also contributed to the reconfiguration of work, broadening the scope for more flexible working conditions. Developments in ICT have enabled growing numbers of employees to complete work in any geographical location and at any time (time-spatial flexibility) (Towers et al., 2006; Rennecker & Godwin, 2005; Wajcman et al., 2008; Redman, Snape, & Ashurst, 2009).

In large degree, the impetus for the local authority at the centre of this study to adopt a range of flexible working arrangements was born of the necessity to reduce costs in response to central government budgetary cuts (Farnsworth & Irving, 2018; Gray & Braford, 2018). This likely had the effect of increasing the urgency and speed with which flexible working arrangements were introduced, while restricting the scope for considering (most pertinently negative) impacts on staff. However, many

organisations including the LA under investigation adopt flexible work conditions without considering if flexible working will actually benefit the workforce.

The majority of organisations rely on the assumption that flexible working will have a positive impact on employees leading the introduction of flexible work arrangements (e.g. teleworking, flexible workspaces, home working) becoming common practice (Joyce et al., 2010). Greater flexibility is widely cast in a positive frame, with connotations of enhanced autonomy and choice for employees. However, research is rather contradictory when it comes to understanding the positive and/or negative impact that flexible work have on employees (Golden & Veiga, 2005). Some studies have, indeed, found favourable effects, such as increased autonomy (Gajendran & Harrison, 2007), improved work life balance (Ryan & Kossek, 2008) and creating opportunities to meet new people within the organisation (Millward, Haslam, & Postmes, 2007). Other studies, however, show negative effects, such as rises in stress and health complaints (Mann & Holdsworth, 2003), reduced job satisfaction (De Croon et al., 2005) and overlap of family and work responsibilities (Bryon, 2005). Moreover, flexible work has been found to impact negatively on organisational identification (Knight & Haslam, 2010) acting as a barrier to concepts such knowledge sharing between employees (Bonsall, 2011).

Furthermore, it has been argued that employer and employee aspirations with respect to flexibility are unlikely to be mirror images of each other (McNair et al., 2007; Weyman et al., 2012). Research has highlighted that employers and employees may perceive flexible working policies differently (Wainwright et al., 2018). Whilst employers may perceive flexible working as providing workers with benefits such as increased work-life balance, employees themselves may associate flexible working with reduced job security, increased uncertainty, and reduced financial gain (Wainwright et al, 2018). Less known is the consequences NWoW might have for employee attitudes and well-being (Brummelhuis et al., 2012).

In conclusion, policymakers are increasingly promoting arrangements that enable flexible working conditions. However, research is rather contradictory when it comes to the positive and/or negative impact flexible work conditions have on employees.

Therefore, this thesis sought to contribute to the evidence regarding the impact of introducing NWoW practices, specifically focusing on how NWoW practices impact on employee resilience.

8.1.1 Aims and objectives

This study was designed to explore factors already identified in relation to workplace change (see chapter's 4, 5, 6 and 7) as well as highlighting any new factors that may have emerged given that work conditions had completely changed from the start of this the project. For instance, thus far factors such as team support have been found to help build resilience. This study wanted to examine the impact of NWoW on positive influences on employee well-being such as team support. Specifically, this study aimed to contribute to the limited and conflicting evidence documenting the risks and benefits associated with flexible working.

8.1.1.1 Aim

To understand the impact of new ways of working on employee resilience.

8.1.1.2 Objectives

1. Negotiate access to engage with employees within a range of departments in LA.

2. Explore and characterise employee perspectives on exposure to new ways of working

3. Explore and characterise the contribution of previously identified influences of employee resilience in new working conditions.

8.2 Findings

The findings in the following sections are structured to reflect the themes identified in the qualitative exploration of the impact new ways of work have on employees. The discussion that follows sets out to articulate employee experiences with NWoW that

form the basis for the identified themes. In total five main themes emerged from participant accounts (see appendix M for definitions and scope of each theme).

8.2.1 Blurred home/work boundaries

 The balance between work and home life was a central feature of employee accounts. In line with the research in the field of work life balance (MacEachen, Polzer & Clarke, 2008; Joyce et al., 2010), employees reported a number of negative effects including longer working hours arising from the erosion of boundaries between work and personal life due to flexible working. Similarly, employees who had been relocated to new offices tended to resent impacts on travel to work time. However, they tended to value the accommodating nature of flexible work conditions for meeting personal needs, and family responsibilities such as caring duties.

8.2.1.1 Free from home life burdens

A positive dimension of flexibility regularly voiced by interviewees emphasised the accommodating nature of flexibility; it allows employees to adapt their work schedule to personal needs, such as childcare. Employees are given the flexibility and freedom to change their schedule to decrease interferences either in their work or home life.

One respondent commented on the difficulty employees often face with balancing demands of work, commuting and parenting and explains that flexible work conditions help to mitigate the worker's pressure from home:

"I would come in every morning and have to deal with traffic to get to the side of town my old office was. It would mean I had to leave even earlier and my partner had to take the girls to school. Now I can be flexible and work from home on some days or use a hot desking site that is closer to my house than my old office used to be so I can help out" (Corporate Finance Officer)

Similarly, employees discussed the increase in flexibility of the location from which they can work as making a positive contribution to their personal lifestyle as well as their efficiency at work.

Pollution Control Officer:"… it gives you more freedom and flexibility and allows you to manage your lifestyle and work life balance better so for example if I had a lot of visits in the north side of the city and I could go to that side and work over there and it would cut down on travel time and it would maximise my efficiency by doing it that way so that is quite handy for work purposes. I also I live round the corner from here I can come straight here in 2 mins and it saves me money and avoids time stuck in traffic so I can get more done."

Although interviews revealed that some employees viewed the increased flexibility as a positive change that contributed to improved balance between work demands and personal demands this sentiment was not shared by all interviewees.

Some employees expressed a degree of resentment about subsidising their employer due to using personal resources (e.g., paying for one's own desk or extra heating bills) because of no longer having a work office. This suggests that conditions and circumstance of NWoW can impinge on home life in different ways than traditionally discussed, i.e. long hours.

Litigation officer: "I never used to work from home for logistical reasons my husband worked at home and I have two teenagers but now it is imperative I work from home so I had to buy a desk and figure out a work area. I just think is this what I signed up for? Am I expected to pay for my office and the extra heating in the winter months?"

Social worker: "I am having to use my personal phone for work calls it is eating into my life I am paying for those calls"

8.2.1.2 Working hours

Employees now working under flexible work conditions reported the blurring of work and home lives with regards to extended working hours and the inability to switch off from work

Public Health Officer: "….you never escape your work. Working in the evening has now become part of my routine. I make the kids dinner and work some more, then put them to bed a do a little more and then it creeps up on you that it is midnight"

The interviews further revealed that new ways of working often translates into no fixed working hours or location leading to the intensification of work and life outside of work merging.

"Before you would see people not taking lunch breaks or staying late but at some point they had to go home. Now a lot of people work from their laptops or at home and there is no escaping work in the evenings or weekends. I've gotten emails from people at you know 2 in the morning that kind of thing"(Children's commissioning manager)

In addition to rises in rates of longer working hours due to home working, the reduction of the number of office-based work sites across the organisation resulted in some staff having a longer journey to their normal place of work, combined with hot-desking arrangements on arrival. Employees that had to come into work expressed the longer commutes being unwelcome, due to the additional time to their working day and associated interruption to their personal lives outside of work.

Public health officer: "I am used to hot desking and that is all fine it's just the distance and the fact that everything is logistically so complicated now. Any kind of meeting is a nightmare to try [and] find an hour or two where you are not requiring six people to travel for an hour and a half each is logistically very difficult and waists time out of your working day which you have to catch up with later on"

8.2.2 Workplace Health

New trends in health concerns may be evident with regards to flexible working. There was a consensus that little consideration was given to new features of workplace health that may arise due to NWoW. This section, offers insight into employee and managers' orientation to workplace health concerns in light of new ways of work.

8.2.2.1 Management of workplace health

The interviews revealed that after NWoW had been implemented within the LA employees felt that they were on their own when it came to how and when to work. While this level of autonomy was often welcomed by most employees, some raised concern over the lack of guidance on how to work flexibly which can intensify the strain employee are feeling.

Litigation officer:"We have had no guidance on how to work flexibly from our laptops but what I find even more remarkable is that we have been working like this for 6 months and no one has asked how things are going? My manager will set me deadlines for when she want the reports by but she has no idea about the long hours I work to get work done or if I am coping"

This raises issues about who is responsible for health issues such as burnout under NWoW. If there is little guidance from the organisation with regard to what constitutes healthy work practices whilst operating in a flexible climate employees might struggle setting limits for themselves.

Furthermore, a number of managers who no longer supervise individuals as a unit or face to face mentioned the lack of engagement they now had with their staff due to NWoW. Similarly, managers were also concerned over how they would be able to monitor the wellbeing of their staff. This is a new feature of work that needs to be considered in relation to management and how staff can be support if they are out of sight.

Social work manager: "As a manager it is very difficult I am not seeing people on a daily basis so I would not know if someone was not well. I think people have thought about how to stay in touch for work purposes but what about keeping an eye on the wellbeing of your staff."

Environmental Health Manager: "I can tell if they are being productive or doing the work by the deadlines I set what I cannot tell is how they are doing since I only get to see them about once a month if that for a team meeting"

8.2.2.2 New workplace health concerns

The nature of working flexibly may also have contributed to cumbersome ways of working; there is a rise in health concerns that are a product of the flexible work environment as opposed to individual practice. When asked about worker health, employees mentioned problems such as neck and back strain arising from working conditions. A *Social worker* noted that in the context of having to work flexibly and

not having a fixed office location the strain of carrying around all work related items was becoming too cumbersome.

"It is killing my shoulders. I have to lug around my papers, laptop, handbag and everything else all around the city"

Additionally the consequence of having to commute around the city was mentioned with regards to physical health.

"We had a big initiative to try promote cycling to work to improve physical health you know but now with no fixed office the distances travelled per day has increased and there is no locker and shower were employee can leave their gear. I think in the long run this will impact employee health or if they are sitting at home all day in front of a screen" (Health and wellbeing officer)

Furthermore, the blurring of office hours as work now revolves around being online constantly and on a laptop was discussed in regards to worker health. New ways of working has created a situation where anytime during the day is potential work time; "*Sunday has become the new Monday*" as one respondent put forth. A lack of clear boundaries between work and home life and constantly being online can lead to burnout and intensified workload which can also impact on employee health:

"I have a family so at times I am forced to stop and make dinner and things like that but I just think if I did not I would never stop working you are constantly getting emails at all hours as everyone is working on their own time and you need to reply to get the work done. It is very challenging to know when the work day starts and ends"

8.2.3 Professional Network

Professional Network relates to informal learning, mentoring and informal networking with colleagues that contribute to professional development and better performance at work.

8.2.3.1 Network for collaboration

With the introduction of flexible working across the LA the importance of the way work spaces are set up to enhance and foster collaboration and learning was

highlighted among all staff that traditionally worked as team units. What presented as a breakdown of team cohesion seemed to have a ripple effect on employee access to other staff and functions and their ability to know what other team member were doing and consequently making their own job more challenging.

Social worker: "We are disconnected from the people we need to be connected to and that is exacerbated with this free floating around. There is a breakdown in communication that results from being flexible. I have seen our service director twice in the past 12 months whereas before you would sort of bump into them in the kitchen so we not having those informal conversation that are very useful for the work we do."

Similarly, the importance creating a professional network to build team identity and generating intelligence with regards to the work each team member was doing was highlighted. The interviews revealed an erosion of informal conversations and face to face communication to create a loss of shared team identity as well as provide a foundation for unproductivity at work.

Housing Advisor: "Frankly our team doesn't work as a team we are a new team and we are trying to create a team identity and some kind of joint purpose but the structures within which we are working does not allow for them despite peoples efforts. We are trying to pretend we are a team but I actually don't know what two people on my team are working on I don't know what my manager does so how are we supposed to get team projects completed".

8.2.3.2 Informal Learning

The discourse of flexibility, as described by interviewees, emphasised the negative impact NWoW had on informal learning. This included workplace flexibility as contributing
to loss of mentoring, informal knowledge acquisition and claims of decreasing productivity.

There was a consensus among front-line staff that the breakdown of professional networks due to the increase of workplace flexibility has a detrimental impact on informal learning. Furthermore, the increase in red tape of having to send formal

emails and organise formal meetings was also pointed out as a setback for knowledge sharing and productivity.

"There are no longer quick conversations in the kitchen when getting a cup of tea and those conversations were important in my line of work as you get to ask questions other colleagues how they handled similar situations without the need to formally set up a meeting or you can catch someone in the kitchen that is very busy and would be difficult to arrange a meeting with and ask your quick question" (Children's commissioning manager)

"I have been struggling with using this software program we now need to use and before I could just pop over and ask someone in my team to show me how to use it but now I have delayed my work as I needed to email my manager to ask for advice on the program" (Corporate finance officer)

Informal learning from more knowledgeable or experienced team member's was also discussed in relation to new members of staff. The idea of not being able to *"pop over"* to ask a colleague a query was identified by most respondents but the concept of informal learning in the form of mentoring was most prominent to newcomers *"It has been challenging to have a new person on the team he should be learning from a range of people but no one is around and there are times where he has gone off on a tangent and done work that then needed to be changed and I think if we had just been sitting next to each other I could have picked up on that a lot more quickly and been able to guide him better"* (Business support manager).

8.2.4 Flexible conditions as a privilege

8.2.4.1 Autonomy

The autonomy associated with the introduction of NWoW was cited as a point of contentment among staff at all levels. Most frontline staff discussed greater control and autonomy in their work in relation to management practice prior to the introduction of flexible work conditions in a positive frame. The dissatisfaction with perceived micromanagement practice of the past can be exemplified in the extract below

Pollution control officer: "you have more autonomy now they are not over your shoulder all the while wanting to know this that and the other. As long as you get your job done and you put where you are in the diary it keeps everyone happy."

Additionally the benefits of increased autonomy were discussed in relation to higher levels of trust from management that staff are doing the work they need to.

Corporate finance officer: "We need to put in our diaries where we are but other than that we are trusted to be working, there is a lot of trust with this remote working which feels good I can get along with work without constantly having to ask my manager if it is ok"

Overall respondents described the increase in flexibility as having control over how, where and when work was completed.

8.2.4.2 Preferred versus Forced flexible conditions

The question of consent to new ways of working was raised. This related to whether it was an employee preference to work flexibly or if they were forced to. The LA introduced NWoW across the organisation so employees had little or no say in working flexibly however, some mentioned that concepts such as hot desking and home working appealed to them and they would have taken up working flexible if they had been given the opportunity previously. In the case of flexible conditions being respondents preferred choice positive sentiments of autonomy and better work life balance were expressed.

When flexible conditions were preferred by employees it was noted that such conditions help to "*make employees more engaged with work as they are left alone to do their job as they see fit and they are left to nurture their creativity and schedule as they would like*" (Agile implementation officer)

However, if interviewees felt that they had no alternative but to work flexibly and that such conditions were not suitable for their dissatisfaction with NWoW was expressed.

In one instance the introduction of technology to enable staff to work flexibly was described as making working lives more challenging. The comment made below exemplifies the perception of added strain from technological advances.

Public health officer: "I just haven't figured out how to keep on top of my work with the new technology. I am used to pen and a pad of paper for my diary entries. Inevitably now with the introduction of laptops I am wasting time trying to do my admin work on it instead of actual work"

Moreover, a mismatch between the nature of ones' job and NWoW was a prominent point of dissatisfaction

Social worker: "They have shut down the building my office was based in on this side of town so now I cannot pop back into the office after seeing my cases. It just does not make sense for my job I have to make sensitive phone calls and have no office to make these from. I am on the bus or in a coffee shop all day to get to my cases around this part of town so where am I supposed to make the calls from"

8.2.5 Social Connectivity

With increased flexibility comes a decrease of spontaneous interactions among employees. Evidence suggests this interferes with social networking by decreasing interpersonal networking. When employees work off site they miss out on informal interactions that occur in the workplace. This impacts the interpersonal network that allows people to establish social relationships and feel a sense of belonging.

8.2.5.1 Free floaters

The interviews described flexibility in everyday working practices as a main driver of hindering the reinforcement of social bonds within the LA. Employees explained that the nature of NWoW led to feelings of social isolation.

Public Health manager "This utter flexibility is unsettling I feel like a free floater but what I often do is call up with people I have met over the years and see where they are going to be so I don't feel so isolated but I think what if you are new you would be completely abandoned with no one around you."

Moreover, social isolation at work was framed as a potential risk factor to employees as social commitments at work often play a vital role in providing a sense of support.

Legal service manager: "I understand I am in a professional role and you have to make customers and colleagues happy but I find it strange when people have the mentality that you just go to work to work. We are human after all and you need those social interactions. You don't know what one's home life is like for some the social part of work is important."

8.2.5.2 Sense of community

The shift to home working and hot-desking presented as a challenge to team cohesion. Employees expressed the degree of isolation they felt in relation to losing their identity at work and stressed the importance of the social aspect of work.

The sense of belonging to a team or as part of a group can be capitalised on to ensure that individuals feel that they belong to a network and that they can depend on the relatedness of that network. The following extracts are typical examples of the sentiments expressed by employees about their concerns over the recent social disconnect at work.

Housing officer: "I am not happy in my work anymore and that is because I don't have that identity or familiarity with my team. It feels like you are living in a virtual world and to think that as an organisation people are your biggest resource and people work best when they feel interconnected then are you actually getting the best out of the workforce?"

Furthermore the idea that team engagement goes beyond physical proximity was voiced. There needs to be an organisational level consideration of how to build psychological proximity via email communication to try create engagement among staff since online communication is the main form of actively engage with employee under NWoW.

Social care officer"I feel like what is the point anymore I have lost the goal and purpose this team is trying to achieve. There is this feeling of losing the bigger picture

of what we are doing here as we are isolated at home or at different work sites with email being the only form of contact"

8.3 Summary of findings

The central aim of this study was to investigate whether the implementation of NWoW creates a positive and stimulating work environment in which employees can thrive or if it contributes to a risk propagating environment that is disadvantageous for employees. New Ways of Working are fast becoming a prominent phenomenon in the workplace for their pragmatic benefits, such as reduced costs for the employer and increased autonomy for the employee (Baarne et al., 2010). However what is less known is the consequences NWoW might have for employee attitudes and well-being (Brummelhuis et al., 2012). Therefore, the impact of key characteristics of NWoW such as when, how and where work is completed need to be examined.

This study utilised semi-structured interviews (N=16) that allowed for an in-depth exploration of employee experiences of NWoW. Using thematic analysis the researcher identified a total of five themes that reflected the benefits or risks associated with NWoW. These were: *Blurred home/work boundaries, Workplace health, Professional network, Flexible work conditions as a privilege and Social connectivity.* Presented below is a summary of themes that emerged in study five. A detailed consideration of these themes with respect to existing literature and the implications and limitations raised can be found in chapter 9.

Social networks (or the lack thereof) in a flexible work environment were deemed a vital element for resilience amongst employees. Following the introduction of NWoW employees expressed concern over disrupted social connections at work and feeling isolated from their teams. Specifically, challenges to team cohesion and identity were posited as a risk factor for reducing the sense of purpose and meaning that they associated with work as well as diminished social support that could be important for wellbeing in and outside work. This is in line with literature that has associated social connections at work with meaningful work (Fouché, Rothmann, & Van der Vyver, 2017), increased wellbeing (Kirkwood et al., 2008), and increased work engagement (Muller & Rothmann, 2009). A central question that emerged from this study was how

an organisation can sustain a sense of belonging at work when face to face interactions have been replaced with online communication and teams no longer reside at the same location when at work. This is considered in chapter 9 (section 9.3.3.1) in relation to literature and potential solutions are offered.

Furthermore, flexible work conditions as a privilege emerged as a central component of NWoW with both positive and negative connotations. Following the introduction of NWoW employees expressed satisfaction with the amount of control managers relinquished. Employees were more autonomous and are left to complete their work with little input from management. Existing literature suggests that an increase in autonomy enhances job satisfaction (Finn, 2001) and organisational commitment (Hill et al., 1998). Furthermore, a sense of empowerment pertaining to the levels of trust they were given to work independently was articulated. However, not all employees reaped the benefits of increased autonomy. Some employees stated they felt forced to adopt flexible work practice and that under normal conditions this would not have been their preference. To this end, dissatisfaction with NWoW was expressed with some employees disclosing their concern for the incompatibility of flexible practices and the nature of their work.

The role of workplace health was also a central feature discussed with regards to NWoW. Managers expressed concern as to how they would be able to monitor the wellbeing of their staff in a flexible work environment. There is little evidence from research that can answer questions relating to the actual practice and management of flexible work for occupational health (MacEachen, Polzer & Clarke, 2008). To address this issue insight from previous studies conducted in this thesis was considered; a detailed discussion can be found in section 9.3.3.3. Moreover, health concerns such as working long work hours, blurring of work-home life boundaries and cumbersome way of working (eg. bad back from carrying laptop and files around) were portrayed as typical health concerns in a flexible work environment. New challenges to health emerge in NWoW have the ability to threaten employee wellbeing and their ability to thrive in a constantly changing environment. It is vital to continue to address emerging health issues during the role out of NWoW. Initial health issue might be easy to identify, such as blurring of boundaries, however, unarticulated health concern may

emerge later on such as back issues due to carrying many items around (Nilakant et al., 2014).

Moreover, from this study it became clear that the concept of flexible working is perceived differently by employees with regards to the way it affects their work-life balance. For many loosening of boundaries between home and work was cast as a positive element of NWoW. This tended to be because it suited the way they worked and other personal (e.g., having children, decreasing commute time) (Baruch & Nicholson, 1997; Olson-Buchanan & Boswell, 2006). Although flexibility was cast above as creating desirable conditions by increasing autonomy over how and when to work it also has the potential to create an environment where employees are always at work. Employees expressed the difficulty in striking the right balance between home and work life; being connected online created a situation whereby employees can constantly be connected to work via online mediums and possibly expected to be available to work by co-workers. This in turn can negatively impact employee wellbeing (Heisz & LaRochelle-Cote, 2006; Mazmanian, Orlikowski, & Yates, 2013).

Finally, the role informal learning, mentoring and informal networking with colleagues plays to promoting professional development and improved performance at work was discussed in relation to the dislocation of teams that traditional operated as a unit. Proponents of NWoW argue that online communication is more effective than face to face interactions as employees can reflect on the quality of response they want to send (Warkentin, Sayeed, & Hightower, 1997) and electronic communication is less time consuming than in person meetings (Kraut et al., 1998). This study did not support this notion as employees expressed dissatisfaction with the loss of informal conversations and formality of having to construct an email for queries pertaining to work. Employees raised concerns that the physical changes made to the work place and space within the LA reduced their opportunities for informal learning (eg. quick conversations relating to work) and collaboration (eg. asking co-workers for advice based on their experience) as they no longer physically coexisted in the same workspace as their team members. This in turn contributed to increased feelings of 'free floating' with no purpose in the organisation and loss of team identity.

Chapter 9

Main Discussion

9.0 Introduction

Local Authorities in the UK are facing unprecedented changes following the 2008 economic collapse and changes in government policy (post 2010). Local authorities are experiencing unparalleled funding cuts, structural changes, cuts to services, and loss of back office jobs. The idea for this thesis was developed in collaboration with a regional LA which, in light of these unprecedented changes, wanted to develop a better understanding of how organisations can respond to the needs of their employees who are working within this turbulent climate. The development of the concept of resilience and finding ways to enhance it was viewed by the LA as a critical solution to support employees working in turbulent environments (King et al., 2016). The overall aim of this thesis was to explore the concept of employee resilience and to identify work related factors which both promote and erode employee resilience, specifically in times of organisational change.

The concept of resilience has recently gained currency within research and practice due to organisations' increasing need to effectively adapt and overcome challenges during turbulent times (Shin et al., 2012; Lengnick-Hall et al., 2011). Researchers have emphasised the importance of fostering resilient employees in unpredictable and ever-changing work environments (Tonkin et al., 2018; Kuntz et al., 2016; Bardoel et al., 2014). Despite evidence that employees play a key role in determining organisational vitality during times of change, research is limited with respect to how the organisation context contributes to resilience at the individual level.

Research that has examined resilience in the workplace context has focused on individual characteristics such as self-efficacy and optimism (Connor & Davidson, 2003; Tugade & Fredrickson, 2004; Bonanno, 2004, Patton, 2011). However these are internal indicators of adaptation to adversity, moreover interventions targeting resilience at work have focused on individual solutions such as "hardiness training" (Mackay et al., 2004; Cousins et al., 2004). This can be seen as an extension of the traditional biomedical treatment perspective. By contrast, there has been modest focus

on the scope for mitigation and prevention from a systems perspective (Lunt et al., 2007). Furthermore, restricting the scope for intervention to attempting to change employees, rather than systems of work, is not only partial but is said to risk propagating a climate of blame orientated around workers' inability to 'cope' with what may be a challenging work environment (Lunt et al., 2007; Britt et al., 2016). Operating under a systems perspective we would contend that more fundamental influences of employee resilience also need to be addressed, such as factors underpinning management structures; the design and configuration of work and the work place and arising social/relational arrangements.

In light of the points made above, resilient behaviours at work can be developed and enhanced to the extent that the work environment supports and enables their enactment, i.e. work-related factors influence employee resilient behaviours. This thesis conceptualised employee resilience as "employee capability, facilitated and supported by the organisation, to utilize resources to continually adapt and flourish at work, even if/when faced with challenging circumstances" (Naswall et al., 2015 p.6). To date, research that has operationalised employee resilience as a behavioural characteristic as opposed to an individual characteristic, and has subsequently investigated the influence of work related factors on employee resilience, is scarce. Thus far, supportive leadership, supportive team, and learning culture are three workplace factors that have been identified as influencing employee resilience (Kuntz et al., 2016; Nilakant et al., 2016). This thesis therefore aimed to contribute to the limited research on workplace factors that have the potential to enable or erode employee resilience and broaden the perspective on situational determinants as moderators and mediators.

9.0.1 Overall aim

This thesis aimed to contribute to the limited evidence on how organisations can support and facilitate employee resilience. Essentially this thesis aimed to answer the question: What are the headline variables that challenge or support employee resilience at times of profound organisational change, how do they manifest and what is the scope for their mitigation?

9.0.2 Objectives

1. To explore and characterise employee perspectives on resilience and implications for their well-being at times of significant organisational change.
2. To explore the scope for developing a model of headline barriers and enablers of employee resilience.
3. To explore the scope for developing a workplace climate measure of headline work-organisation elements that impact on employee resilience.
4. To determine employee perspectives on the relative salience of enabling or eroding organisational factors to resilience and the degree of consensus across different demographics.
5. To explore if the same enabling or eroding organisational factors to resilience operate in new ways of working (e.g. hot-desking, homeworking).

9.1 Summary of work completed

This research reviewed published findings, to explore how the concept of employee resilience is conceptualised, defined and understood within the academic and grey literatures (e.g. human resources and management publications), and to understand work related factors which may influence employee resilience. In the initial stage of the research a qualitative study was used to explore perceptions of employee resilience in a case study public sector organisation undergoing organisational change, gathering a cross section of views of front line staff, line managers and senior managers. Arising insights from a thematic analysis of these accounts, informed by reference to published findings, provided the basis for the survey of employee perspectives on variables impacting on resilience (Study 2, Chapter 5). Refinement of the exploratory factor analysis output from the survey allowed the development of a set of six scaleable construct indices which were subsequently used to compare the response profiles of different employee demographics. The relationship between the six subscales and the EmpRes scale was also examined. Furthermore, key workplace drivers of employee resilience were ranked for relative salience. Finally, another qualitative study was used to explore if they identified variables impacting of resilience still operated in a climate

of flexible work arrangements characterised by location (where to work) and time (when to work) flexibility.

This chapter reflects upon the contribution of the empirical work to contemporary conceptualisations and understanding of variables impacting on employee resilience, most acutely with reference the context of organisational change. Each study is discussed with reference to reflections on method, confidence in findings and relationship to published findings. It culminates in overall conclusions, recommendations for future research and employer human resource practice.

9.1.1 Theoretical work (Chapter 2)

A literature review was conducted to critically examine published findings on employee resilience at times of organisational change. This is presented in Chapter 2. Literature relating to personal resilience, organisational resilience and employee resilience was reviewed, with a view to identifying gaps in this research. It was noted that studies relating to employee resilience often lack context validity, as they utilise measures of resilience that have not been validated in the workplace (Ballard, 2014; Hartmann et al., 2019). Moreover, interventions targeting resilience at work are heavily focused on the individual as a unit for change, leaving a clear gap in the literature for examining organisational resources that facilitate employee resilience and elements of the workplace experience that constitute corrosive vectors e.g. blurred work life boundaries that leads to burnout. Targeting the work environment aligns with a systems perspective. Systems theory focuses on how organisations as a whole respond and adapt to change, and identifies systemic factors that influence this, including structural, resources and socio-technical elements, as well as background environmental elements such as organisational culture and leadership style. The review of the literature identified that existing research which examined workplace resilience from a systemic framework, primarily focuses on resilience following major incidents. There remains a lack of research which explores how systems and organisations can facilitate or influence workplace resilience following less acute incidences of organisational change, such as service restructure.

9.1.2 Exploratory work (Chapters 4, 5 and 8)

Chapter 4 (study 1) reported on a qualitative investigation that sought to explore, through direct engagement, the way employees make sense of their work environment during a period of unprecedented organisational change. Due to the limited body of evidence examining organisational influences on employee resilience, it was deemed necessary to undertake a detailed exploration of what it is like to work in local authorities (LA) and how LA employees make sense of their experiences of the change process and its consequences. One-to-one interviews were conducted, which were designed to tap LA employee perspectives on issues of organisational change, management of change, and benefits and/or drawbacks of the change. The interviews also explored employee perceptions of what characteristics define a healthy workforce within the turbulent climate that currently exists in public services today.

Inductive thematic analysis was applied to the transcripts. This revealed a range of variables that may enhance and improve employee resilience, as well as those that may erode employee's ability to perform efficiently at work. A notable feature of the data was the disproportionate discussion of aspects of work that were deemed absent (e.g., lack of communication) rather than elements of work that employees thought enhanced and promoted resilience. Some might interpret this as reflecting a bias of attribution, i.e. the absence of a desired component tends to more salient / cognitively available than its presence (Martinko, Harvey, Sikora, & Douglas, 2011). Nevertheless, these workplace experiences remain insightful, and allow for the identification of work conditions or job characteristics that pose challenges to employee resilience.

A key finding was that employees were more vocal about how they felt the organisation had treated them and how the change process was managed, rather than the change itself. This suggests that, in line with systems theory, overarching organisational and cultural factors may be more influential to how employees adapt and respond to change rather than the content of the change itself (Korunka, Weiss & Karetta, 1993). This study identified the following themes as being important for workplace resilience: meaningful and purposeful work; work intensification; enabling

leaders; participative and open communication; team cohesion; organisational commitment to learning and efficiency and organisational appreciation and fairness.

With a range of topics identified within this qualitative analysis, an exploratory quantitative approach was then taken to provide a degree of confirmation and triangulation of the constructs identified in study 1. This is presented in study 2, chapter 4. Beyond issues of confirmation, there was scope for Study 2 to identify new constructs, component facets and new insights that complement findings from Study 1. Study 2 describes a quantitative approach (Exploratory Factor Analysis, EFA) to generate survey items, based on quotes and themes from study 1. These items comprised a survey which was then used in an online study which was distributed to a sample of LA employees (N=146). A Maximum Likelihood (ML) analysis extracted six factors that aligned and complemented a number of themes identified in study 1. These six factors were: organisation valuing staff; supportive management; team cohesion; work-life balance; purpose and meaning; and quality of communication. All six factors other than 'purpose and meaning' had previously been cited in published findings in relation to employee resilience. On the basis of encouraging results, a potential standardised scale was proposed. Chapters 4 and 5 were complementary; exploring and triangulating workplace influences of employee resilience.

Finally, Chapter 8 (study 5) reported on a qualitative investigation that sought to explore, through direct engagement with employees, the way employees make sense of flexible work practice during the roll out of new ways of work throughout the LA. One-to-one interviews were conducted, which were designed to tap LA employee perspectives on issues of NWoW management of NWoW, and benefits and/or drawbacks of the roll out of NWoW.

Inductive thematic analysis was used and revealed a range of themes that may threaten existing work conditions that have been identified as vital for employee resilience, as well as variables that may enhance employee ability to adopt resilient behaviours at work. This study identified the following themes as being important for workplace resilience: Social connectivity; workplace health; professional network; blurred home life boundaries and flexible work conditions as a privilege.

9.1.3 Investigative work (chapter 6 and 7)

The exploratory work conducted in studies 1 and 2 generated insight into relevant issues and phenomena within the LA workplace context that was then used to inform further investigations. Chapter 6 presents study 3, in which the standardised measure that was developed in study 2 was validated within a larger sample. A primary aim of study 3 was to examine how the factor structure identified through the EFA study (study 2) functioned within a larger sample. Study 3 used a confirmatory factor analysis to investigate the overall fitness and psychometric properties of the factor structure to assess the validity of the potential scale. Results from the CFA confirmed the factor structure derived from the EFA; the model fitted the data well, and each subscale showed good internal reliability. There was also some evidence that the scale demonstrated convergent validity, as five of the six work-related sub-scales were positively associated with employee resilience (all factors except for work-life balance).

The literature review conducted at the outset of this project (presented in chapter 2) identified that some workplace variables have moderating influences on employee resilience. Therefore, study 3 also examined interactions between the six identified work-related subscales and employee resilience. There was no evidence of any interactions between the subscales and the employee resilience measure.

Finally, findings from study 1 suggested that demographic differences may influence how employees experience the workplace and organisational change. For example, front line employees felt more apprehensive about the organisational change, whereas managers showed more optimism about the ongoing change. Based on these findings, study 3 tested for an array of demographic differences on the six constructed scales. This revealed a number of differences in response profiles, with respect to age, gender, and job role.

The studies presented in chapters 5 to 7 further explored and attempted to quantify employee perspectives regarding work-related factors that erode or enhance employee resilience at work. Analysis of the themes from study 1 revealed both a degree of homogeneity and heterogeneity across different job functions in relation to their

experience of change. Studies 2 and 3 aimed to determine some degree of consensus among staff with regards to workplace drivers of employee resilience. However, study 3 also allowed the researcher to draw tentative conclusions about demographic differences across employee profiles in relation to perceptions of workplace drivers/influences for resilience.

Study 4 (chapter 7) set out to investigate the relative salience of work-related variables identified as contributing to employee resilience. It also aimed to investigate the degree to which employees shared perspectives in relation to these variables. This study recruited a sample of employees from the case study LA. Paired comparisons methodology was used to produce an interval scale that indicated the relative distance between items in the set. Differences in the relative salience of workplace drivers of employee resilience were also examined by gender, age and job grade. Team support and collaboration, meaningful work, and supportive management were identified as the top three drivers of employee resilience. Moreover, team support and collaboration was consistently ranked as the most salient component of employee resilience, and staff training and development as the least salient, across all demographic groupings.

9.2 Discussion of findings and relevant literature

9.2.1 Social Network

Findings from the conducted studies support the argument that a good quality social network, characterised by team connectedness/cohesion and collaboration, is a key work-related factor that maintains employee resilience. Conversely, the lack of a quality social network has the potential to erode resilience. Social support plays an important role in helping employees to cope with difficult work situations. In particular, team support can help employees to cope with difficult work situations by providing moral support which can mediate the challenges experienced at work, and/or encouraging knowledge sharing, such that team members can share advice to enable each other to complete their work more effectively. Moreover, drawing resources from the social network provides a sense of belonging and identify at work. The studies within this project determined that the quality and trust that employees have in their

team members influences the degree to which employees seek out support and feedback from their team members.

9.2.1.1 Support at Work

The apparent primacy of team support across all five studies echoes findings established in the literature of the importance of workplace relationships for employee resilience (Jackson et al., 2004; Bardoel et al., 2014; Turner, 2014). It seems to be a protective factor that provides some degree of counterbalance to the ongoing change. Social networks act as a resource that employees can draw upon to deal with workplace challenges (Treiber & Davis, 2012; Kuntz et al., 2016; Nilakant et al., 2016). Employees that feel supported by their team members are more likely to exhibit resilient behaviours, such as engaging in collaborative work and seeking further support (Meneghel et al., 2016; Kuntz et al.,2016; Nilakant et al., 2016).

Research has also shown that social relationships among co-workers are related to wellbeing at work and improved work performance. Specifically, studies have found social support has been associated with lower levels of stress at work, lower levels of physical symptoms and higher job satisfaction (Johnson & Hall, 1988; Dollard & Winefield, 1998; Pisarski et al. 2006). Across all studies conducted it was evident that employees used their co-workers as support to any work related problem. Social support, in the form of emotional or practical support, acts as a buffer between work related stressors and wellbeing (Leka & Houdmont, 2012).

Moreover, social networks also enable knowledge sharing as positive relationships among employee foster an environment of collaborative work. Employees are more open to advice, suggestions and can be a source of knowledge for their coworkers (Meneghel et al., 2016). Therefore, good quality social networks facilitate collaboration (source of knowledge) among co-workers which in turn has been associated with increased individual resilience, job satisfaction, and performance (Bringsen et al., 2012; Meneghel et al., 2016). Collectively employees are better equipped to understand work challenges and come up with solutions for the problem (Morgan et al., 2013; Stephens et al., 2013; Carmeli et al., 2013).

9.2.1.2 Sense of belonging at work

Social networks at work emerged as a source of identify and sense of belonging and connectedness for employees in the LA. When teams share a goal and vision, this creates a shared sense of purpose which drives and motivates employees to engage with their work, has a positive impact on employee wellbeing and adaptation to change (Bruque et al., 2016; Pisarki et al., 2008; Kirkwood et al., 2008). Conversely, when work environments threaten the cohesiveness of the social network at work, this has potential consequences for employees and the organisation as a whole. In study five, the introduction of flexible work conditions was identified as a risk-producing environment. Employees reported that they felt isolated from their team due to the flexibility of where and when to work. Consequently, employees reported a loss of sense of belonging and purpose.

Increase support amongst colleagues has been found to increase team identification, which in turn increases perceptions around team cohesiveness, collaboration and trustworthiness (Pisarki et al., 2008). Caring relationships among team members creates a sense of belonging which acts as a protective mechanism against stressors at work (Kirkwood et al., 2008) and has been found to enhance emotional well-being and work performance (Bruque et al., 2016). Team cohesion has also been linked to shared perspective on envisioned goals for the team which has been found to impact employee motivation to invest and engage with work (Gagnon & Vaandrager, 2012). Therefore it is likely that team cohesion not only positively influences employee resilience but also positively influences organisational resilience in times of change.

On the other hand, if employees do not feel a sense of team identity they may not deem that demands at work are challenges worthy of investment and engagement (Muller & Rothmann, 2009; Bauer & Jenny, 2013). In study five employees described the experience of NWoW as an isolating experience leaving them without a social network to feel a part of. This seemed to lead to a sense of dissatisfaction at work. This is in line with previous research which has shown that flexible working can lead to individuals feeling socially isolated (Baruch & Nicholson, 1997), which can negatively impact well-being. Additionally, working from home has been to impact organisation

identify (Knight & Haslam, 2010). In particular, employees spoke about traditional ways of working and reflected that they had felt 'connected to their teams', had a sense of 'social identity within their teams' and that they had valued the social aspect of a physical, traditional workplace for their overall quality of life. These views are in line with recent research which showed that organisational factors including team climate and team identity had a positive impact on employee wellbeing (Pisarki, Lawrence, Bohle & Brook, 2008). In light of the salience of social network within the workplace as a protective factor the implication for the breakdown of traditional workplace social networks is considered in section 9.3.3.

9.2.1.3 Demographic variations

Both study three and four revealed a gender difference in relation to the importance ascribed to workplace drivers of resilience. Females ranked team support and collaboration as more salient than males and reported higher levels of team cohesion. This is in line with existing research that suggests that teams performed substantially better when there are equal or more females than males (Fenwick & Neal, 2001). A possible explanation as to why females believed there is higher team cohesion is that women have been found to possess higher levels of collective intelligence (Woolley et al., 2010). This means that women are more likely to form strong connections in a group and focus heavily on collective behaviour to accomplish a goal (Woolley et al., 2010; Bear & Woolley, 2011). However, it is important to note that over and above gender difference claims the interaction of gender with job grade/type might be a more fundamental source of contrast. Females tend to concentrated in lower grade jobs and in caring professions (Gilbelman, 2003; Kim & Reifel, 2010) where traditionally the integration and cooperation between members is central. Therefore, it is possible that occupational grades play a mediating role. This was not possible to examine via multivariate statistics in this thesis due to the sample sizes involved.

9.2.2 Meaningful work

A prominent feature across all studies was the importance of meaningful work and the role of this in promoting resilient behaviours at work. Despite the ongoing upheaval within the LA, employees still resonated with what the LA represented, what 'wearing

the badge' of the LA meant for them. Employees could still find intrinsic meaning and value in providing public services and the social importance of their work, despite the challenges associated with their constantly changing work environment.

A subscale of 'purpose and meaning' comprised part of the standardised scale that was developed for this project. The development of this subscale was informed by findings from qualitative interviews with LA employees. These interviews identified that employees value and feel proud of the work they do, and feel a sense of attachment to the organisation and the overarching aims of the organisation. However, given the degraded capacity of the LA's service provision due to budget cuts employees seemed to experience a gulf between what they believe the LA should delivery and its actual capacity as a source of cognitive dissonance and frustration, possibly extending to diminished sense of self-worth. The construct of meaningful work has not been acknowledged in previous research in relation to resilient work behaviours; although meaningful work has long been identified as a component of job satisfaction (Wrzesniewski, et al., 1997; Kuntz et al., 2016). However, findings from this thesis highlight the important role that perceiving ones' work and job role to be meaningful plays in developing a resilient workforce. 'Purpose and meaning' was found to be positively associated with employee resilience, and ranked as the second most salient workplace driver that enable employees to work effectively.

Published findings indicate that when employees identify with work, that is they align their work with their personal values, they are more readily accepting of change but only if change is seen as for the betterment of their service. If it gets in the way of employees doing their job effectively it will be corrosive (Branson, 2008; Van den Heuvel et al., 2009). However, even in times where change is perceived as negative, meaning at work has been seen to act as a buffer (Weick, 1995; Weber & Manning, 2001; Van den Heuvel et al., 2009). This idea has been well described in work by Van den Heuvel, Demerouti, and Schaufeli (2010) who explain that when individuals make a conscious effort to reflect on their work and how this aligns with their values and broader life goals this enables them to cope with change. These authors propose that this type of 'meaning-making' is a 'cognitive ability' that can be developed, thus becoming a valuable personal resource for individuals and enhancing their resilience.

Moreover, meaningful work has been found to be positively associated with individual resilience (Fouché, Rothmann, & Van der Vyver, 2017) and positive physical and mental health (Taylor et al., 2000).

Over and above the individual resource meaningful work can provide, 'meaning-making' at work is thought to have a positive impact on organisational outcomes. This is understood by drawing on theories of motivation, which propose that individuals who perceive their work as meaningful or purposeful will be intrinsically motivated to fulfil their professional capacities and will strive to engage in this work fully (Chalofsky, 2003). A review on this topic concluded that if organisations prioritise performance and outcomes above individual development and job satisfaction then this can have a negative impact on individual's attitudes to work, as well as on their work behaviour and overall mental health (Svendsen, 1997; Chalofsky, 2003).

Meaningful work has been found to be a facet of work that employees value the most ahead of income, job security, promotions or working hours (Grant, 2007; Cascio, 2003). Employees that perceive their work to be of value tend to form a sense of work identity leading to higher levels of work engagement. From employee accounts in study 1 a clear distinction was made between engagement with work and engagement with the employing organisation. Employees seemed to have high identification with their vocation which often extended to team loyalty but very little identification with their employer/ senior management who they often portrayed as a barrier to realisation of engagement with their vocation. Employees expressed their commitment to public service and what wearing the LA badge represented in terms of giving back to the community as a way of dealing with the challenges at work. The implication of this distinction is important to consider in terms of sustaining identity at work in times of change; there needs to be a focus on what the job means to employee over what the organisation as an employer means to employees. Research also supports this notion suggesting that when employees align themselves with the values of their job this increases dedication, which is a component of work engagement (Kahn, 1990; Keupp 2006; Wayne, Randel, & Stevens, 2006). Additionally, research has shown that meaning at work predicts high commitment (Kanter, 1983), personal growth and work motivation (Spreitzer et al., 1997) and job satisfaction (Wrzesniewski et al., 1997).

The review discussed above implies that focusing on job performance and outcomes rather than individual satisfaction with the content and meaning of the work, can negatively impact upon both individual and, potentially, organisational outcomes. It is therefore possible that if organisations and systems prioritise and focus on developing meaning-making within systems and within individuals, this could have a positive impact on both employees and organisations as a whole, enhancing both employee and organisational resilience. Identifying with the concept of the LA's service provision and with the value of the work, can create a sense of work identity that can act as a buffer for the changing nature of work and the associated challenges. This offers insight for the LA to draw upon this resource as a means of sustaining employee resilience in times of adversity; i.e. recognise the value in prioritising the overall sense of purpose employees get from public service as opposed to the day to day elements of work.

9.2.2.1 Demographic variations

Gender

In study three, female workers felt their work conferred more purpose and meaning than their male counterparts, which is consistent with past research on gender differences in meaningful work. Previous studies than found that women tend to have higher levels of intrinsic job satisfaction in relation to the rewards they receive from the job they do (i.e. the value of the work itself) compared to men, who place value on extrinsic rewards such as financial compensation and promotions (Kessler & McRae, 1982; Wiley, 1991).

Interestingly, in study four, males ascribed higher salience to meaningful work than females. This finding is inconsistent with study 3 and literature on gender difference in meaningful work. On a global level meaningful work was ranked as the second most salient driver of employee resilience. Public sector employees have been found to found to assign more meaning to their work than private sector workers (Macklin, Smith, & Dollard, 2006; Bano & Kumar, 2012). Therefore, it is possible the occupations of male employees within the LA lend themselves to higher work meaningfulness than other employment sectors. Ideally with a larger sample size

multivariate analysis could have been utilised to investigate job grade and gender interactions that could have possibly offered more insightful explanations of the current findings. However, systematic bias e.g. disproportionally more males at a certain job grade were tested prior to conducting the analysis and there were no apparent differences found.

Age

Across all age groups except 65+ and 18-24 meaningful work was rated as an important workplace driver. Research on generational difference of meaningful work are mixed. Lopez and Ramos (2016) found no generational differences on meaningful work. However, generational theorists propose that traditionalist assign meaning to their work (Strauss & Howe, 1991). In particular, Baby Boomers (56-74 year olds) have been found to experience higher levels of work meaningfulness than Millennials (24-39 year olds) (Hoole & Bonnema, 2015). Therefore, the low rank ascribe to meaningful work by the 18-24 cohort is in line with current research on age-related difference. However, low salience ascribe by the older employees (65+) conflict with research findings. Younger generations have been found to not ascribe value to finding a job that has an impact on others (Twenge et al., 2010).

9.2.3 Work life boundaries

Work-Life Balance (WLB) relates to whether the boundary between work and non-work life remain separate as well as the ratio of time commitment. Specifically, in this thesis employees discussed features of work-life boundaries relating to long working hours and lack of boundaries between work and personal life due to flexible working. The benefits of WLB were also discussed in terms of the level of autonomy employees had to arrange their work and personal life obligations. Finally, WLB also extended to the culture at work and expectations placed on employees to work long hours.

Due to the budget cuts the LA had to reconfigure work to minimise costs. This involved downsizing the workforce leaving less people to do the same amount of work and reducing the number of office sites, leading to most employees working remotely and flexibly (lack of permanence of workspace and working hours). As a result of this, employees expressed an increase in their workloads, working more unsociable hours

and working with less predictable schedules. The literature on work life boundaries is conflicting; some studies cite flexibility as being a leading factor in improving work life balance, whilst others suggest that it can complicate work life harmony (Baruch, 2000; Mann & Holdsworth, 2003; Golden & Veiga, 2005; De Croon et al., 2005; Gajendran and Harrison, 2007). This thesis reflects the literature with regards to inconsistent findings.

In study five some employees reported finding the transition to more flexible work arrangements as empowering as they have the freedom to work when and how they want. In general employees suggested that NWoW provided them with increased autonomy around decision making and they felt less 'micro-managed' in how to do their job. This enabled employees to be in control of decision regarding balancing their personal life and work. Greater control over work life balance has been found to promote healthier family and social relationships (Bardoel et al., 2014). In turn this can help to develop or enhance social and psychological resources that employees can draw upon when faced with challenges at work (Bardoel et al., 2014). Furthermore, higher levels of autonomy and WLB has been found to impact employee commitment and performance which in turn promotes resilient behaviours at work and higher job satisfaction *(*Karasek & Theorell, 1990; Parker et al., 1997; Baltes et al. 1999; Hornung & Rousseu, 2007; Wood & de Menezes, 2010*;* Allvin et al., 2011) and increases employee wellbeing (Boxall & Macky, 2014).

Conversely, in both study's one and five, employees expressed working long hours and findings it challenging to switch off from work. Working long hours and finding it difficult to switch off from work has been associated with negative spill over of work into home life which can in turn have a negative impact on employee wellbeing (Baruch & Nicholson, 1997; Mann & Holdsworth, 2003; De Croon et al., 2005; Golden & Veiga, 2005; Olson-Buchanan & Boswell, 2006). Specific to study five, research has shown that working from home is actually associated with an increase in working hours, which in and of itself can have a negative impact on employee well-being (Baruch & Nicholson, 1997). Research has also suggested that remote working can lead to family conflict (Baruch & Nicholson, 1997), and may be particularly

difficult for individuals who find it difficult to manage boundaries and to separate home and work activities (Olson-Buchanan & Boswell, 2006).

In addition to the blurring of boundaries of work- home life in relation to the amount of hours worked, participants also raised concerns about the blurring of boundaries due to having to use personal resources for work. For example, employees reported that they had to incur the costs of setting up a work space at home, and additional costs for work phone calls. There appears to be limited research which discusses the financial implications of flexible working for individual employees. To date, the majority of research in this area has focused on the positive financial implications of NWoW on the organisation itself which has been clearly recognised (Kaczmarczyk, 2005).

Evidence from the both qualitative studies in this thesis gave rise to the discrepancy between time flexibility (complete work at any time) and location flexibility (where to complete the work). In line with existing research work practices that allow for time flexibility was discussed in a positive light in relation to increased autonomy at work which in turn has is positively associated with increased work performance (Gajendran & Harrison, 2007). However, location flexibility was described as creating blurring of boundaries with work spilling over into home life. Literature on location flexibility has proposed it to be damaging to employee wellbeing and reduced job satisfaction (Timms et al., 2015; DeCroon et al., 2005).

Finally, a noteworthy finding that emerged from study four, that was not in keeping with the other studies conducted and reviewed literature, was that positive ratings of WLB were negatively associated with employee resilience (EmpRes Scale). One plausible explanation for the negative association with employee resilience is that work-life balance may reflect employees' subjective perceptions of work/non-work boundaries and not the actual hours they work (Weyman et al. 2013; Lahelma et al. 2002; Lyon & Woodward, 2004). Thus, employees might report a satisfying work-life balance but in reality they overwork which could contribute to diminished/lower resilience scores.

9.2.3.1 WLB and management

This thesis revealed a possible interaction, between work life balance and supportive management. One component of this overlap related to managerial expectations; the extent to whether or not employees feel pressured to work long hours. In study 1, a common perception among employees was that their managers work unpaid over-time and were routinely present at when they are unwell, therefore they reported implicit message that they expected to do the same. This highlights the normative influence of leader behaviour on workplace culture; if working long hours is engrained in an organisations culture, management will expect employees work longer hours (Ramsey, 2006; Barron & Gjerde, 1997). Long hour culture has been associated with detrimental impact on employee wellbeing as well being identified as a correlate of presenteeism (Baker-McClearn, Greasley, Dale & Griffith, 2010).

A second facet of the interplay between WLB and management related to the extent that managers support flexible work practices. If managers demonstrated that they trusted their employees to work autonomously and were supportive of employees utilising positive WLB practices, this communicated the implicit message to employees that they were trusted respected and valued by their managers and in turn by the organisation. This trust had a reciprocal effect of contributing to employee intuitions that their contribution and their well-being was valued by the organisation and their manager (Halbesleben et al., 2014; Gajendran et al., 2015). Research has also suggested that the positive benefits of flexible work conditions have been found to be contingent on support from the organisation and line managers (Swanberg at al., 2011; Halbesleben et al., 2014; Gajendran et al., 2015). With the role-out of flexible work practices (study 5) employees discussed the benefit of remote working in relation to no direct physical scrutiny of managers' micro managing every aspect of work and that managers were forced to trust employees to complete work from different locations. In particular, after the introduction of new ways of working which essentially provided all employees with options of WLB practices the need for management to be supportive of the adopted flexible work conditions was highlighted by the LA employees. Providing employees with the autonomy and support to complete their work wherever and however they deem fit, i.e. an increase in autonomy and control

was valued by employees. Organisations and managers that support WLB practices employees have been seen to benefit from higher work performance as employees feel valued and it contributes to extrinsic job satisfaction (Warr, 1996; Halbesleben et al., 2014; Gajendran et al., 2015). Therefore, these findings highlight the interaction between management and flexibility. Flexible work is dependent on good supportive relationship between employees and managers; supervisor support of flexible practices has been linked to reduced work-family conflict, improved wellbeing and higher work performance (Gajendran, Harrison & Delaney-Klinger, 2015; Lapierre & Allen, 2006).

9.2.3.2 Demographic variations

Gender

Females reported feeling less strongly than males that they were able to maintain a healthy work-life balance (study 3) and work-life balance was ranked as the second most salient driver for working effectively among female employees in the resilience ranking exercise (study 4). These findings are consistent with a wealth of research showing that females balance dual responsibilities; work and domestic life. Increasingly, women are entering the workplace and this creates conflict in relation to work-life balance and negative spillover in the home as they try to balance both (Duxbury & Higgins, 1992; Crouter, 1984). Therefore, women can be exposed to more strain in relation to meeting both work and home life expectations (Barnett & Baruch, 1987; Repetti, 1987).

Furthermore, previous studies have shown that females are more vulnerable to work–family conflict than men because women have more domestic responsibilities (housework and taking care of children) than men (Craig, 2006; Perry-Jenkins & MacDermid, 2012). Female employees may experience more role overload between work and family domains than male employees (Higgins, Duxbury, & Lyons, 2010). As females can be exposed to more strain in relation to meeting both work and home life expectations it is unsurprising that they ranked work life balance as more important than males.

Age

Study three found older participants to be dissatisfied with their work-life balance. This finding was consistent with predictions that older workers may not be satisfied with their WLB as they may care for elderly relatives and attend to their own health conditions (Weyman et al., 2013) Furthermore, it is also possible that older worker feel dissatisfied with WLB as is has been shown that they tend to be inhibited in asking for flexible working arrangements in fear that these requests will be understood as a lack of commitment by their employer (Weyman et al. 2013). However, evidence from study four shows the lack of salience ascribed to work life balance by older generations. In light of the ongoing changes it would seem that older employees deemed other factors as more salient for their ability to work effectively.

In study 4, employees that fell within the 18-24 age cohort ranked work life balance as a less salient driver to being able to work efficiently at work than the other age groups. One possible explanation for this is that research indicates that younger generations have fewer carer responsibilities outside of work and therefore do not ascribe value to engaging with WLB practise (Sherman, 2006; Kuppershhmidt, 2006; Weyman et al., 2013) therefore do not value or require WLB arrangements at this time. However, these findings are inconsistent with studies that have found Millennials seek freedom and balance at work (Twenge et al., 2010) and that WLB is in fact more valuable to younger workers, who grew up watching their parents work hard and believe they were not justly rewarded for their efforts (Lyon & Woodward, 2004).

9.2.4 Quality of communication

In this thesis communication was highlighted as a key component for employees to support the change process and to feel supported and prepared in a constantly changing environment. As such, quality of communication can be extended in the following four ways.

9.2.4.1 Participative decision making

Two way communication characterised as high level of involvement from all staff in the change process is more likely to encourage commitment to change (Smith, 2005; Aldana et al., 2012; Meneghel et al., 2016). Employees in the LA described not feeling

appreciated or valued as they were not consulted about changes to the services they provided. The qualitative studies highlighted that two-way participative communication minimises feelings of uncertainty amongst employees, and allows them to feel more empowered in the face of change, enabling them to be increasingly adaptive and open to changes at work. The importance of communication was validated through the emerging factor of Quality of communication in subsequent quantitative studies as well as higher levels of quality of communication were found to be positively associated with employee resilience.

Research has proposed that when managers adopt a participative communication strategy described by high-involvement practice in which employees are invited to provide input (Bordia et al., 2004) they are more likely to motivate employees to be proactive at work (Kuntz et al., 2016; Peterson & Hicks, 1996) and accepting of change (Smith, 2005). Specifically, research suggests that participative communication encourages two-way communication where employees feel comfortable in raising concerns and opposing views about the change (Ford & Ford, 2010; Gilley et al., 2008; Schultz & John, 2007). When employees are involved in decision making work engagement is enhanced (Siegel & Ruh, 1973; Helpap, 2016), and their motivation to implement the change increases (Peterson & Hicks, 1996). While lack of engagement may result in higher turnover rates, sickness absence and employee stress (Lunt et al., 2007). Moreover, when managers show confidence in their employee's ability to be successful on the job, and value their employees contributions, employees are more like to adapt to organisational changes and be increasingly resilient (Bakker et al, 2007; Rafferty & Griffin, 2004). Managerial engagement with employee perspectives of change result in employees more understanding the change and this encourages them to get behind and champion change related work activities (Gagnon & Vaandrager, 2012). Communication between managers and front line staff is a key factor necessary for adaptive organisational change. Finally, face-to-face communication is essential to allow employees to disclose and discuss the emotional aspects of any change process, promoting trust and also allowing for a mutual understanding of the aims of the change process (Saksvik et al., 2007).

9.2.4.2 Vision for change

In order for an organisation to support employee resilience it needs to provide clear information about change (Elving, 2005; Denning, 2005; Tanner & Otto, 2016). Specifically, organisations are advised to communicate the need of the proposed change and to communicate the vision for the change process to enable employees to understand the importance for change (Gill, 2002; Kotter, 1995). Employees need to be communicated the urgency for change. When an organisation shares their visions for the service with staff this can create a sense of 'mission' amongst staff, which can, if it is shared, have a positive impact on reducing staff uncertainty and subsequently improving change readiness and adaptation (Kotter, 1995; Gill, 2002; Lewis et al., 2006). For this to occur, employees need to recognise the need for change, and understand and accept the logic of managerial priorities and actions. Where the latter is not realised, which seemed to be the case for a significant proportion of the case study LA employees, with widespread reporting that 'the change did not make sense' unsurprisingly, this tended to blunt their motivation to 'get on-board' as there was not a clear or shared vision as to what the LA wanted to accomplish. This has been articulated in the literature whereby communicating the need for change provides a sense of purpose facilitates employee commitment to change (Lewis et al., 2006). Moreover, transparent communication will reduced levels of uncertainty and create a sense of trust in the organisation which in turn will increase the likelihood that employees will adapt successfully to change (Kelloway et al., 2012; Bordia et al., 2004). When leaders share their visions for the service with staff and create a sense of 'mission' amongst the staff this has a positive impact on reducing staff uncertainty and subsequently improving their well-being (Waldman, Ramirez, House & Puranam, 2001).

9.2.4.3 Open and transparent communication about the ongoing change

In this thesis, employees reported feeling more secure when effective communication and dissemination of accurate information throughout change processes had occurred. When there was a lack of communication rumours spread through the grapevine, leading to uninformed speculation which in turn demotivated employees. Managers

play a key role in supporting effective communication, as they are normally the first point of contact for employees regarding upcoming changes. Some managers communicate openly with staff with regard to the changes at work and others choose to isolate their staff and not take them 'along the journey'. This implicates supportive management in determining the quality of communication.

Research suggests that during times of change or crisis leaders need to empower employees (Chrichton et al., 2009; Denhardt & Denhardt, 2010). Managers are in the position to provide knowledge and information with regards to change. Therefore they need to create a transparent work environment (Gill, 2002). Moreover, studies have shown that when organisations use clear and transparent communication they experience significantly more commitment to change from their employees and overall the wellbeing (McManus, 2007; Power, 2004; Stone, 2004). Informing employees about the upcoming change helps alleviate uncertainty which in turn decreases stress and anxiety amongst employees (Waldman, Ramirez, House & Puranam, 2001). Bordia et al. (2004) suggests that the mechanism of this process is that communication can enhance perceptions of control due to feeling prepared and equipped with knowledge of the relevant changes happening in an organisation. Finally, a transparent organisations increase levels of perceived trust in the organisation (Williamson & Weyman, 2005; Huy, 2002). If employees feel they are informed about changes they will be more inclined to play a facilitating role in the change process (Smith, 2005; Kelloway et al., 2012).

9.2.4.4 Implicit Communication

Implicit communication relates to phenomena of the type termed 'corporate body language' (Pidgeon et al., 2003). This refers to all nonverbal elements and unintentional messages of communication such as if the management style is one of trust and autonomy vested in staff or performance management and audit obsessed (Hoogervorst et al., 2004). Often implicit communication conflicts with explicit communication jeopardising employee trust in the organisation as it is seen as delivering inconsistent messages (Hoogervorst et al., 2004; Starbuck, 2016; Rodriguez et al., 2017). Therefore implicit messages are arguably more impactful than formal

communication. Furthermore, through implicit communication the organisation signals to employees their relative importance in the organisation, i.e. if they value the workforce. Such implicit messages are manifested in the organisational culture and management practices (Hoogervorst et al., 2004; Rodriguez et al., 2017).

In study 1 front line staff perceived the LA and management as not committed to their learning and development needs. Employees tended to interpret staff development as a tick box exercise with little commitment from managers in getting them onto a training course. This can be seen as transmitting an implicit message regarding the organisations/management commitment (or lack of) to investment in human capital. In this case the effect of explicit communication about quality improvements to services in the changes process will be limited if employee feel like their training needs are not met to improve the service. This can increase staff suspicion of management and create a culture where employees are cynical and not trusting of the LA (Hoogervorst et al., 2004; Starbuck, 2016).

Relatedly, respondents in study 1 reported feeling like expendable assets in the LA as their wellbeing was not prioritised and they did not feel involved in the change process. This has the potential to implicitly transmit the message that the LA does not value its employees. Referring to employees as essential for the change process makes little impression if employees perceive that management value consultant advice and knowledge over their expertise. All too often employees are not seen as essential sources of knowledge or skill in an organisation (Pfeffer, 1994; Prahalad, 1995) which can in turn have negative effects on work outcome and wellbeing (Smith, 2005; Lunt et al. 2007; Helpap, 2016). Furthermore, frontline staff expressed the lack of employee centric vision from their manager as they felt they prioritised bottom line outcomes over staff wellbeing. This again has the potential to implicitly signal to staff that they are not valued by the organisation. Investing in staff wellbeing by identifying employee needs to minimise work stress has been linked to increase commitment and collaboration (Lipponene, Bardi & Haapamaiki, 2008; Kuntz et al., 2016; Tavares, van Knippenberg & van Dick, 2016).

9.2.5 Valuing Culture

Throughout all the studies reported within this thesis there was a general consensus amongst employees that organisational support, specifically in the form of recognition and appreciation, was important. In the factor structure detected in the staff survey (study 2), the latent construct reflecting this sentiment, 'organisation valuing staff', accounted for 37 % of the factor structure variance. This is perhaps unsurprising considering the proportion of themes and subthemes from study one that mapped onto this factor. Unsupportive leaders; organisational appreciation and fairness; participative decision making and investment in staff/ training and development were all elements captured by this factor.

Organisational justice is a concept which relates to how employees perceive they are treated within the workplace, be it in regards to their income or in relation to how management structures treat them (Sert, Elsi, Uslu & Sener, 2014). Generally, a positive sense of 'organisational justice' is thought to be associated with high ratings of employee wellbeing and job satisfaction. Research indicates that when employees perceive that resources are allocated in a fair and consistent manner they experience increased wellbeing at work (Elovainio et al., 2015). Moreover, respectful treatment in everyday dealings has been linked to successful coping and adaptation to change at work (Bakker et al., 2007). This relates to the degree that employees feel appreciated and recognised in the workplace.

In line with these findings, study one found that employees raised the issue that they did not feel their loyalty to or hard-work within the service was recognised or valued. They spoke of 'injustice' in relation to recruitment practices and felt that managers did not recognise or respect their efforts. Employees reflected that this made them feel increasingly disengaged with work and disconnected from the organisation. This is in line with normative feedback practices whereby managers recognise and express appreciation of employee efforts. If employees perceive they are not recognised for their efforts then work stress might arise (Siegrist, 2002; Dewhurst et al. 2009). Since organisational injustice is associated with negative work stress, staff turnover, reduced job satisfaction and reduced job performance (Sert et al., 2014) initiatives focused on

improving both employee and organisational resilience should aim to target factors and perceptions of organisational injustice.

In study 3, a positive association between the employing organisation valuing its staff and employee resilience was found in this thesis; subjective ratings of feeling valued from the employee resilience climate tool correlated with ratings of individual resilience from the EmpRes scale. Although there is no known previous empirical evidence drawing a link between a valuing culture and employee resilience, findings from research on similar constructs such as recognition, respect, and fair treatment, have shown that creating an organisational culture where employees feel valued and appreciated enables employees to be more resilient by motivating them to flourish in times of change (Nilakant et al., 2016). Organisations that acknowledge employee efforts by rewarding them and offering verbal recognition signal that the organisation values its employee which in turn increases commitment to the organisation, and desirable work behaviours (Sommer et al., 2016; Chen et al., 2015; Ballard, 2014). Moreover, fair treatment and appreciation in the workplace have been linked to wellbeing and positive adaptation at work (Bakker et al., 2007; Elovainio et al., 2015). Finally, organisations can implicitly signal that they value their employees by investing in their wellbeing with initiatives that identify employee needs and aim to minimise work stress (Kuntz et al., 2016). This is likely to increase workplace identification and concomitant behaviours such as collaboration and commitment (Tavares, van Knippenberg & van Dick, 2016; Lipponene, Bardi & Haapamaiki, 2008).

Overall this thesis revealed that a corporate culture that signals to employees that they are valued can be characterised by the extent to which employees perceive that the organisation treats them fairly; offers support and minimises their stresses; recognises their contributions to the service; and respects their needs and desires in relation to their jobs and the service as a whole. Previous research has additionally highlighted that a learning culture, whereby managers deliver supportive performance feedback and encourage interactions/collaboration between team members, is key for enabling employee resilience (Tonkin et al., 2018). Moreover, previous research has suggested that organisations should create a safe environment where employee mistakes are seen

a learning opportunity for reflection and solution development (Kuntz et al., 2016). In contrast, the studies in this thesis did not identify learning culture (as supported, promoted and facilitated by the organisation) as being a relevant factor relating to employee resilience. Instead, findings from the studies in this thesis suggest that employee resilience can be promoted by an organisational culture that: identifies the needs of employees; consults with employees; encourages feedback from employees following organisational change; and respects employees and their wellbeing.

9.2.5.1 Demographic variations

Study three found frontline staff to report feeling less valued by the organisation. Additionally, study four found frontline staff rated fair treatment and recognition as the most salient driver of working effectively compared to other job grades. In light of both of these findings it would suggest a model of attrition whereby the absence or perceived lack of the workplace driver might increase its relative salience to frontline staff. This is in line with previous studies that have found frontline staff to report feeling undervalued (APA, 2015) and that employees with lower job grades generally receive less reward and recognition, and as a result express greater dissatisfaction with work (Kovach, 1995; Kalleberg & Griffin, 1978). The results from this thesis would suggest a model of attrition whereby the absence or perceived lack of the workplace driver might increase its relative salience to frontline staff.

9.2.6 Supportive Management

Drawing upon findings from each of the studies supportive management was operationalised as the extent to which employees perceived managers to care about their well-being and model positive organisational behaviour, respect and listen to their opinions, and provide supportive feedback. Supportive management was a workplace driver that was identified as being important for employees with regards to their ability to work effectively and was positively associated with employee resilience. Throughout this thesis, there was a great degree of overlap between supportive management, communication and an organisational culture of valuing staff, as it is expected that managers will contribute to employees feeling valued and are in a position to provide information with regards to change. However, from the interviews

conducted in this thesis it was apparent that there was a disconnect between the organisation as a whole, and the day-to-day management practices that employees experience. Specifically, managers were position as a key resource in promoting positive work behaviours and supporting employee wellbeing.

In study one, management expectations relating to working long hours and not taking time off work when sick (sickness presenteeism) was cited by employees as having a negative impact on their wellbeing at work. Employees explained that they felt pressure to come into work when unwell, as they saw senior staff doing this. This finding is in line with previous research which has shown that employees are often influenced by management in this way (Ramsey, 2006). This study showed that staff demonstrate a high rates of sickness presenteeism (i.e., attending work when unwell) when managers and senior staff set an example of coming into work when they are unwell.

Research has explored the concept of 'presenteeism' and has shown that presenteeism is associated with increased employee illness and reduced productivity, meaning that it can have a negative impact on both individual employee and overall organisational outcomes (Baker-McClearn, Greasley, Dale & Griffith, 2010). Conversely, research has shown that when organisations are more supportive of their employees and place less pressure on them to attend work when they are not fit to do so, staff can be more motivated to engage in their work and to contribute to their team (Baker McClearn et al., 2010). Moreover, insight from research on workplace culture suggests that if working long hours is a strongly normed feature of   an organisations / department or team culture arising conformity effects can have a detrimental impact on employees (Barron & Gjerde, 1997).

Overall, in study 1, management behaviour at work was a prominent point of discussion amongst front line employees. There is a growing field of literature which focuses on 'incivility' in the workplace, which has been described as behaviour by colleagues which treats others with lack of regard and respect and is insensitive to their needs (Porath & Gerbasi, 2015). It is apparent that there are significant disadvantages to the organisation and employees when leaders do not model civil behaviours at work.

Incivility is associated with increased staff turnover, and reduced staff performance (Porath & Gerbasi, 2015). It is therefore evidence that incivility in the work place is a risk factor for negatively impacting both employee wellbeing and organisational resilience. Managers who exhibit civil behaviour at work have been found to be perceived as more approachable, and to exhibit valuable leadership qualities (Porath & Gerbasi, 2015). In turn, this increases collaboration between staff and managers, and enables higher work performance (Porath & Gerbasi, 2015). Finally, it is likely that if employees feel supported and trusting of their manager they will be more inclined to ask for help or advice when they need it, thus encouraging support seeking behaviours which have been identified as resilient behaviours at work (Kutnz et al., 2016; Jundt et al., 2015).

Furthermore, the majority of respondents discussed wanting to be treated like humans at work, turning their focus to their managers. Employees expressed their desire for manager to care and support them emotionally at work. Respondents expressed the need to create a supportive environment at work were people felt safe and cared for. Employees felt that this would enable them to flourish at work. Studies have shown that support from team leaders has been associated with greater job satisfaction, increased employee retention (Brough and Pears, 2004; Graen et al., 1982; Vecchio, 1982; 1985), and increased prosocial behaviours at work (Settoon et al. 1996; Wayne & Green, 1993). Moreover, management support in the form of consideration at work has been implicated in developing employee proficiency at work (Rafferty & Griffin, 2004). Creating an environment where employees feel they are supported emotionally by their supervisor has also been found to mediate work-related stress (Schirmer & Lopez, 2001). Finally, research has highlighted the need for managers to recognise that employee wellbeing is more meaningful than business outcomes (Leka & Houdmont, 2012). If employees are placed at the centre of management concerns employees feel respected and treated well by the organisation (Greenleaf, 2002). Therefore, it is likely that prioritising the employee wellbeing over business outcomes will signal to employee that they valued which will increase employee engagement at work.

It is of interest to mention that a significant proportion of line managers within the case study organisation presented a different dilemma, in that they did not always feel

equipped or competent to manage staff. Some managers reported a lack of training or lack of previous experience in managing 'people', and did not always feel comfortable in this role. Moreover, some managers simply did not see it as their role to manage the person, in the sense of staff needs and wellbeing, rather their focus was on meeting targets. There is limited research which ascertains managers views on this topic, however there is research which highlights the growing need for managerial staff to be trained in managing and supporting employee well-being (Shuttleworth, 2004).

It is evident that supportive/ enabling leadership is therefore a key element of the workplace that can encourage employees to flourish. Supportive leadership can enable the creation of a workplace environment in which employees feel that they are cared for and supported which in turn enhances their engagement, motivation, effectiveness and well-being.

9.2.6.1 Demographic variations

Age

Findings from this thesis revealed that older employees perceive less management support thank younger workers. The research on generational and maturation differences with regard to enabling leaders or supportive management is limited and findings are mixed. One explanation for the finding that older employees perceive less management support is that older workers are more mistrustful of management (Strauss & Howe, 1991); another is that older workers have been found to be more hesitant to seeking out support or making requests from their supervisors which could lead to the perception that their manager is not responsive (Weyman et al. 2013; Weyman et al. 2012). Therefore, it is plausible that older employees assign less value to management and perceive them as less supportive as they are mistrustful of them. Moreover, younger workers have been found to be more satisfied with management that take a coaching approach to management that involves supportive feedback (Tulgan, 2003). It is possible that the younger generation is seeking out more informal learning experiences and therefore do not assign value to traditional management structures (Tulgan, 2003).

Occupational grade

Interestingly, in study 4 managerial respondents ranked supportive management as more important to resilience than front line and admin staff. This finding is conflicting with research that indicates that lower level staff place more emphasis on support from management (Lyons et al., 2015; Kocoglu et al., 2014; HSE, 2012). Managers have been found as a group to overestimate their ability. Research suggests that managers often attribute positive outcomes to their own internal characteristics (self-serving attribution bias) (Libby & Rennekamp, 2012; Li, 2010). One possible explanation for the finding is when managers were asked to rate aspects like supportive management it elicits a self-serving attribution bias, i.e. managers rate these elements more positively because they have some stake in them, and a negative rating would reflect badly on them as it could imply they do not have the right managerial skills and had somewhat failed to do their job properly. It is possible managers know that employee value support at work and that their ratings reflect their desire to be seen as good managers. Another potential explanation is that when managers completed the judgement task they were thinking about their subordinates rather than themselves. Instructions did urge respondent to consider aspects of their own work however it is very likely that managers would have struggled to divorce aspects of work subordinates value and elements that they themselves value. Organisational behaviour research suggests that there is a high level of interdependence between supervisor and subordinates with regards to a manager's personal experience with the subordinate's job which may make it more challenging for managers to make internal attributions (Mitchell & Kalb, 1982; DeJoy, 1994)

9.2.7 Learning fostering environment

In response to the upheaval many organisations are facing in the current economic climate the need to develop an organisational learning culture has received significant attention (Tonkin et al., 2018; Davis & Daley, 2008; Garvin, Edmondson, & Gino, 2008). A work environment that facilitates a learning culture can be described as a culture whereby employees feel safe/ supported to learn through trial and error and they are encouraged through supportive feedback (Kuntz et al., 2016; Marsick &

Watkins, 2003). According to research, learning cultures positively influence employee productivity (Marsick & Watkins, 2003) job satisfaction (Egan et al., 2004; Marsick & Watkins, 2003) and encourage the enactment of resilient behaviours at work (e.g. Proactive behaviours in time of change as employees do not fear being reprimanded if they make a mistake; Nilakant et al., 2016).

Elements of what has been described above as a learning culture have been found throughout this thesis (for example two way communication and enabling leaders). A different conceptualisation of learning emerged from this thesis operationalised by an environment that provides the necessary training and development to encourage learning alongside the provision of networks within the organisation that promote informal learning.

9.2.7.1 Investment in staff/ training and development

Employees discussed being concerned with the lack of opportunity to develop their competencies. They expressed feeling ill equipped to do their job and managers echoed their view that access to training opportunities was limited given the current economic state of the LA. There was a general sentiment of dissatisfaction among respondents and concern that the lack of provision of training will hinder their ability to perform at work and their ability to learn new elements the job requires in light of all the changes to service provisions.

Employees are the key driving force of organisations therefore the continual development of individual and collective capabilities should be an organisational priority (Dess & Sauerwald, 2014; Nilakant et al., 2016). The current findings are reminiscent of other studies that widely report limited access to training and development opportunities are associated with poor job satisfaction (Owens, 2006) and lower performance at work (Wayne et al. 2002; Lockwood, 2007). Research has also shown than lack of training availability is associated with increased staff turnover, burn-out and stress (Yeatts, Cready, Swan & Shen, 2010). Employees who perceive a lack of training opportunities report reduced empowerment in the work place, lower self-esteem, and less commitment to their jobs (Yeatts, Cready, Swan & Shen, 2010).

Expressed concern over lack of training provision that could hinder employee ability to perform at work and learn new features of work was a prominent issues discussed in study one of this thesis. However, staff training and development was not a part of the factor structure that developed in study two. Given its prominence in study one it was included as a key workplace driver of resilience the paired comparisons study (see study four). It was ascribed the lowest position in terms of relative salience as a work related driver of resilience. This would appear to corroborate findings from study 2 conducted within the current project, however, it is perhaps surprising given its high profile in contemporary commentaries on the lack of continual development as risk factor for employee resilience (Nilakant et al., 2016; Dess & Sauerwald, 2014; Yeatts et al., 2010).

In times of change, there is an increase in demands of new knowledge, skills and behaviour. Training and development is cited as a key driver is assisting organisations in managing change effectively and creating a workforce that has the right skills to be able perform at work (Anjani, 2017; Kuntz et al., 2017). In light of the inconsistent findings in this thesis with regard to staff training and development and existing research that highlight the importance of training and development for work outcomes should we conclude that training is important or that it is no longer an important issue for employees in the LA? It seems likely that employees will still benefit from the provision of staff training and development, but perhaps in the current climate of change other drivers play a more important role in helping employees cope and thrive at work. Therefore, intervention that targets this issue in the absence of addressing more salient workplace drivers will likely be unsuccessful. While findings case some doubt over the primacy of training and development it is worth noting that the ranking task asked respondents about items that were believed to be important to working effectively. Therefore, an item ranked at the bottom of the list doesn't necessarily mean it is unimportant, i.e. it could be important but not as important as other items within the domain of workplace drivers.

9.2.7.2 Informal learning

Employees raised concerns that the physical changes made to the work place and space within the LA reduced their opportunities for informal learning and collaboration as they no longer physically coexisted in the same workspace as their team members. Kuntz et al., (2017) suggests that the physical work environment can facilitate interactions among teams and employees, to the extent that these interactions will result in improving job performance and enhance team support. In line with such research, the current study echoed the importance of a work environment that enhanced knowledge sharing and informal conversations in order to enable employee efficiency and facilitate cross team exchanges. Employees in our studies discussed 'hallway and kitchen conversations' that facilitated discussions and decisions related to work. The lack of team unity in the same workspace was reported as creating more challenges at work, as informal conversations and work related queries were not conducted and asked in the same way. Instead, a formal meeting or an effortful conversation was required (e.g.,via email communication) to obtain any knowledge and/or information about a work-related matter. In particular, employees discussed this being more prominent for newcomers.

Therefore, the introduction of flexible work conditions was identified as a risk-producing environment with a deterioration in informal knowledge sharing (Bonsall, 2011). This can be seen as a challenge both to the individual and organisations performance as research has previously shown that the impact of informal learning in a workplace may actually be more valuable than formal methods of learning (Boud & Middleton, 2003). It is likely that learning from peers in this way is both helpful for organisational performance but also enables employees to feel more confident and supported within their roles. Finally, lack of group relatedness has also been found to reduce support to new employees, decreasing informal learning (Weyman & Boocock, 2014).

9.3 Contributions to knowledge

9.3.0 Overview

Many organisations are facing widespread upheaval and uncertainty as they move towards a global and digital world (Allvin et al., 2011; Naswall et al., 2015). The way in which organisations respond to ambiguity and change will dictate their ability to survive and remain relevant in a constantly changing world. Simultaneously, employees are expected to adapt to constantly evolving working arrangements of work. Therefore, employee experience of change is at the forefront of organisational resilience. To this end, well-being and resilience have become buzzwords in academic and business communities (Athota & Malik, 2018).

There are claims that in times of turbulence and ambiguity finding ways to maintain / enhance employee resilience and well-being are necessary for organisation to remain competitive (Kotter, 2012; Moenkemeyer, Hoegl, & Weiss, 2012; Lee et al., 2013). Extant literature has conceptualised resilience in the workplace as a stable personality trait (Britt et al., 2016; Rothstein, McLarnon, & King, 2016; Williams et al., 2017), or as a state like variable that can develop over time (Luthans, 2002; Shin et al., 2012; Britt et al., 2016; Kuntz et al., 2017). If resilience is a capacity that can develop over time then the conditions under which employees can increase their capability to adapt and thrive to changes and setbacks at work need to be explored.

In this thesis, we aligned ourselves with the conceptualisation of resilience as a developable capability and as a shared impact that can be degraded or enhanced as a conscience of changes to working arrangements. While the relationship between personality characteristics and resilience in the workplace is well established limited studies have examined organisational/work related factors that build resilience at work (Britt et al., 2016; Rothstein et al., 2016; Kuntz et al., 2017). This stream of scholarship is timely given that research on the various drivers at an organisational/workplace level is still in its infancy. This thesis has attempted to respond to gaps in existing literature, which highlight the need for improving understanding of resilience in the workplace (Tonkin et al., 2018; Kuntz et al., 2017).

Specifically, to explore organisational and/or work environment influences as enabling or eroding factors of employee resilience.

Extending a systems perspective to employee resilience highlights the need to integrate a comprehensive array of relevant elements of an organisational system (see figure 10), in order to better understand the relationships between different components; i.e. micro (individual), meso (organisational) and macro (systemic) level drivers of resilience. A holistic approach for optimising resilience at work would consider all levels (HSE, 1999; Wald, 2018) however, micro and macro levels were beyond the scope of this thesis.

Figure 10.*Complex system of workplace resilience*
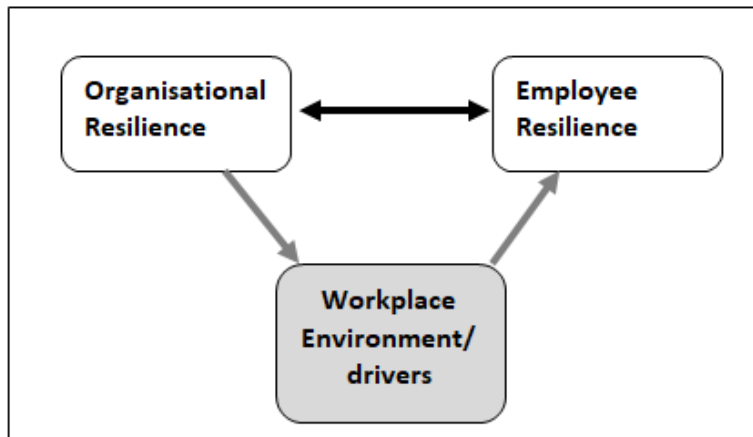
Building on the work from this thesis a framework depicting a range of work related factors (or lack thereof) in relation to employee resilience was identified. The work environment at the case study LA can be seen on a continuum, with the presence or absence of workplaces drivers enabling or eroding employee resilience. There is a need to identify the role certain features of a system (culture, social connections, communication etc.) play in how actors within that system experience and respond to adversity. In particular, organisations (complex systems) can contribute to the development of resilience by creating work environments that enable employees to deal with workplace complexities (Hodliffe, 2014; Tonkin et al., 2018).

Specifically, the empirical findings support the notion that meso level influences (organisational, managerial, work practices etc.) facilitate an environment where

employees are more likely to engage in proactive, innovative and adaptive work behaviours, i.e., resilient work behaviours. This has implications for managerial and organisational practice. Moreover, this thesis highlights the importance of employee perceptions of enabling work systems and how such environments can be enacted by managers. Irrespective of the type/nature of organisational changes, employee perceptions of these practices/changes and how they have been managed will affect the relationship they have with adaptive outcomes. Discovering and profiling employee beliefs and perceptions, whether accurate or otherwise, is important as these elements can have important impacts on employee orientation, attitudes and behaviour. Based on this premise, the scope for developing an employee resilience climate indicator tool, in the management standards / workplace safety climate idiom (see for example HSE, 2012; RSSB, 2003) was the capacity to profile an organisation, and its constituent units/demographics. This embodies the potential to contribute to organisational learning as a lead indicator (measure of precursors to failure) with respect identifying issues and groups of employees requiring intervention; similarly, as an indicator of the impact of improvement interventions. Below key elements that emerged from this thesis relating to enabling work environments are discussed.

9.3.1 Enabling work environments

Extant literature examining resilient employee behaviours have found empowering leadership (Hodliffe, 2014), learning culture (Kuntz et al., 2016), and a supportive work environment (supportive team and organisation) (Naswall et al., 2015; Nilakant et al., 2016) to influence employee resilience. Findings from this thesis suggest that there is a need to design work environments that have a value-centred culture and create a sense of work identity through, open, transparent, supportive, and collaborative, can foster employee resilience. While individual elements are describe in relation to existing literature in section 9.2 what follows is a discussion of how these elements come together to create an organisational climate that can be describe as high-involvement, value-focused and supportive (team and organisational).

Findings across all five studies from this thesis suggest that support at the team level is by far the most important contributor to employee resilience, indicating that a

supportive social network is an essential enabling factor to the development of employee resilience. Social networks in an organisation can facilitate (or hinder) sharing of knowledge, learning processes and dissemination of adaptive solution to work problems (Stephens et al., 2013; Andrew et al., 2016). Teams that are fragmented and experience less social support and cohesion are more vulnerable to disruptions in day to day operations than cohesive teams (Anderson & Anderson, 2003; Kwok et al., 2016). Employees in this thesis portrayed themselves as free floaters with a lost sense of team identity due to the dislocation of their teams through the role out of NWoW. Conversely, positive social connections at work help contribute to a sense of community/belonging and act as a resource that employee can draw upon to deal with workplace challenges (Kuntz et al., 2016; Nilakant et al., 2016). For example, in study 1 employees discussed using their colleagues for moral support at work during adverse situations. Moreover, fulfilling connections at work are pivotal for employees' health and well-being (Dutton & Heaphy, 2003).

Therefore workplace environments need to create an opportunity for individuals to connect with others and establish valuable professional and social relationships. These high quality connections play a vital role for establishing a professional network for informal learning (Bonsall, 2011), finding a sense of purpose and meaning in the workplace (Fouché, Rothmann, & Van der Vyver, 2017) and overall is essential as a resource for well-being (Cheng & Hung, 2007; Waddell & Burton, 2006; Meneghel et al., 2016).

Moreover, the need for a work context that values and empowers its employee was evident. Employee should be given the autonomy and be viewed as ambassadors of their service provision in order to deliver the best outcome for their service (Wood & de Menezes, 2011; Boxall & Macky, 2014). This can be done by encouraging participative decision making and allowing enough discretion for employee to feel that their knowledge and understanding of what is best for delivery of their service is valued by the organisation. This was evident in participant accounts in study one and five. In study 1, employees expressed feeling not valued or acknowledged by the organisation as during times of service restructuring consultants were brought in who were not deemed as the appropriate individuals by front line staff due to their lack of

experience with service delivery. In contrast, in study 5, due to the roll out of NWoW managers had to relinquish an amount of control and trust their employees to deliver positive outcomes at work. Employees articulated this as a source of feeling valued at work.

Another vital element for a conducive workplace was transparent communication and sharing of information in a timely manner. In order for employees to remain engaged and committed to their work in uncertain times they need to be provided with a full rationale on matters affecting their work and work conditions (Smith, 2005; Kelloway et al., 2012). This will create an environment of trust and employees will feel more prepared and in control if they are informed about changes affecting their work (Bordia et al., 2004; Williamson & Weyman, 2005). Finally, transparent communication can help employees create a sense of 'mission' and work identity (Janik & Rothmann, 2015) which subsequently can improve change readiness and adaptation. Quality of communication was positively correlated with individual employee resilience in study 3. Moreover, in study 1, it was evident through frontline employee accounts that they needed a clear rationale for the upcoming changes to their service delivery to get on board. Additionally, lack of transparency was articulated as heightening feelings of insecurity at work.

Throughout this thesis the role managers' play in creating a participative, transparent and value-centred climate was apparent. More specifically, managers act as critical resource responsible for creating a positive work environment as they are perceived by employees as having the legitimacy and the power to facilitate (or erode) participative and value orientated work systems (Knight & Paroutis, 2017). Bass (1990, p. 652) argues that management can provide "intellectual stimulation to promote subordinates thoughtful, creative, adaptive solutions to stressful conditions, rather than hasty, defensive, maladaptive ones". Given that employee resilience can be understood as a developable capacity the importance of leadership for employee resilience needs to be considered (Harland, et al., 2005; Meng et al., 2017).

Therefore, this thesis contributed to the explicit consideration of the link between leadership and followers on employee resilience. Supportive management was

positively associated with employee resilience and was ranked as a salient workplace driver of resilience. A high quality connection with managers that is describes as a fulfilling relationship between employees and leaders can be seen to contribute to resilient behaviour at work and employee wellbeing (Dutton & Heaphy, 2003; Peters & Pearce, 2012; Sommer et al., 2016; Kuntz et al., 2017). Specifically, study 1 emphasised the need for leaders to focus on emotional connection with employees; demonstrating that that they care about employee wellbeing and supporting them in times of changes rather than focusing on marketplace outcomes. Furthermore, the subscale management support was positively associated with employee (Cohn et al., 2009; Kuntz et al., 2017; Berg et al., 2017). In uncertain times, work contexts where social exchanges between managers and employees are deemed more valuable than economic exchanges will contribute to more adaptive responses (Judge & Piccolo, 2004; Kuvaas et al., 2012; Berg et al., 2017).

Finally, findings from this thesis suggested a link between management intentions/behaviours and employee behaviour. It is likely that employees will develop perceptions and attributions towards an organisational climate that are being espoused by the managers. Therefore, managers need to model positive work behaviour. It is expected that employees will be more likely to engage in work related activities (positive or negative) if they are modelled by managers. As a result of this causal chain of events, one can expect supervisors greatly influence employee well-being and subsequently organisational outcomes such as work engagement (Fredrickson, 2003). For example if managers come into work when unwell or work long hours there is a greater likelihood employees will follow suit eroding their ability to be productive in the long run.

9.3.2 New workplace driver of meaningful work associated with employee resilience

A prominent feature that was discussed in the qualitative interviews (study 1) was the importance of meaningful work. There is a growing interest in research on meaningful work. However, currently there is limited evidence about the role that meaningful work plays in unstable and uncertain environments at work. Thus far, the influence of

meaningful work on employee resilient behaviours at work (using a validated workplace measure of individual resilience like the EmpRes scale) has not been examined in the literature. However, there is evidence from published sources on positive work outcomes related to employee resilience such weaker intentions to quit, work engagement and job satisfaction (Wrzesniewski, et al., 1997;Littman-Ovadia & Steger, 2010; Fairlie, 2011)

An employee considers his or her work as meaningful when the work goal or purpose is in line with his or her own ideals or standards (Rosso, Dekas, & Wrzesniewski, 2010; Thomas & Velthouse, 1990). Meaningful work has been found to be a facet of work that employees value the most, ahead of income, job security, promotions or working hours (Grant, 2007; Cascio, 2003). The majority of research with regards to meaningful work has investigated the relationship between meaningful work and positive work outcomes. Research has consistently found that meaningful work predicts high work engagement (Fairlie, 2011; Littman-Ovadia & Steger, 2010; Steger & Dik, 2009). Employees that identify with their work have been found to have higher levels of work engagement. When they align themselves with the values of their job this increases dedication, which is a component of work engagement (Wayne, Randel, & Stevens, 2006; Kahn, 1990). Moreover, work commitment, motivation (Spreitzer, 1997; Kanter, 1983) and job satisfaction (Wrzesniewski, et al., 1997) have all been associated with perceiving ones work to be meaningful.

Furthermore, research on meaningful work has tended to emphasise the role of individual employees in achieving enhancing work environments. Job crafting has been at the forefront of research examining meaningful work; employees that feel more engaged due to identifying with their work will be more efficient at customizing their job resources and demands to create a work environment which is better suiting for themselves (Bakker, 2011; Tims, Bakker, & Derks, 2012; Berg, Wrzesniewski, & Dutton, 2010). Such an individual perspective ignores the role an organisation can play in promoting meaning at work and enhancing work environments.

To date, there has been small body of research which considers how both employees and organisations can foster and promote employee perceptions of meaningful work

(Fouché, Rothmann, & Van der Vyver, 2017). It has been shown that good co-worker relationships are associated with meaningful work (Fouché, Rothmann, & Van der Vyver, 2017). In addition, published findings show that 'job design' which includes aspects such as autonomy, task identity, and task feedback all contribute to meaningful work (Janik & Rothmann, 2015). The implications of the published findings by Janik and Rothmann (2017) suggest that organisations, and specifically managers, should aim to promote independence and autonomy within their staff teams, and to provide them with constructive and meaningful feedback regarding their work. In turn, this may promote the perception of meaningful work.

Findings from this thesis showed that participants discussed the meaning assigned to their work as being a protective factor for buffering the impact of the ongoing change and poor management of change within the LA, implying meaningful work plays a role in sustaining employee resilience. Employees appeared to form a sense of work identity derived from what the LA represents (i.e. public service). The altruistic rewards employees get from helping others or contributing to society seemed to offset the job related stressors that participants discussed. Identifying with the organisation and what it contributes to society seems to act as a buffer that offsets dissatisfaction with the day-to-day reality and challenges of working for the LA. Moreover, the subscale of 'purpose and meaning' identified in the EFA study within this thesis, related to identifying with what the organisation and occupation represents. It was found to be positively associated with employee resilience, and also ranked as the second most salient workplace driver that enabled employees to work effectively. In a work environment characterised by on-going change, perhaps cultivating meaningfulness of work may not be self-evident. However findings from this thesis highlight the important role that meaningful work plays in developing a resilient workforce. Finally, even though meaningful work can stand alone as a protective factor connections to participative communication, valuing employees by allowing them the discretion to work autonomously and the sense of belonging have been cited in the literature as was of cultivating work identity (Janik & Rothmann, 2015; Fouché, Rothmann, & Van der Vyver, 2017). This ties in closely with the findings of this thesis

where team cohesion, value centred culture and participative communication were emergent key workplace drivers of resilience.

9.3.3 New ways of Working (NWoW)- what does it mean for employee resilience?

The central aim of study five was to explore whether the implementation of NWoW creates an enabling work environment that fosters employee resilience. The introduction of New Ways of Working (e.g., hot desking and home working) has become common practice across many organisations (Joyce et al., 2010). New Ways of Working are fast becoming a prominent phenomenon in the workplace for their pragmatic benefits, such as reduced costs for the employer and increased autonomy for the employee (Baarne et al., 2010). However what is less known is the consequences NWoW might have for employee attitudes and well-being (Brummelhuis et al., 2012). Research is rather contradictory when it comes to understanding the positive and/or negative impact that flexible work conditions has on employees (Golden & Veiga, 2005). Some studies have indeed found favourable effects, such as increased autonomy (Gajendran & Harrison, 2007), whilst other studies show negative effects, such as stress and health complaints (Mann & Holdsworth, 2003), and reduced job satisfaction (De Croon et al., 2005). Research documenting the risks associated with flexible working for employee attitudes and well-being.is only now emerging. This thesis sought to contribute to the evidence regarding the impact of introducing NWoW practices, specifically focusing on how NWoW practices impact on employee resilience. Presented below is a discussion of the benefits and risks associated with NWoW.

9.3.3.1 Social Networks

The findings reported in this thesis suggest that co-worker relationships, sense of belonging and informal social networks are diminished in the face of flexible working policies. Findings further implicated social networks at work as being the most salient driver for employee resilience (study 4). To this end, social connections at work have been associated with meaningful work (Fouché, Rothmann, & Van der Vyver, 2017), increased wellbeing (Kirkwood et al., 2008), learning fostering (Bonsall, 2011) and increasing work engagement (Muller & Rothmann, 2009). Thus it is essential that

organisations carefully consider the scope for negative impacts arising from the introduction of NWoW.

Participants in study five claimed that the introduction of NWoW challenged team cohesion and identity. Employees discussed how increased isolation, loss of interpersonal interactions and the loss of a sense of belonging was a risk factor for reducing the sense of purpose and meaning that they associated with their work. This is in line with research that suggests flexible work arrangements have dislocated employees physically and psychologically in the workplace (Baruch, 1998; Handy, 1994). It has been suggested that flexibility at work can create an environment whereby employee could potentially feel like a one-man show working towards individual work goals using the organisation as a vehicle (Amar, 2002; Mythen, 2005). To this end, the way in which employees fundamentally engage with the organisation and with people in the organisation has changed. There is a strong reliance on technology based communication as opposed to face to face interaction (Huff et al. 1989; Kiesler 1997; Wiesenfeld et al., 1998). This means that organisational and team attachments/ membership have become increasingly remote (Rousseau, 2001; Veenstra et al., 2004).

Proponents of NWoW have suggested that flexible work arrangements can increase connections and the quality of relationships between employees (Walther, 1992; Van Dyne, Kossek, & Lobel, 2007). Electronic communication in the form of email or smart phone use means employees availability is quicker and often for longer periods of time thus maintaining connectivity between co-workers (Derks & Bakker, 2010; Lee & Kossek, 2004). To this end, if employees use electronic forms of communications for a sufficient period of time and for the purpose of relational development close connections are guaranteed and the need for belonging can be fulfilled (Walther, 1995; Baumeister & Leary, 1995). However other researchers have argued that flexible work practices have the ability to undermine employee sense of belonging and social identity at work due to the lack of face-to-face communication and physical co-presence (Brown & Millward, 1993; Sennett, 1998; Greenbaum, 1999; Albert et al., 2000; Deaux & Martin, 2003; Postmes et al., 2005). Results from this thesis seem to align with the idea that NWoW has the potential to alienate and

deteriorate sense of belonging at work with employees in study 5 portraying themselves as free floaters that have lost sight of what their team is trying to achieve.

In a complex system, employees are more likely to identify with their group or team rather than the organisation (Van Knippenberg & Van Schie 2000; Van Dick, 2004). Team identification is more tangible personal and proximal (Ashforth & Johnson, 2001; Riketta & Van Dick, 2005). The influential nature of physical proximity of team member from identification is well established (Hogg, 1992) what is now emerging is the need to focus on and utilise psychological proximity as teams are now virtual (Fiol & O'Connor, 2005). Study five highlighted the need for further research to better understand the mechanisms by which organisations cultivate a sense of belonging from afar. In particular, there is a need to look at the power of e-mail and online forms of communications as a means of sustaining identification and work engagement (Tanis & Postmes, 2007). Millward et al (2007) argue that social connections can be maintained despite physical distancing in flexible work environments. This can be accomplished by engaging employees through electronic communication.

Furthermore, flexible work has changed the focus of identification from team to organisational identification as computer based communication can help sustain interactions on the shared cognitive representation of the group (organisational level) rather than on developing interpersonal relationships which is best suited to face to face communication (Reicher et al., 1995). Based on prior findings in this thesis a possible suggestion for creating a shared sense of identity is through participative decision making and open communication where employees clearer understand the rationale for change and can see the organisations vision. If the organisation engages with employees more often and/or more meaningfully (e.g. understanding and participating in organisation-level projects, communication and transparency from organisation-level contact) then organisational identity is more likely to be established (Ferris & Godar, 2004; Postmes et al., 2005).

9.3.3.2 Informal learning

Moreover, besides reducing overhead costs within the LA, another driving force for introducing flexible working (i.e., hot desking) was to construct a work space that

enhanced and fostered collaboration and learning. It was thought that as work units would no longer reside together, employees would increasingly move across departments and in turn share information and knowledge with new teams and colleagues. Increased social interaction and cooperation within departments is a widely cited reason for the adoption of flexible work conditions (Millward et al., 2007; van der Voordt, 2004). Research suggests that if employees are not assigned desks (hot desking) they will have to interact with members of other departments (Millward et al., 2007).

The findings of this thesis did not support this notion. Employees were reluctant to transgress outside of their comfort zone in terms of daily interactions with other departments. Most respondents discussed locating were fellow employees they already had existing social relationships were working if they were coming into the office to hot desk this has implications for joiners who do not have the capacity to link with established contacts / networks. Furthermore, employees raised concerns that the physical changes made to the work place and space within the LA reduced their opportunities for informal learning and collaboration as they no longer physically coexisted in the same workspace as their team members. Research has previously shown that the impact of peer, informal learning in a workplace may actually be more valuable than formal methods of learning (Boud & Middleton, 2003). This is exemplified in the accounts of participants in study 5 that refer to the value of informal 'hallway and kitchen conversations' that facilitate discussions and decisions related to work. The lack of team unity in the same workspace was reported as creating more challenges at work, as informal conversations and work related queries were not conducted and asked in the same way. Instead, a formal meeting or an effortful conversation was required (e.g. via email communication) to obtain any knowledge and/or information about a work-related matter. In particular, employees discussed this being more prominent for newcomers.

Study five emphasised the importance of a work environment that enhances knowledge sharing and informal conversations, in order to enable employee efficiency and to facilitate cross-team exchanges.

9.3.3.3 Health Management

Health concerns that arise from flexible working arrangements have been reviewed in the literature. Stress has been cited as a prominent workplace health issue in flexible work environments (Allvin & Aronsson, 2003). Work related stress emerges from downsizing and restructuring which leaves employees feeling insecure about their jobs alongside work intensification (Dekker & Schaufeli, 1995; Scott, 2004). Specifically, agile work can lead to irregular hours of work and a blurring of home work life boundaries (Heisz & LaRochelle-Cote, 2006; MacEachen, Polzer & Clarke, 2008). Employees in study five echoed these findings discussing long work hours, work intensity, blurring of work-home life boundaries and cumbersome way of working (eg. bad back from carrying laptop and files around) as typical health concerns in a flexible work environment. Such health concerns had the ability to impact employee wellbeing and their ability to thrive in a constantly changing environment.

However, possibly a more important feature of line manager accounts was how such health concerns could be managed in a flexible work environment where employees are managed relatively indirectly and are given high levels of autonomy. In particular, managers emphasised the difficulties they encounter in managing employees and making sure they are well when they no longer see them regularly at work. They framed performance management as easy as they could tell if employees had done the work or not but they found not knowing the conditions under which employees completed the work precarious. MacEachen, Polzer and Clarke, (2008) propose that there is little evidence from research that can answer questions relating to the actual practice and management of flexible work for occupational health.

Such strategies for health management were not explored in study five, however insight from studies 1, 2 and 3 offer implications for how worker health should be managed. Enabling leaders who demonstrate emotional intelligence and model positive work behaviours could be seen as a core element for developing employee resilience in a flexible workplace. Managers that prioritise staff wellbeing over performance and do perceive all time as potential work time (eg. believing employees can find time at home to fit in work and sending emails at irregular times) could help navigate healthier

work life boundaries and reduce exhaustion. In particular, research has suggested that due to increase flexibility at work employees can be seen by managers as always available to work whereby personal time and homes of workers can be exploited (Allvin & Aronsson, 2003; Newell et al., 2002). The organisations bottom line can be prioritised with managers lacking the ability to assess how employees arrange their work as employees are seen as capable to find time to meet deadlines, regardless of where or when. Therefore, this is something that should be deterred. Furthermore, if employees feel like their managers care about their wellbeing it is more likely they will voice any health concerns they may be experiencing. Finally, managers need to sustain team identification so that employees do not feel they are 'out of sight out of mind'. Martin (1994) suggests that in flexible work conditions workers feel like they need to continually prove themselves and ensure they display the value they add to the organisation to be seen as employable. This could increase the likelihood of employee being constantly online to be seen as hard working and prove themselves valuable to the LA.

9.3.3.4 Autonomy

The introduction of NWoW resulted in a breakdown of traditional structures of work; employees could work from where they want, when they want, and they no longer had a physical location to reside as a team. Consistent with findings from the literature review, employees who participated in study five, expressed their contentment with the increased levels of autonomy that were associated with NWoW (Hill et al., 1998; van der Voordt, 2004; Gajendran & Harrison, 2007). The concept of autonomy seemed to permeate the need for employees in choosing a workplace (time and location wise) that fits best with personal needs.

Moreover, another potential explanation as to why flexible work has a positive impact on employees is because employees perceive that management trust them to work independently and to effectively engage in their jobs. Most employees reported enjoying working under flexible work conditions as they felt they were trusted to do their jobs without anyone hovering over them and micro-managing their output. Manager that allow employees discretion over how to do their work have been found

to cultivate innovative and committed responses from employees and opposed to managers that monitor and control work tasks (Newell et al., 2002; Allvin & Aronsson, 2003; Malone, 2004). An indirect management approach will create a culture of trust and make employee feel like they are the specialist in their line of work (Damarin, 2006; Wood & de Menezes, 2011; Boxall & Macky, 2014). Therefore as much as autonomy allows employees to accommodate their diverse needs it also indirectly creates a valuing culture if the process is managed appropriately; as suggested by findings from this thesis will contribute to employee resilience.

However, it is essential amongst the optimistic discourse of flexible work practices to recognise the limitations of autonomy as it is accompanied by blurring of boundaries of home and work life. Moreover, it is possible that NWoW are more suited to specific types of jobs and individuals (e.g. have children, NWoW decreases commute time) (Baruch & Nicholson, 1997; Olson-Buchanan & Boswell, 2006). Therefore perceived benefits of autonomy need to be considered in light of if NWoW is a preferred choice or forced option.

9.3.3.5 Work life balance

Although flexibility was cast above as creating desirable conditions of autonomy, and work-life balance for workers, a closer examination of flexibility in practice suggests the issue at hand is more complex. While this loosening of boundaries between home and work was cast as a positive element of flexibility it also means that those lines can be easily blurred. Employees are always at and available to work when at home; flexibility becomes a double edged sword. For example, just as easily as employees can stop work to go for dinner they can continue working late hours after dinner.

This is in line with research that suggests that ultimately employees are in control over when are where to work but flexibility means any place and anytime is potentially a work place (Echtelt, Glebbeek, & Lindenberg, 2006). This can make work "intense" and "inescapable" (MacEachen, Polzer & Clarke, 2008). In order to not allow work time and space to become blurry when home and work blend into one strict schedules and limits need to be set by employees (Shih, 2004). Moreover, flexible work practices increase online communication (Katz & Aarhus, 2002). Employees get into a routine

of constantly being online and checking emails even if this intrudes into their home life (Katz & Aarhus, 2002; Mazmanian, Orlikowski, & Yates, 2013). Blurred boundaries between home and work are important to acknowledge as they have been found to contribute to adverse health effects (eg.stress and exhaustion) associated with irregular hours and being continuously connected to work (Glass & Finley, 2002; Heisz & LaRochelle-Cote, 2006; Scoffield, 2006; Mazmanian, Orlikowski, & Yates, 2013).

9.3.4 Summary

Resilience in the context of work needs to reflect behavioural constructs/behaviours that contribute to coping with stress, challenges and changes at work (Tonkin et al., 2018). Organisations need to adopt an integrative approach for fostering workplace behaviours that will promote positive coping at work (Naswall et al., 2015; Kuntz et al., 2016). This thesis presents ideas/advice for organisational management to actively stimulate employee resilience. It is crucial for organisations to create an environment where employees feel valued and supported. Open participative communication will play a pivotal role in promoting a sense of work identity and sense of being valued which will in turn promote engagement and positive adaptation. Furthermore, workplace leaders needed to be proactive in promoting workplace well-being by modelling positive work behaviours and adopting a humanistic approach to management. Finally, fostering team bonds will promote resilient behaviours at work such a collaboration, seeking out support and proactive behaviour in times of change (Porath et al., 2015; Kuntz et al., 2016).

However, new trends are happening at work with a rapid growth in flexible work arrangements. This has the potential to threaten the promotion of enabling work environments due to the novelty of work conditions employees need to operate in. If a culture at work that is operationalised as one which values employees, promotes meaningful work, and is transparent, supportive, and collaborative, can foster employee resilience, organisations need to consider how this can be maintained under NWoW. One suggestion is the need for a shift in focus of identification from team level to organisational level. Through the use of electronic communication organisations need to engage with employees in an open and meaningfully way to

create a shared vision and purpose for the organization as well as getting them on board and including employees with organisation wide changes so that they can remain connected and engaged with work.

9.4 Strengths and limitations

Using mixed methodology this thesis provided a breadth of insight into work related influences on employee resilience within the case study organisation. However, these findings need to be interpreted in light of their limitations and strengths. Evaluation of the five studies will be considered here collectively. A discussion of claimed strengths and limitations of the focus studies conducted is provided within the respective chapters.

9.4.1 Exploring the scope for a developing an employee resilience climate tool

The employee survey question set was developed from employee accounts in study 1, informed formed by relevant published findings. The adoption of an organic, principally data driven approach to generation of the question set, rather than a top-down theoretical approach is considered a strength. Moreover, to date there have been few attempts to develop workplace climate measures of employee resilience (Hartmann et al., 2019). A further contrast with the dominant individual-trait based perspective was the focus on precursors to challenges to resilience. In this respect, the approach reflected alignment with the established risk management / prevention perspective that has been applied to work-related stress (HSE, 2013) and the safety climate assessment tradition (RSSB, 2003; Lunt et al., 2007). Furthermore, items within the tool draw on conceptualisations of resilience as a capacity that can be developed through the work environment as opposed to the majority of existing measures that operationalise resilience as a trait like characteristic.

Items developed for the survey (study two) were based on the findings from study one themes. This would suggest that the items themselves have context validity and had the potential to be meaningful to employees in the case study LA. The questions explored elements of the themes identified in study one that were rooted in the accounts provided by employees, and of central relevance to them. Moreover, study two provided the opportunity for triangulation/ validation of findings from Study one.

Furthermore, the provision of a new climate tool of work related influences on resilience can provide some indication as to the organisation's readiness for creating and sustaining an enabling work environment. The tool was developed using a pilot sample (study two; N=146) and validated (study three; N=911) on different samples within the LA consistent with recommendations (Henson & Roberts, 2006). However, the researcher must acknowledge that since the surveys were completed anonymously online it could not be known if these samples were entirely independent of each other, i.e. completely different employees completing both surveys. There is a possibility that employees could have contributed to more than one study. Using the same sample runs the risk of overfitting or capitalising on chance variation due to the idiosyncrasies of the sample data (Bandalos & Finney, 2010). However, some studies still conduct EFA and CFA on the same sample (Bandalos & Finney, 2010).

Finally, convergent validity of the tool was established in relation to an employee resilience at work scale that was explicitly designed to measure resilient behaviour in workplace settings (Naswall et al., 2015; refer to appendix S for items) as opposed to typical measure of employee resilience that are not validated in the workplace and focus on personal resilience as a character trait. An example item is 'I bear a heavy workload without getting discouraged'

9.4.2 Self- report data and response bias

A limitation across the quantitative studies (studies 2, 3 and 4) of this thesis was the use of self-report data. The self-report nature of the survey used in study two and three meant that respondent ratings may have been susceptible to social desirability and possibly other forms of self-serving response bias. As self-report measures were the only data source there was no way of examining if employee ratings were accurate. However, subjective employee perceptions of their work environment will still guide employee reactions even if their perceptions do not reflect reality (Wainwright et al., 2018; Weyman et al., 2012). Moreover, any bias could also be considered common across sub-populations. While there can be doubt over absolute values the relative values can be considered robust, and reliable (Weyman et al., 2012). Although there is scope for intervening variables to be relevant, e.g. if there is an industrial dispute, it is

likely that respondents may use surveys to vent their wider dissatisfactions. Furthermore, in study three an additional element of individual level resilience was measured through the EmpRes scale. It is possible that survey respondents tended to over-report desirable behaviours to portray themselves in a positive light (Donaldson & Grant-Vallone, 2002). Participants may have been inclined to subconsciously or deliberately rate their employee resilience higher to make themselves appear seem more capable of dealing with stress and adversity given the constant downsizing of services. Ultimately the researcher cannot definitively determine whether this issue arose as attribution effects are common to all climate measures (DeJoy, 1994). Nevertheless, to reduce the likelihood of response bias, future research may benefit from using ratings from multiple sources, such as managers and team members to examine to degree of agreement between ratings.

Finally, as this research was centered upon the Local Authority in question, it was important to use interview data (studies 1 and 5) in order to get a detailed understanding of procedures, policies and practices in the workplace. However, it must be mentioned that interview data is not objective and employee's overall and entrenched dissatisfaction with the service could lead to responses being biased. Therefore, an external observer would be beneficial in future research to validate the employee's account of the working environment.

9.4.3 Generalisability and sample size

The thesis was based on a single Local authority; while this offered detailed insight into the perturbation employees within this LA were experiencing, it does limit the generalisability of the thesis findings more broadly. It is possible that these findings may not extend to non-public sector organisations and other local authorities or public organisations. Across all five studies, participants within the selected samples were recruited from one Local Authority in the UK. Whilst generalisability of findings was not the intent of the thesis, extending implications beyond the group of participants from the LA used is however restricted. However, with regards to homogeneity within the LA itself, the diversity achieved with the inclusion of a range of occupations and

directorates in each quantitative study's final sample can be argued to provide variability in the measured items.

Specific to the qualitative studies, views from only a relatively small proportion of the overall organisation were expressed; study one (N=20) and study five (N=16). The inclusion of a diverse workforce with various job roles offered some degree of variability in topics discussed. However, the use a small number of participants from the whole organisation could have led to a limited discussion. Furthermore, research operating within a climate of change was restrictive with regards to employee willingness and their ability to actually find time to sit down and discuss the change. There is the possibility that employees that did take the time to talk to the researcher reflect a unique group of employees who wanted to vent and discuss the challenges they were experiencing. It is possible that employees who felt they were adjusting and adapting to organisational changes did not want to use this opportunity to share their views.

Furthermore, study four sample size was limited (N=214). Although the sample exceeded the minimum criterion of 10 cases to conduct the paired comparison analysis (Hunns & Daniels, 1982) confidence in the generalisability of the results presented would be enhanced if corroborated by findings from a larger sample of stakeholders within the LA. In particular, when within group differences were examined a larger sample size would mean that sub sample sizes would not diminish too much and multivariate analysis may have been possible.

The research presented here could be extended to include a larger and more diverse sample, i.e. from other LA's. This would be useful for increasing the generalisability of the issues and to test for replicability of findings presented here which may increase the breadth of discussion topics.

9.4.4 Cross sectional data

The cross-sectional nature of this thesis limited the extent to which conclusions regarding causality could be established. Results identified a number of work-related factors that influence employee resilience. However, as employee resilience was only measured at a single point in time we cannot determine whether enhancing these

factors will lead to increased employee resilience. Specifically, in study 3 directionality of the relationship between work-related factors and employee resilience is unknown; do employees with inherent resilience have more positive perceptions of work environments, or do positive perceptions of work environments enable employee resilience.

9. 5 Practical use of tool

This thesis explored the scope to develop an employee resilience climate with results indicting promising psychometric properties. The tool is intended to be utilised by organisations in a similar fashion to contemporary workplace health and safety assessment climate tools (e.g., HSE stress management standards). Climate tools of this type are focused on prevention, identifying lead indicators that can be used to profile organisational performance. Organisations can make use of these indicators to identify potential weaknesses and to inform preventative interventions that can deal with issues before they become critical. In this sense, the tool can be seen as an evidence-based approach which can promote organisational learning and future-proofing within a service. This tool aims to achieve the following goals:

- Provide a *benchmark* to monitor change and workforce adaptation over time
- *Profile* the relative importance of core impacts on employee resilience and characterise differential impacts on different groups of council employees (service type; job grades; age, etc.)
- Provide *feedback* on the impact of management policies, practices and initiatives on employee orientations (e.g. management of change; communication)
- Promote *organisational learning* by informing senior level strategic decision-making regarding future resource allocation, with the goal of reinforcing areas of strength and weakness.

9.6 Future research

9.6.1 Validation and further development of employee resilience climate tool

Further research is required to continue the validation process of the scale developed for this thesis. The set of sub scales that emerged from this thesis need to be subjected to a full development process; specifically, the reliability of the tool need to be assessed (Costello & Osbourne, 2005). To examine the stability of the scale it is recommended that future research examines the scale within other Local Authorities or public sector organisations. This will provide evidence as to whether the scale can be generalised to other public organisations experiencing change or if it is merely context-specific. In addition, testing the scale with organisations from different sectors and contexts would also identify if further elements of the work environment need to be included to provide a fuller understanding of how to facilitate resilience within the workforce.

For organisations to invest in employee resilience they must be able to make a business case for investing in resilience. Therefore organisations need to be convinced of the benefits of a resilient workforce. It would be beneficial to include work-related outcomes or performance indicators to the workplace resilience climate tool developed in this thesis, to investigate the relationships between workplace factors, employee resilience and work-related outcomes. An understanding of the interplay between these variables would provide insight into the functioning of resilience within the work context.

9.6.2 Longitudinal research

In chapter 2 of this study it was suggested that resilience research would benefit from looking at resilience as a capacity that can be demonstrated and developed in both adverse and non-crisis contexts. Due to the amount of upheaval the LA was experiencing throughout the course of this project, it was not possible to investigate if the workplace indicator of employee resilience would still predict employee resilience in a stable work environment or if other aspects of work would be more prominent/salient in times of stability. Future research should examine what aspects of the workplace contribute to the development of inherent resilience in non-crisis

environments, which would ensure preparedness for future adversity (adaptive resilience). Furthermore, a longitudinal design is recommended in order to examine the relationship and directionality between the work-related subscales within the developed tool, and employee resilience.

9.6.3 Time and location flexibility

Given the rise in flexible work practices in contemporary organisations, there is a need to examine the differential effects of types of flexible work practices on employee resilience. Evidence from the study five in this thesis gave rise to the discrepancy between time flexibility (complete work at any time) and location flexibility (where to complete the work). Time flexibility was discussed in a positive light in relation to increased autonomy at work. However, location flexibility was described as: being damaging to sense of belonging and identity at work; leading to employees feeling isolated; reducing peer collaboration; and creating blurring of boundaries, with work spilling over into home life. It would be worth investigating these differential impacts further, to understand what employers need to do to facilitate the transition to location flexibility, and to uncover ways that organisations can maintain cohesiveness even when employees are not physically present at work.

10.0 Conclusions

This thesis adopted a pragmatic approach with the researcher engaging with the LA under investigation to understand the organisational changes and then how employees perceive these changes apply in their work settings. By developing a contextually grounded understanding of how managers and employees are influenced by a workplace's unique context we can better design work environments that are conducive. This thesis determined that the following workplace factors promote employee resilience, such that employees feel more able and willing to adapt to organisational change: supportive management, work-life balance, team cohesion, quality of communication and meaningful work. Furthermore, this thesis identified that an overarching cultural shift is needed within organisations, such that organisations need to emphasise and demonstrate the degree to which they respect, value and support their staff. This is a key facet for promoting employee resilience, and is also a primary

driver for workplace efficiency. Lastly, this thesis presents a work place resilience climate tool, a standardised, validated measure which can be used to measure the identified facets of employee resilience. This tool has scope for monitoring change within a service, promoting organisational learning, informing service-level decision-making, and providing feedback to service managers about workforce response to structural and policy changes. Future research can usefully extend the use of this standardised tool in other services and organisations. This thesis has implications for public sector services undergoing organisational change. Organisations can strive to promote the systemic factors identified in this thesis, with the aim of facilitating a healthier workforce which is able to adapt and adjust to ongoing change.

10.1 Summary of key findings

- Findings from Study's 1 facilitated the identification and articulation of work related experiences that employees deemed relevant to enhancing or eroding employee resilience. Often employees referred to the absence of highly valued work related components rather than being enhanced by the presence of them. However, it is possible that what is missing/lacking is simply more cognitively available than what it is present.

- Six constructs are considered to characterise core elements of employee perspectives on variables contributing to employee resilience: *Purpose and meaning, Management support, Team cohesion, Quality of communication, Work life balance and Organisational valuing staff*. These components accounted for (60.72%) of the total variance.

- Findings from study 3 suggest promising psychometric properties for the six constructs. Moreover, Purpose and meaning, Management support, Team cohesion, Quality of communication, and Organisational valuing staff were all positively associated with employee resilient work behaviours (EmpRes scale).

- Findings from Study 4 indicate that while there is consensus over headline variables,
  such as Team cohesion, meaningful work and supportive management there are also differences between different groups of employees with regard to the relative salience of core workplace drivers.

- Team cohesion and Meaningful work were consistently ranked the most salient components across all demographic groupings in the Paired Comparison study. This

  would indicate that these aspects are likely core elements worth the LA's consideration.

- Findings from study 5 suggest that the breakdown of social and professional network, blurring of work life boundaries, and loss of health management can be seen as eroding factors for employee resilience. However, Increased levels of autonomy over when and where to work can be seen as an enabling factor for employee resilience.

- The development of an employee resilience climate tool has the potential to profile employee perspectives, benchmark organisational performance and thereby contribute to organisational learning to strategic decision making over intervention to address employee resilience.

- Overall the concept of employee resilience suggests the work related factors identified function in differing ways. For example enabling leaders and participative communication can be viewed as creating a positive environment that fosters resilience whereas team cohesion and meaningful work are needed to sustain employee resilience, i.e. they are a resource employee can draw upon. However, when such factors are missing or lacking this can create a negative environment which will be more challenging and adversely influence employee resilience.

References

Ablett, J. R. & Jones, R. S. P. (2007). Resilience and well-being in palliative care staff: A qualitative study of hospice nurses' experience of work. *Psycho-Oncology* 16, 733-740.

Adkins, C., & Werbel, J., & Farh, J. (2007). A Field Study of Job Insecurity During a Financial Crisis. *Group and Organization Management.* 26. 10.1177/1059601101264004.

Aked, J., Marks, N., Cordon, C., & Thompson, S. (2008) Five Ways to Wellbeing: The Evidence. A report presented to the Foresight Project on communicating the evidence base for improving people's well-being. London: Centre for Wellbeing, New Economics Foundation (NEF) www.neweconomics.org/publications/fi ve-ways-well-being-evidence (accessed 3 June 2011)

Åkerstedt, T., Kecklund, G., Gillberg, M., Lowden, A., & Axelsson, J. (2000). Sleepiness and days of Recovery. *Transportation Research Part F,* 3, 251-261.

Alan M. Saks, (2006) "Antecedents and consequences of employee engagement", *Journal of Managerial Psychology*, 21(7), 600-619, https://doi.org/10.1108/02683940610690169

Albert, S., Ashforth, B. E., & Dutton, J. E. (2000). Organizational identity and identification. *Acad. Management Rev,* 25, 13–17

Aldana, S. G., Anderson, D. R., Adams, T. B., Whitmer, R. W., Merrill, R. M., George, V., & Noyce, J. (2012). A review of the knowledge base on healthy worksite culture. *Journal of Occupational and Environmental Medicine*, 54, 414–419.

Allen, T. D., Johnson, R. C., Kiburz, K. M., & Shockley, K. M. (2013). Work–family conflict and flexible work arrangements: Deconstructing flexibility. *Personnel Psychology*, 66(2), 345-376.

Allison, P. D. (2003), 'Missing data techniques for structural equation modeling.', *Journal of abnormal psychology*, 112(4)

Allvin, M. (2008). "New rules of work: exploring the boundaryless job," in The Individual in the Changing Working Life, eds K. Nässwall, J. Hellgren, and M. Sverke (Cambridge: Cambridge University Press), 19–45. doi: 10.1017/ CBO9780511490064.002

Allvin, M., & Aronsson, G. (2003). THE FUTURE OF WORK ENVIRONMENT REFORMS: DOES THE CONCEPT OF WORK ENVIRONMENT APPLY WITHIN THE NEW ECONOMY? *International Journal of Health Services,* 33(1), 99-111.

Allvin, M., Aronsson, G., Hagström, T., Johansson, G., & Lundberg, U. (2011). Work without boundaries: psychological perspectives on the new working life. Oxford: Wiley-Blackwell.

Allvin, M., Mellner, C., Movitz, F., and Aronsson, G. (2013). The diffusion of flexibility: estimating the incidence of low-regulated working conditions. Nord. J. *Work. Life Stud.* 3, 99–116. doi: 10.19154/njwls.v3i3. 3013

Alwin, D. F., & Krosnick, J. A. (1991). The reliability of survey attitude measurement. The influence of question and respondent attributes. *Sociological Methods & Research*, 20, 139–181.

Amar, A. D. (2002). Managing knowledge workers: Unleashing innovation and productivity. London: Quorum Books

Anderson, N. B., & Anderson, P. E. (2003). Emotional longevity: What really determines how long you live. New York: Viking

Andersson, P. (2008). Happiness and health: Well-being among the self-employed. *The Journal of Socio-Economics, 37,* 213–236.

Andrew, S., Arlikatti, S., Siebeneck, L., Pongponrat, K., & Jaikampan, K. (2016). Sources of organisational resiliency during the Thailand floods of 2011: A test of the bonding and bridging hypotheses. *Disasters, 40*(1), 65-84.

Anjani, R. (2017). Impact of Change Management on Professional Staff Training and Development in New Zealand Educational Institutions: A Case Study. An unpublished dissertation submitted in partial fulfilment of the requirements for the degree of Master of Business, Unitec Institute of Technology, New Zealand.

Anthony, E. J. (1974). The syndrome of the psychologically vulnerable child. In E. J. Anthony & C. Koupernik (Eds.), The child in his family: *Children at psychiatric risk*, 3-10, New York: Wiley.

Antonovsky, A. (1996). The salutogenic model as a theory to guide health promotion. *Health Promotion International 11*(1), 11-18

Antunes, A., & Franco, M. (2016). How people in organizations make sense of responsible leadership practices. *Leadership & Organization Development Journal*, 37, 126–152. http://dx.doi.org/10.1108/LODJ-04-2014- 0084

APA. (2015) Work and wellbeing survey. Retrieved from http://www.apaexcellence.org/assets/general/2015-work-and-wellbeing-survey-results.pdf?_gl=1*rs04cl*_ga*MTQ0MTkzNzkzNC4xNTQwMjM2NzI2*_gid*NzUyODg3MzU1LjE1NTA2MTI5OTQ.

Appelbaum, S., (1997) "Socio-technical systems theory: an intervention strategy for organizational development", *Management Decision*, 35(6), .452-463.

Armenakis, A., & Bedeian, A. (1999). Organizational Change: A Review of Theory and Research in the 1990s. *Journal of Management*, 25(3), 293-315.

Arnold, J. A., Sharon, A., Rhoades, J. A., & Drasgow, F. (2000). The Empowering Leadership Questionnaire: The construction and validation of a new scale for measuring leader behaviors. *Journal of Organizational Behavior*, 21(3), 249-269.

Ashforth, B. E., & Johnson, S.A.(2001). Which hat to wear? The relative salience of multiple identities in organizational contexts. *Social Identity Processes in Organizational Contexts*, 31–48

Ashmos, D. P., & Huber, G. P. (1987). The systems paradigm in organization theory: Correcting the record and suggesting the future. *Academy of Management Review*, 12(4), 607−621.

Athota, V.,& Malik, A. (2018). *Managing Employee Well-being and Resilience for Innovation*. Cham: Palgrave Macmillan.

Atman, C.J., Bostrom, A., Fischhoff, B., & Morgan, M.G. (1994). Designing Risk Communications: Completing and Correcting Mental Models, Part I. *Risk Analysis,* 14,779-788.

Baarne, R., Houtkamp, P., & Knotter, M. (2010). Unravelling new ways of working. Assen, The Netherlands: Koninklijke Van Gorcum/Stichting Management Studies

Baird, J., R. Plummer, C. Haug, & D. Huitema. (2013). Learning effects of interactive decision-making processes for climate change adaptation. *Global Environmental Change* 27:51–63.

Baird, R., Heugten, K., Walker, B., & Nilakant, V. (2013). Adaptive Resilience – How Organisations Responded in Christchurch. Paper presented at the Creating Resilience for a Hazardous World - Symposium, University of Canterbury, Christchurch, New Zealand.

Baker, D.M., Greasley, K., Dale, J., & Griffith, F. (2010). Absence management and presenteeism: The pressures on employees to attend work and the impact of attendance on performance. *Human Resource Management Journal*, *20*(3), 311-328.

Baker-McClearn, D., Greasley, K., Dale, J., & Griffith, F. (2010). Absence management and presenteeism: The pressures on employees to attend work and the impact of attendance on performance. *Human Resource Management Journal, 20*(3), 311–328.

Bakker, A. B. (2010). An evidence-based model of work engagement. *Current Directions in Psychological Science*, 20, 265–269. doi: 10.1177/0963721411414534

Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of managerial psychology*, 22(3), 309-328.

Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress*, 22(3), 187-200.

Bakker, A.B, Demerouti, E, & Verbeke, W. (2004). Using the Job Demands-Resources model to predict burnout and performance. *Human Resource Management*, 43 (1), 83–104

Bakker, A.B., & Schaufeli, W.B. (2008). Positive organizational behaviour: Engaged employees in flourishing organizations. *Journal of Organizational Behaviour*, 29, 147-154.

Bal, P.M., & De Lange, A.H. (2014) 'From flexibility human resource management to employee engagement and perceived job performance across the lifespan: A multi-sample study' *Journal of Occupational and Organisational Psychology*, 88(1)

Balazova, I., Clausen, G., Rindel, J.H., Poulsen, T., Wyon, D. (2008). Open-plan office environments: A laboratory experiment to examine the effect of office noise and temperature on human perception, comfort and office work performance. *Indoor Air.*

Ballard, D. (2014). Beyond wellness: Broadening the discussion of well-being and performance. In R. Burke & A. Richardsen (Eds.), *Corporate wellness programs: Linking employee and organizational health* (pp.59–76).

Northhampton, MA: Edward Elgar.
http://dx.doi.org/10.4337/9781783471706.00011

Baltes, B. B., Briggs. T. E., Huff. J. W., & Wright. J. A. (1999). Flexible and Compressed Workweek Schedules: A Meta-Analysis of Their Effects on Work-Related Criteria. Journal of Applied Psychology, 84(4), 496-513.

Bambra, C., Whitehead, M., Sowden, A., Akers, J., & Petticrew, M. (2008). "A hard day's night?" The effects of Compressed Working Week interventions on the health and work-life balance of shift workers: a systematic review. *Journal of Epidemiology and Commmunity Health,* 62(9), 764-777.

Bandalos, D. L., & Finney, S. J. (2010). Exploratory and confirmatory. The Reviewer's Guide to Quantitative Methods in the Social Sciences. New York, 93-114.

Bandura, A. & Adams, N.E. (1977). Analysis of self-efficacy theory of behavioral change. Cognitve Therapy and Research, 1(4), 287.
https://doi.org/10.1007/BF01663995

Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), Encyclopedia of human behaviour. New York: Academic Press, 4,71-81

Bano, B., & Kumar, R. (2012). Organizational role stress among public and private sector employees: A comparative study. The Lahore Journal of Business, 1, 23–36. Retrieved from https://bit.ly/2L99FjE.

Barak, M. E. M., Nissly, J. A., & Levin, A. (2001). Antecedents to retention and turnover among child welfare, social work, and other human service employees: What can we learn from past research? A review and metanalysis. *Social service review*, 75(4), 625-661.

Barasa, E., Mbau, R., & Gilson, L. (2018). What Is Resilience and How Can It Be Nurtured? A Systematic Review of Empirical Literature on Organizational Resilience. *International Journal of Health Policy and Management, 7*(6), 491-503.

Bardasi, E., & Francesconi, M. (2004). The impact of atypical employment on individual wellbeing: evidence from a panel of British workers. *Social Science & Medicine,* 58, 1671–1688.

Bardoel, E.A., Pettit, T., De Cieri, H. & McMillan, L. (2014), "Employee resilience: an emerging challenge for HRM", *Asia Pacific Journal of Human Resources*, 52, 3, 279-297.

Barnett, R. C., & Baruch, G. K. (1987). Social roles, gender, and psychological distress. In R. C. Barnett, L. Biener, & G. K. Baruch (Eds.), *Gender and stress* (pp. 122–143). New York: Free Press.

Barron, J. M., & Paulson Gjerde, K. (1997). Peer Pressure in an Agency Relationship. *Journal of Labour Economics,* 15(2), 234-254.

Barton, M. A., & Kahn, W. A. (2018). Group Resilience: The Place and Meaning of Relational Pauses. *Organization Studies*, *40*(9), 1409–1429.

Baruch, Y. (2000). Teleworking: benefits and pitfalls as perceived by professionals and managers. New Technology, *Work and Employment*, 15(1), 34-49.

Baruch, Y. 1998. The rise and fall of organizational commitment. *Human Systems Management,* 17(2) 135–143.

Baruch, Y., & Nicholson, N. (1997). Home, sweet work: Requirements for effective home working. *Journal of General Management*, 23, 15–30

Bass, B. (1990). Handbook of leadership (3rd ed.). New York, NY: Free Press.

Bauer, G. F., & Jenny, G. J. (2013). Moving towards positive organizational health: Challenges and a proposal for a research model of organizational health. In J. Houdmont, S. Leka, & R. R. Sinclair (Eds.), *Contemporary occupational health psychology: Global perspectives on research and practice* (126–145). Chichester: Wiley.

Bauer, G.F. & Jenny, G.J. (2007), "Development, implementation and dissemination of occupational health management (OHM): putting salutogenesis into practice", in McIntyre, S. and Houdmondt, J. (Eds), Occupational Health Psychology. European Perspectives on Research, Education and Practice, ISMAI, Castelo da Maia, 219-50.

Bauer, G.F. & Jenny, G.J. (2012), "Moving towards positive organisational health: challenges and a proposal for a research model of organisational health development", in Leka, S., Houdmondt, J. and Sinclair, R. (Eds), Occupational Health Psychology: European Perspectives on Research, Education and Practice, Wiley-Blackwell, Oxford, 126-45.

Baumeister, R.F., & Leary, M.R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. Psychological Bulletin, 117, 497-529.

Beaglehole, R., Bonita, R., Horton, R., Adams, O., & Mckee,M. (2004). Public health in the new era: Improving health through collective action. *The Lancet,* 363(9426), 2084-2086

Bear, J.B., & Woolley, A.W. (2011). The role of gender in team collaboration and performance. *Interdisciplinary Science Reviews: Gender in Science, 36*(2), 146-153.

Belkic K, P.A., Landsbergis, P.A., Schnall, P.L. & Baker., D .(2004) Is job strain a major source of cardiovascular disease risk? *Scandinavian Journal of Work and Environmental Health* 30(2), 85–128

Benavides, F.G., Benach, J., & Muntaner, C.(2006). Associations between temporary employment and occupational injury: what are the mechanisms? *Occupational and Environmental Medicine,* 63, 416–21.

Benavides, F.G., Benach, J., Diez-Roux, A.V., & Roman, C. (2000). How do types of employment relate to health indicators? Findings from the Second European

Survey on working conditions. *Journal Epidemiology and Community Health,* 54, 494–501.

Benight, C. C., & Bandura, A. (2004). Social cognitive theory of posttraumatic recovery: The role of perceived self-efficacy. Behaviour research and therapy, 42(10), 1129-1148.

Bentler, P. M. (2007), 'On tests and indices for evaluating structural models', *Personality and Individual differences* 42(5), 825–829.

Bentler, P. M., & Chou, C. P. (1987). Practical issues in structural modeling. *Sociological Methods & Research*, 16(1), 78-117.

Bentler, P. M., & Kano, Y. (1990). On the equivalence of factors and components. *Multivariate Behavioral Research*, 25, 67-74.

Benz, M., & Frey, B.S. (2003). Being Independent is a Great Thing: Subjective Evaluations of Self-employment and Hierarchy. Zurich: Institute for Empirical research in Economics.

Benz, M., & Frey, B.S. (2004). Being independent raises happiness at work. *Swedish Economic Policy Review*, 12, 97–138.

Berg, J. M., Wrzesniewski, A., & Dutton, J. E. (2010). Perceiving and responding to challenges in job crafting at different ranks: When proactivity requires adaptivity. *Journal of Organizational Behavior, 31*(2-3), 158-186.https://doi.org/10.1002/job.645.

Berg, S. S., Grimstad, A., Skerlavaj, M., & Cerne, M. (2017). Social and economic leader-member exchange and employee creative behavior: The role of employee willingness to take risk s and emotional carrying capacity. *European Management Journal*, 35(5), 676–687.

Bergman, E., Arestedt, K., Fridlund, B., Karlsson, J. E., & Malm, D. (2012). The impact of comprehensibility and sense of coherence in the recovery of patients with

myocardial infarction: A long-term follow-up study. *European Journal of Cardiovascular Nursing, 11*(3), 276–283.

Bernard, B. (1999). Applications of resilience: Possibilities and promise. In M. D. Glantz & J. L. Johnson (Eds.), Resilience and development: Positive life adaptations. (pp. 259-268). New York: Kluver Academic/Plenum.

Bernard, B.P. (1997). Musculoskeletal Disorders and Workplace Factors: A Critical Review of Epidemiologic Evidence for Work-Related Musculoskeletal Disorders of the Neck, Upper Extremity, and Low Back. U.S. Department of Health and Human Services, Cincinnati.

Bernerth, J. (2004). Expanding our understanding of the change message. *Human Resource Development Review*, 3(1), 36-52.

Birdi, K. (2005) "No idea? Evaluating the effectiveness of creativity training", *Journal of European Industrial Training*, 29 Issue: 2, pp.102-111, https://doi.org/10.1108/03090590510585073

Black, C., Dame. (2008). Working for a Healthier Tomorrow. London: TSO. Retrieved from Gov.uk website:https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/209782/hwwb-working-for-a-healthier-tomorrow.pdf

Blackford, K. (2016). Quality of Working Life : An Exploration of Contributing Factors and Their Relative Salience to Employees.

Blanchflower, D.G. (2004). *Self-employment: more may not be better*. Cambridge: National bureau of economic research.

Blaxter, Mildred. (1983). The causes of disease: Women talking. Social science & medicine (1982). 17. 59-69. 10.1016/0277-9536(83)90356-8.

Bliese, P. D., & Castro, C. A. (2000). Role clarity, work overload and organizational support: Multilevel evidence of the importance of support. *Work & Stress, 14*(1), 65-73.http://dx.doi.org/10.1080/026783700417230

Block, J., & Kremen, A. M. (1996). IQ and ego-resiliency: conceptual and empirical connections and separateness. *Journal of personality and social psychology*, 70(2), 349-361.

Bloom, N., Liang, J., Roberts, J., & Ying, Z. J. (2013). Does working from home work? Evidence from a chinese experiment. National Bureau of Economic Research, no. w18871. http://www.nber.org/papers/w18871

Bock, R. D., & Jones, J. V. (1968). The measurement and prediction of judgment and choice. San Francisco, CA: Holden-Day.

Boin, Arjen and Lagadec, Patrick, Preparing for the Future: Critical Challenges in Crisis Management (2000). *Journal of Contingencies and Crisis Management*, 8(4), December 2000. Available at SSRN: https://ssrn.com/abstract=2196866

Bollen, K. (1983), 'Structural equations with latent variables', New York, NY: Wiley 10, 9781118619179.

Bollen, K. A. (1989). A new incremental fit index for general structural equation models. *Sociological Methods and Research*, 17, 303–316. doi:10.1177/0049124189017003004Breivik, E., & Olsson, U. H. (2001).

Bollen, K. A. and Long, J. S. (1992), 'Tests for structural equation models: introduction', *Sociological Methods & Research* 21(2), 123–131.

Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American psychologist*, 59(1), 20-28.

Bonanno, G. A., & Mancini, A. D. (2008). The human capacity to thrive in the face of potential trauma. *Pediatrics*, 121(2), 369-375.

Bonanno, G.A., Brewin, C.R., La Greca, A.M., & Kaniasty, K. (2010). Weighing the costs of disaster: Consequences, risks, and resilience in individuals, families, and communities. *Psychological Science in the Public Interest,* 11(1), 1-49.

Bondy, K., Matten, D., & Moon, J. (2008). Multinational corporation codes of conduct: Governance tools for corporate social responsibility? Corporate Governance: *An International Review*, 16(4), 294–311.

Bonsall, L. (2011). What is shared governance? Retrieved from http://www.
nursingcenter.com/Blog/post/2011/08/11 /What-is-shared-governance.aspx

Bordia, P., Hobman, E., Jones, E., Gallois, C., & Callan, V. J. (2004). Uncertainty
during organizational change: Types, consequences, and management strategies.
Journal of Business and Psychology, 18, 507–532.
http://dx.doi.org/10.1023/B:JOBU.0000028449.99127.f7

Boud, D., & Middleton, H. (2003). Learning from others at work: communities of
practice and informal learning. *Journal of workplace learning*, 15(5), 194-202.

Bowen, G. A. (2008). Naturalistic inquiry and the saturation concept: A research note.
Qualitative Research, 8, 137-152. doi:10.1177/1468794107085301

Boxall, P. (2012). High-performance work systems: What, why, how and for whom?
Asia Pacific Journal of Human Resources, 50, 169–186.

Boxall, P., & Macky, K. (2014). High-involvement work processes, work intensification
and employee well-being. *Work, Employment and Society*, 28(6), 963–984.

Boyatzis, R. E. (1998). Transforming qualitative information: Thematic analysis and
code development. Thousand Oaks, CA, US: Sage Publications, Inc.

Boyatzis, R.E. (1998). Transforming qualitative information: thematic analysis and code
development. Thousand Oaks, CA: Sage Publications.

BPS.(2014). Code of Human Research Ethics (2nd eds). Retrieved from
http://www.bps.org.uk/system/files/Public%20files/code_of_human_research_et
hics_dec_2014_inf180_web.pdf

Bradley, D.E., & Roberts, J.A. (2004). Self-employment and job satisfaction:
Investigating the role of self-efficacy, depression and seniority. *Journal of Small
Business Management,* 42, 37–58.

Bramley, T. (2007). Paired comparison methods. In P.E. Newton, J. Baird, H. Goldstein, H. Patrick, & P. Tymms (Eds.), Techniques for monitoring the comparability of examination standards. (pp. 246-294). London: Qualifications and Curriculum Authority.

Branson, C. M. (2008). Achieving organisational change through values alignment. *Journal of Educational Administration, 46*(3), 376-395.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. http://dx.doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology, Vol. 2. Research designs: Quantitative, qualitative, neuropsychological, and biological* (pp. 57-71). Washington, DC, US: American Psychological Association. http://dx.doi.org/10.1037/13620-004

Braun, V., & Clarke, V. (2013). *Successful qualitative research : A practical guide for beginners*. London: SAGE.

Breakwell, G., Smith, J., & Wright, D. (2012). *Research methods in psychology* (4th ed.). Los Angeles, Calif. ; London: SAGE.

Bright J. (1997) Turning the Tide. Demos Publishers, London.

Bringsén, Å., Ejlertsson, G., & Andersson, H. I. (2012). Flow situations during everyday practice in a medical hospital ward: Results from a study based on experience sampling method. *Bmc Nursing, 10*(1), 3.

Britt, T. W., Shen, W., Sinclair, R. R., Grossman, M. R., & Klieger, D. M. (2016). How much do we really know about employee resilience? *Industrial and Organizational Psychology*, *9*(2), 378–404

Brough, P., & Pears, J. (2004). Evaluating the influence of the type of social support on job satisfaction and work related psychological well-being. *International Journal of Organisational Behaviour,* 8(2), 472-485.

Brough, P., O'Driscoll, M., Kalliath, T., Cooper, C., & Poelmans, S. (2009). Workplace Psychological Health (New Horizons in Management series). Edward Elgar Publishing.

Brown, R. J., & Millward, L. J.(1993). Perceptions of group homogeneity during group formation and change. *Soc. Cognition,*11(1), 126–149.

Brown, T. A. (2006). Confirmatory factor analysis for applied research. New York: The Guilford Press.

Brown, T. A. (2014). Confirmatory factor analysis for applied research. Guilford Publications.

Browne, M. W. and Cudeck, R. (1993), 'Alternative ways of assessing model fit', *Sage focus editions* 154, 136–136.

Brummelhuis, T., Lieke, L., Bakker, A., Hetland, J., & Keulemans, L. (2012). Do new ways of working foster work engagement? *Psicothema, 24*(1), 113.

Bruque, S., Moyano, J., & Piccolo, R. (2016). OCB and external–internal social networks: Effects on individual performance and adaptation to change. *The International Journal of Human Resource Management*, 27, 1–22. http://dx.doi.org/10.1080/09585192.2015.1020441

Bryan, M. & Nandi, A. (2018). "Working Hours, Work Identity and Subjective Wellbeing," Working Papers 2018002, The University of Sheffield, Department of Economics.

Bryman, A.(1988).Quantity and quality in social research. London,Boston: Uniwin Hyman publications

Bryman, A., Stephens, M., & Campo, C. (1996). The importance of context: Qualitative research and the study of leadership. *The Leadership Quarterly*, 7(3), 353-370.

Burroughs, G.(1975). Design and Analysis in Educational Research (2nd Edition). Educational Monograph No. 8. Educational Review, Oxford.

Caelli, K., Ray, L., & Mill, J. (2003). 'Clear as mud': Toward greater clarity in generic qualitative research. *International Journal of Qualitative Methods,* 2(2). Article 1. http://www.ualberta.ca/~iiqm/backissues/2_2/html/caellietal.htm

Carayon, P. (2006). Human factors of complex sociotechnical systems. *Applied Ergonomics, 37*(4), 525-535.

Carmeli, A. , Gelbard, R. and Reiter-Palmon, R. (2013), Leadership, Creative Problem-Solving Capacity, and Creative Performance: The Importance of Knowledge Sharing. *Human. Resource. Management*, 52: 95-121. doi:10.1002/hrm.21514

Carter, B., Danford, A. Howcroft, D., Richardson, H., Smith, A., & Taylor, P. (2013). Taxing times: Lean working and the creation of (in)efficiencies in HM Revenue and Customs. *Public Administration*, 91, 83-97.

Carter, B., Danford, A. Howcroft, D., Richardson, H., Smith, A., & Taylor, P. (2013). "Stressed out of my box": Employee experience of lean working and occupational ill health in clerical work in the UK public sector. *Work, Employment and Society*, 27,747-767.

Carvalho, A., & Areal, N. (2015). Great places to work: Resilience in times of crisis. *Human Resource Management*, 55, 479–498. http://dx.doi.org/10.1002/hrm.21676

Cascio, W.F. (2003). Responsible restructuring: Seeing employees as assets, not costs. *Ivey Business Journal, 68,* 1-5

Catteeuw, F., Flynn, E., & Vonderhorst, J. (2007). Employee Engagement: Boosting Productivity in Turbulent Times. *Organization Development Journal*, 25(2).

Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research*, 1, 245-276.

Cattell, R. B., & Jaspers, J. (1967). A general plasmode (No. 30-10-5-2) for factor analytic exercises and research. *Multivariate Behavioral Research Monographs*, 67-3.

Cattell, R. B., & Vogelmann, S. (1977). A comprehensive trial of the scree and KG criteria for determining the number of factors. *Multivariate Behavioral Research*, 12, 289-325.

Cattell, R.B. (1978) The Scientific Use of Factor Analysis in Behavioral and Life Sciences. Plenum, New York.

Chalmers, A.F. (1999) What is this Thing Called Science? (3rd eds). Buckingham: Open University Press.

Chalofsky, N. (2003). An emerging construct for meaningful work. Human Resource Development International, 6(1), 69–83. doi:10.1080/1367886022000016785

Chan, D. (1998). Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition models. *Journal of Applied Psychology,* 83, 234–246. doi: 0021-9010/98/S3.00

Chang-Richards, A., Vargo, J., & Seville, E. (2013). Organisational resilience to natural disasters: New Zealand's experience. *China Policy Review*, 10, 117-119

Charmaz, K. (2006). Coding in grounded theory practice. In Constructing grounded theory: a practical guide through qualitative analysis (First ed). Thousand Oaks, CA: Sage Publications, Inc.

Chen, S., Westman, M., & Hobfoll, S. E. (2015). The commerce and crossover of resources: Resource conservation in the service of resilience. *Stress and Health*, 31, 95–105. http://dx.doi.org/10.1002/smi.2574

Cheng, A. S., & Hung, L. K. (2007). Randomized controlled trial of workplace based rehabilitation for work-related rotator cuff disorder. *Journal of Occupational Rehabilitation*, 17, 487–503.

Chiaburu, D. S., & Harrison, D. A. (2008). Do peers make the place? Conceptual synthesis and meta-analysis of coworker effects on perceptions, attitudes, OCBs, and performance. *Journal of Applied Psychology, 93*(5), 1082-1103. http://dx.doi.org/10.1037/0021-9010.93.5.1082

Chin, P., & Hung, M. (2013). Psychological contract breach and turnover intention: The moderating roles of adversity quotient and gender. *Social Behavior and Personality: An international journal*, 41, 843-860.

Choudhry, M.R., Fang, D.P., & Mohamed, S. (2007). The nature of safety culture: A survey of the state of the art. *Safety Science*, 45(10), 993-1012.

Cicchetti, D. (2010). Resilience under conditions of extreme stress: a multilevel perspective. *World Psychiatry*, 9(3), 145-154.

Clark, S. C. (2001) 'Work Cultures and Work/Family Balance', *Journal of Vocational Behavior,* 58, pp. 348-365.

Cline D., Reilly C. & Moore J. (2003) What's behind RN turnover? Uncover the 'real reasons' nurses leave. *Nursing Management* 34, 10–53.

Cohn A, S Hodson and M Crane (2010) Resilience training in the Australian Defence Force. InPsych April, www.psychology.org.au/publications/inpsych/2010/april/cohn/

Cohn, M. A., Fredrickson, B. L., Brown, S. L., Mikels, J. A., & Conway, A. M. (2009). Happiness unpacked: Positive emotions increase life satisfaction by building resilience. *Emotion*, 9(3), 361–368.

Coleman, M., & Ganong , L. (2002) Resilience and families. *Family Relations*, 51, 101.

Comrey, A. L. (1978). Common methodological problems in factor analytic studies. *Journal of Consulting and Clinical Psychology*, 46, 648-659

Comrey, A. L., & Lee, H. B. (1992). A first course in factor analysis (2nd ed.). Hillsdale, NJ: Erlbaum.

Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). *Depression and anxiety*, 18(2), 76-82.

Cook, J. D., Hepworth, S. J., Wall, T. D., & Warr, P. B. (1981). The experience of work: A compendium and review of 249 measures and their use. San Diego, CA: Academic Press Limited.

Cooke, F., Cooper, B., Bartram, T., Wang, J., & Mei, H. (2016). Mapping the relationships between high-performance work systems, employee resilience and engagement: A study of the banking industry in China. *The International Journal of Human Resource Management*, 1-22.

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology*, 78, 98-104.

Costello, A. B., & Osborne, J. W., (2005). Best Practices in Exploratory Factor Analysis: Four Recommendations for Getting the Most from Your Analysis. *Practical Assessment Research & Evaluation*, 10(7), 1-9

Cousins, R, Mackay, C.J, Clarke, S.D, Kelly, C, Kelly, P.J &McCaig, R.H. (2004). 'Ma nagement Standards' and work-related stress in the UK: Practical development. *Work & Stress*, 18(2): 113–136

Coutu, D.L. (2002). How Resilience Works. *Harvard Business Review*,80(5), 46-55.

Craig P., Dieppe P., Macintyre S., Michie S., Nazareth I. & Petticrew M. (2008). Developing and evaluating complex interventions: the new Medical Research Council guidance. BMJ, 337, 1655.

Craig, L. (2006). Does father care mean fathers share? A comparison of how mothers and fathers in intact families spend time with children. *Gender & Society*, 20, 259-281

Creswell, J., & Clark., P.(2011). *Designing and conducting mixed methods research* (2nd ed.). Los Angeles, Calif. ; London: SAGE.;

Crewe, T. (2016). The Strange Death of Municipal England. *London Review of Books*, 38(24), 6-10. Retrieved from https://www.lrb.co.uk/v38/n24/tom-crewe/the-strange-death-of-municipal-england.

Crichton, M., Lauche, K., & Flin, R. (2009). 'Learning from Experience: Incident Management Team Leader Training', in Schraagen, J.M., Militello, L., Ormerod, T. and Lipshitz, R. (eds.), Naturalistic Decision Making and Macrocognition, Ashgate, Aldershot, 103–120.

Crichton, M.T., Ramsay, C.G. and Kelly, T. (2009). Enhancing Organisational Resilience through Emergency Planning: Learnings from Cross-Sectoral Lessons. *Journal of Contingencies and Crisis Management*. 17(1). 24-37.

Cromer, M.K., Seaver, D.A., Stillwell,W.G. & Gaddy, C.D. (1984) reliability estimates using expert judgement, Vol.2; The Maxima C Regulatory Commission, Contract Report, NUREG/CR – 3688-2.

Crouter, A. C. (1984). Spillover from family to work: The neglected side of the work–family interface. *Human Relations, 37*(6), 425–441.

Cudeck, R., & O'Dell, L. L. (1994). Applications of standard error estimates in unrestricted factor analysis: Significance tests for factor loadings and correlations. *Psychological Bulletin*, 115, 475-487.

Culbertson, Satoris & Fullagar, Clive & Mills, Maura. (2010). Feeling Good and Doing Great: The Relationship Between Psychological Capital and Well-Being. *Journal of occupational health psychology.* 15. 421-33. 10.1037/a0020720.

Cullen, K. Delaney, S. and Duff, P. (2004) Caring, Working and Public Policy, Dublin: Equality Authority. Retrieved from https://www.ihrec.ie/app/uploads/download/pdf/caring_working_and_public_policy.pdf

Damarin, A. K. (2006). Rethinking occupational structure: the case of web site production work. Work and Occupations, 33(4), 429

Danielsson, C., Bodin, L. (2008). Office Type in Relation to Health, Well-Being, and Job Satisfaction. *Environment and Behavior*, 40, 636-668.

Davis, D., & Daley, B. J. (2008). The learning organization and its dimensions as key factors in firms' performance. *Human Resource Development International*, 11(1), 51-66.

Davis, M., Leach, D.J., & Clegg, C. (2011). The physical environment of the office: contemporary and emerging issues. *International Review of Industrial and Organizational Psychology,* 26, 193-237.

Dawkins, S., Martin, A., Scott, J., & Sanderson, K. (2013). Building on the positives: A psychometric review and critical analysis of the construct of psychological capital. Journal of Occupational and Organizational Psychology, 86(3), 348–370. http:// dx.doi.org/10.1111/joop.12007

De Croon, E.M., Sluiter, J., Kuijer, P.P., Frings-Dresen, M. (2005). The effect of office concepts on worker health and performance: a systematic review of the literature. *Ergonomics,* 48, 119–134.

De Dreu, C. K. W., & Van de Vliert, E. (Eds)., (1997). Using Conflict in Organisations. Sage: London.

De Jonge, J., & Dormann, C. (2006). Stressors, resources, and strain at work: A longitudinal test of the Triple-Match Principle. Journal of Applied Psychology 91(6): 1359–1374.

De Jonge, J., Mulder, M.J.G.P. & Nijhuis, F.J.N. (1999), "The incorporation of different demand concepts in the job demand-control model: effects on health care professionals", *Social Science & Medicine*, 48, p. 1149.

DeJoy, D. M. (1994). Managing safety in the workplace: An attribution theory analysis and model. *Journal of Safety Research, 25*(1), 3-17.

De Lange, A.H., Taris, T.W., Kompier, M.A.J., Houtman, I.L.D. & Bongers, P.M. (2003), "The very best of the millennium: longitudinal research and the demand-

control-(support) model", *Journal of Occupational Health Psychology*, 8(4), pp. 282-305.

Deaux, K., & Martin, D.(2003). Interpersonal networks and social categories: Specifying levels of context in identity processes. *Soc.Psych. Quart*, 66(2), 101–117.

Decoster, J. (1998). Overview of factor analysis. Online. Retrieved from http://www.stat-help.com/

Deery, S., Iverson, R., & Walsh, J. (2010). Coping Strategies in Call Centres: Work Intensity and the Role of Co-workers and Supervisors. *British Journal of Industrial Relations, 48*(1), 181-200.

DeJoy. D. M., Wilson. M. G., Vandenberg. R. J., McGrath-Higgins. A. L. and Griffin-Blake. C. S. (2010). Assessing the impact of healthy work organisation intervention. *Journal of Occupational and Organisational Psychology,* 83 (1), 139-165.

Dekker, S. W. A., & Schaufeli, W. B. (1995). The effects of job insecurity on psychological health and withdrawal: a longitudinal study. Australian Psychologist, 30(1), 57-63

Demerouti, E., Bakker, A . B., Nachreiner, F., & Schaufel, W. B. (2001). The Job DemandsResources Model of Burnout. *Journal of Applied Psychology*, 86(3), 499-512.

Denhardt, J. & Denhardt, R. (2010). Building Organisational Resilience and Adaptive Management, Ch 16 in Handbook of Adult Resilience. J.W. Reich, A.J. Zautra, and J.S. Hall (eds.). The Guilford Press, New York.

Denison, D., Janovics, J., & Young, J. (2006). Diagnosing Organizational Cultures: Validating a Model and Method. *International Institute for Management Development*, 1-39.

Denning, S.(2005). Transformational innovation: A journey by narrative. *Strategy & Leadership*, 33(3), 11-16.

Derks, D., & Bakker, A.B. (2010). The impact of e-mail communication on organizational life. Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 4, 4.

Dess, G., & Sauerwald, S. (2014). Creating value in organizations: The vital role of social capital. *Organizational Dynamics*, 43, 1–8. http://dx.doi.org/10.1016/j.orgdyn.2013.10.001

Deutskens, E., Ruyter, K.D., Wetzels, M. & Oosterveld, P. 2004. Response rate and response quality of internet based surveys: An experimental study. *Marketting Letters*, 15(1), 21-36

DeVellis, R. F. (2017). Scale Development: Theory & Applications (4th ed.). Thousand Oaks, CA: Sage. Dewhurst,M., Guthridge, M.&Mohr, E.,2009. Motivating people: Getting beyond money. *McKinsey Quarterly*, (11), pp.2-5.

Devilly, G. J., Gist, R., & Cotton, P. (2006). Ready! Fire! Aim! The status of psychological debriefing and therapeutic interventions: In the work place and after disasters. *Review of General Psychology*, 10, 318–345. http://dx.doi.org/10.1037/1089-2680.10.4.318

Dewhurst, M., Guthridge, M., & Mohr, E. (2009). Motivating people: Getting beyond money. *McKinsey Quarterly* 1(4), 12-15.

DiFonzo, N., & Bordia, P. (1998). A tale of two corporations: Managing uncertainty during organizational change. *Human Resource Management*, 37(3-4), 295-303.

Dillon, J., & Walls, A. (2000). On the danger of blurring methods, methodologies and ideologies in environmental education research. *Environmental Education Research, 12*(3/4), 549-559.

Ding, L., Velicer, W. F., & Harlow, L. L. (1995). Effects of estimation methods, number of indicators per factor, and improper solutions on structural equation modeling fit indices. Structural Equation Modeling: *A Multidisciplinary Journal*, 2(2), 119-143.

DiStefano, C., & Morgan, G. B. (2014). A comparison of diagonal weighted least squares robust estimation techniques for ordinal data. Structural Equation Modeling: *A Multidisciplinary Journal*, 21(3), 425-438.

DiStefano, C., Liu, J., Jiang, N., & Shi, D. (2018). Examination of the weighted root mean square residual: Evidence for trustworthiness?. Structural Equation Modeling: *A Multidisciplinary Journal*, 25(3), 453-466.

Dollard, M. F., & Winefield, A. H. (1998). A test of the demand–control/support model of work stress in correctional officers. *Journal of occupational health psychology*, 3(3), 243.

Dooley, D., Prause, J., & Ham-Rowbottom, K. (2000). Underemployment and Depression: Longitudinal Relationships. *Journal of Health and Social Behavior, 41(4),* 421-436.

Dooley, K. (1996). A Nominal Definition of Complex Adaptive Systems. The Chaos Network, 8(1), 2-3.

Dooley, K. (2002). Organizational Complexity. International Encyclopedia of Business & Management. M. Warner (ed.), London: Thompson Learning, 5013- 5022.

DuBrin, A. J. (2013). *Handbook of Research on Crisis Leadership in Organizations*: Edward Elgar Publishing.

Duram, L.(2010). Pragmatic Study. Encyclopedia of Research Design.

Dutton, J. E., & Heaphy, E. D. (2003). The power of high-quality connections at work. In K. Cameron, J. E. Dutton, & R. E. Quinn (Eds.), Positive organizational scholarship (263–278). San Francisco, CA: Berrett-Koehler.

Eaton, S. (2003). If you can use them: Flexibility policies, organizational commitment, and perceived performance. *Industrial Relations*, 42, 145–167. doi:10.1111/1468-232X.00285

Echtelt, P. E., Glebbeek, A. C., & Lindenberg, S. M. (2006). The new lumpiness of work: explaining the mismatch between actual and preferred working hours. Work, Employment and Society, 20(3),493-512.

Egan, T. M., Yang, B., & Bartlett, K. R. (2004). The effects of organizational learning culture and job satisfaction on motivation to transfer learning and turnover intention. *Human resource development quarterly*, 15(3), 279-301.

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, 14: 532–550

Elias, S. (2009). Employee Commitment in times of Change: Assessing the Importance of Attitudes towards Organizational Change. *Journal of Management*, 35(1), 37–55.

Elovainio, M., Heponiemi, T., Jokela, M., Hakulinen, C., Presseau, J., Aalto, A. M., & Kivimäki, M. (2015). Stressful work environment and wellbeing: What comes first? *Journal of Occupational Health Psychology*, 20, 289–300. http://dx.doi.org/10.1037/a0038684

Elving, W. J. (2005). The role of communication in organisational change. Corporate Communications: *An International Journal*, 10(2), 129-138.

Ettner, S., & Grzywacz, J. (2001). Worker's Perceptions of How Jobs Affect Health: A Social Ecological Perspective. *Journal of Occupational Health Psychology, 6(2),* 101-113.

Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological methods*, 4(3), 272-299.

Fairlie, P. (2011). Meaningful work, employee engagement, and other key employee outcomes: Implications for human resource development. *Advances in Developing Human Resources*, 13(4):508-525. https://doi.org/10.1177/1523422311431679

Farnsworth, K., & Irving, Z. (2018). Austerity: Neoliberal dreams come true? *Critical Social Policy*, 38(3), 461–481. https://doi.org/10.1177/0261018318762451

Fava, J. L., & Velicer, W. F. (1992). The effects of overextraction on factor and component analysis. *Multivariate Behavioral Research*, 27, 387^15.

Fenwick, G.D., & Neal, D.J. (2002). Effect of Gender Composition on Group Performance. *Gender, Work, and Organization, 8*(2), 205-225.

Ferguson, E., & Cox, T. (1993). Exploratory Factor Analysis: A Users' Guide. *International Journal of Selection and Assessment*, 1(2), 84-94.

Ferguson, G. (1981). Statistical Analysis in Psychology and Education. Fifth Edition. New York: McGraw Hill.

Ferguson, G. (1981). Statistical Analysis in Psychology and Education. Fifth Edition. New York: McGraw Hill.

Ferris, P., & Godar, S.(2004). *Virtual and Collaborative Teams: Process, Technologies and Practice*. Idea Group Inc., London, UK

Ferris, P.A., Sinclair, C., & Kline, T.J. (2005). It takes two to tango: Personal and organizational resilience as predictors of strain and cardiovascular disease risk in a work sample. *Journal of Occupational Health Psychology*, *10*(3), 225–238.

Field, A. (2000). Discovering Statistics Using SPSS. London: SAGE Publications Ltd.

Finch, .1. F., & West, S. G. (1997). The investigation of personality structure: Statistical models. *Journal of Research in Personality*, 31, 439^1-85.

Finn, C. P. (2001). Autonomy: an important component for nurses' job satisfaction. *International Journal of Nursing Studies*, 38(3), 349-357.

Fiol, C. M., & O'Connor, E. J. (2005). Identification in face-to-face hybrid, and pure virtual teams: Untangling the contradictions. *Organ. Sci*ence, 16(1), 19–32.

Fisher, D.M., Ragsdale, J.M., & Fisher, E.C. (2018). The importance of definitional and temporal issues in the study of resilience. *Applied Psychology: An International Review*. 68(4), 583-620.

Fletcher, D., & Sarkar, M. (2013). Psychological resilience: A review and critique of definitions, concepts and theory. *European Psychologist*, 18, 12–23. http://dx.doi.org/10.1027/1016-9040/a000124

Flora, D. B., & Curran, P. J. (2004). An empirical evaluation of alternative methods of estimation for confirmatory factor analysis with ordinal data. *Psychological methods*, 9(4), 466.

Ford, J. D., & Ford, L. W. (2010). Stop blaming resistance to change and start using it. *Organizational Dynamics*, 39(1), 24-36.

Fouché, E., Rothmann, S. S., & Van der Vyver, C. (2017). Antecedents and outcomes of meaningful work among school teachers. *SA Journal of Industrial Psychology*, 43(1), 1-10. https://doi.org/10.4102/sajip.v43i0.1398

Fox, D., Prilleltensky, I., & Austen, S. (2009). Critical psychology for social justice: Concerns and dilemmas. In D. Fox, I. Prilleltensky, & S. Austen, Critical Psychology: An introduction. London: Sage Publications.

Fox, J. (2009). The Myth of the Rational Market: a History of Risk, Reward and Delusion on Wall Street. HarperBusiness, New York.

Fredrickson, B. L. (2003). Positive emotions and upward spirals in organizations. In K. S. Cameron, J. E. Dutton, & R. E. Quinn (Eds.), Positive organizational

scholarship: Foundations of a new discipline (pp. 163-175). San Francisco, CA: Berrett-Koehler.

Freeman, D.G., & Carson, M.(2007). Developing workplace resilience: the role of the peer referral agent diffuser. *Journal of Workplace Behavioral Health,* 22, 113–21.

Friedland, D.S., & Price, R. (2003). Underemployment: Consequences for the Health and Well-Being of Workers. *American Journal of Community Psychology, 32(1/2).*

Fuller, T. D., Edwards, J. N., Vorakitphokatorn, S., & Sermsri, S. (1993). Using focus groups to adapt survey instruments to new populations: Experience from a developing country.

Gable, R.K. (1986). Instrument development in the affective domain. Boston: Kluwer-Nijhoff

Gagnon, E., & Vaandrager, L.(2012). Salutogenic indicators for workplace health promotion an internship report. Wageningen Chairgroup Health & Society.

Gajendran, R. S., & Harrison, D. A. (2007). The good, the bad, and the unknown about telecommuting: meta-analysis of psychological mediators and individual consequences. *Journal of Applied Psychology*, 92(6), 1524.

Garland, R. (1991). The mid-point on a rating scale: Is it desirable? *Marketing Bulletin*, 2, 66-70.

Garmezy, N. (1981). Children under stress: Perspectives on antecedents and correlates of vulnerability and resistance to psychopathology. In A. I. Rabin, J. Aronoff, A. M. Barclay, & R. A. Zucker (Eds.), Further explorations in personality (pp. 196-269). New York: Wiley Interscience.

Garvin, D. A., Edmondson, A. C., & Gino, F. (2008). Is yours a learning organization? *Harvard business review*, 86(3), 109-116.

Gaskell, G. (2000). Individual and group interviewing. In Bauer, M. W., & Gaskell, G. Qualitative researching with text, image and sound (pp. 39-56). London: SAGE Publications Ltd

Gelman, A. (2019). You need 16 times the sample size to estimate an interaction than to estimate a main effect [Blog post]. Retrieved https://statmodeling.stat.columbia.edu/2018/03/15/need-16-times-sample-size-estimate-interaction-estimate-main-effect/

Gibbs, J. (2001). Maintaining front-line workers in child protection: A case for refocusing supervision. *Child abuse review*, 10(5), 323-335

Giddens, A. (1984). The constitution of society: outline of the theory of structuration. Berkeley: University of California Press.

Giddens, A., & Pierson, C. (1998). Conversations with Anthony Giddens: Making sense of modernity. Cambridge: Polity Press.

Gilbelman, M. (2003). See How Far We Have Come? Pestilent and Persistent Gender Gap in Pay. *Social Work*, 48,22-32.

Gill, R. (2002). Change management--or change leadership? Journal of change management, 3(4), 307-318.

Gilley, A. M. (2005). The manager as change leader. United States of America: Greenwood Publishing Group.

Gilley, A., Dixon, P., & Gilley, J. W. (2008). Characteristics of leadership effectiveness: Implementing change and driving innovation in organizations. *Human Resource Development Quarterly*, 19(2), 153-169.

Gimeno, D., Benavides, F.G., Amick, B.C., Benach, J., & Martinez, J. (2004). Psychosocial factors and work related sickness absence among permanent and non-permanent employees. *Journal Epidemiology and Community Health*, 58, 870–876.

Giordano, B. (1997). Resilience—a survival tool for the nineties. *AORN Journal, 65*(6), 1032,1034.

Glass, J.L., & Finley, A. (2002). Coverage and effectiveness of family responsive workplace policies. Human Resource Management Review, 12, 313-337.

González-Romá, V., Schaufeli, W. B., Bakker, A. B., & Lloret, S. (2006). Burnout and work engagement: Independent factors or opposite poles? *Journal of Vocational Behavior*, 68(1), 165-174.

Gorsuch, R. L. (1973). Using Bartlett's significance test to determine the number of factors to extract. *Educational and Psychological Measurement*, 33, 361-364

Gorsuch, R. L. (1980). Factor score reliabilities and domain validities. *Educational and Psychological Measurement*, 40, 895-897.

Gorsuch, R. L. (1983). Factor analysis (2nd ed.). Hillsdale, NJ: Frlbaum

Graen, G. B., Novak, M. A., & Sommerkamp, P. (1982). The effects of leader-member exchange and job design on productivity and satisfaction: Testing a dual attachment model.*Organizational Behaviour and Human Performance,* 30, 109-131

Graen, G., Cashman, J., Ginsberg, S., & Schiemann, W. (1977). Effects of Linking-Pin Quality on the Quality of Working life of Lower Participants. *Administrative Science Quarterly*, 22.

Graham, J. W. (2012), Missing data theory, in 'Missing Data', Springer, 3–46.

Grant, A. M. (2007). Relational job design and the motivation to make a prosocial difference. *Academy of Management Review*, 32, 393-417.

Gray, M., & Barford, A. (2018). The depths of the cuts: the uneven geography of local government austerity, *Cambridge Journal of Regions, Economy and Society*, 11(3), 541–563.

Gravetter, F., & Wallnau, L. (2014). Essentials of statistics for the behavioral sciences (8th ed.). Belmont, CA: Wadsworth. https://doi.org/10.15700/saje.v35n2a1008intention to leave. *South African Journal of Education*, 35, 1008, 1–13.

Greenbaum, T. L.(1999). Avoiding a "virtual" disaster. *HR Focus,* 75(2), 11–12.

Grunberg, L., Moore, S., Greenberg, E.S., & Sikora, P. (2008). The changing workplace and its effects: A longitudinal examination of employee responses as a large company. *Journal of Applied Behavioural Science*, 44(2), 215-236. .

Grynderup, M.B., Mors, O., Hansen, Å.M., Andersen, J.H., Bonde, J.P., Kærgaard, A.,& Kolstad, H. (2013). Work-unit measures of organisational justice and risk of depression-a 2-year cohort study. *Occupational and Environmental Medicine, 70*(6), 380-385.

Guadagnoli, E., & Velicer, W. F. (1988). Relation of sample size to the stability of component patterns. *Psychological Bulletin*, 103,265-275.

Guttman, L. (1954). Some necessary conditions for common cactor analysis. *Psvchometrika,* 19, 149-161

Hackman, R. J., & Oldham, G. R. (1975). Development of the Job Diagnostic Survey. *Journal of Applied Psychology*, 60(2), 159-170.

Halbesleben, J., Neveu, J., Paustian-Underdahl, S., & Westman, M. (2014). Getting to the "COR": Understanding the role of resources in conservation of resources theory. *Journal of Management*, 40, 1334–1364. http://dx.doi.org/10.1177/0149206314527130

Halcomb, E.J., Daly, J., Jackson, D., & Davidson, P. (2003).An insight into Australian nurses' experience of withdrawal/withholding of treatment in the ICU. *Intensive and Critical Care Nursing*, 20, 214–222

Hall, D. T., & Mirvis, P. H. (1995). The new career contract: Developing the whole person at midlife and beyond. *Journal of Vocational Behavior, 47*(3), 269-289.

Handy, C. B.(1994). *The Empty Raincoat*. Hutchinson, London, UK

Hanisch, M. (2016). *What Is Resilience?: Ambiguities of a Key Term*.Federal Academy for Security Policy. doi:10.2307/resrep22143

Harland, L., Harrison, W., Jones, J. R., & Reiter-Palmon, R. (2005). Leadership behaviors and subordinate resilience. *Journal of Leadership & Organizational Studies*, 11(2), 2–14.

Harland, L., Harrison, W., Jones, J., & Reiter-Palmon, R. (2005). Leadership behaviors and subordinate resilience. *Journal of Leadership and Organizational Studies*, 11(2), 2–14.

Harrington, J.M. (2001). Health Effects of Shift Work and Extended Hours of Work. *Occupational and Environmental Medicine, 58,* 68-72.

Harrison, B. (1994). The dark side of flexible production. *National Productivity Review, 13*(4), 479-501.

Harrison, B., & Kelley, M. R. (1993). Outsourcing and the Search for `Flexibility'. *Work, Employment and Society*, *7*(2), 213–235.

Harrison, D. A., & McLaughlin, M. E. (1991). Exploring the cognitive processes underlying responses to self-report instruments: Effects of item content on work attitude measures. Proceedings of the 1991 *Academy of Management annual meetings*, 310-314.

Hartmann, Silja, Weiss, Matthias, Newman, Alexander, & Hoegl, Martin. (2019). Resilience in the Workplace: A Multilevel Review and Synthesis. *Applied Psychology, 69*(3), 913-959.

Harvey, R. J., Billings, R. S., & Nilan, K. J. (1985). Confirmatory factor analysis of the job diagnostic survey: Good news and bad news. *Journal of Applied Psychology*, 70,461-468.

Hatton, C., Emerson, E., Rivers, M., Mason, H., Swarbrick, R., Mason, L., Alborz, A. (2001). Factors associated with intended staff turnover and job search behaviour in services for people with intellectual disability. *Journal of Intellectual Disability Research,* 45(3), 258–270.doi:10.1046/j.1365-2788.2001.00321.x

Health and Safety Executive. (1999). *Reducing error and influencing behaviour.* Retrieved from https://www.hse.gov.uk/pubns/priced/hsg48.pdf

Health and Safety Executive. (2013). *Managing for Health and Safety.* Retrieved from http://www.hse.gov.uk/pubns/priced/hsg65.pdf

Heisz, A., & LaRochelle-Cote, S. (2006). Summary of: Work hours instability in Canada. Ottawa: Statistics Canada.

Hellgren, J. (2003). The times they are changing': Job uncertainty and the flexible labor market. Edsbruk, Sweden: Akademitryck.

Helpap, S. (2016). The impact of power distance orientation on recipients' reactions to participatory versus programmatic change communication. *Journal of Applied Behavioral Science, 52*(1), 5-34.

Henson, R. K., & Roberts, J. K. (2006). Use of exploratory factor analysis in published research: Common errors and some comment on improved practice. *Educational and Psychological measurement*, 66(3), 393-416.

Higgins, C. A., Duxbury, L. E., & Lyons, S. T. (2010). Coping with overload and stress: Men and women in dual-earner families. *Journal of Marriage and Family*, 72, 847-859.

Higgins, C. A., & Duxbury, L. E. (1992). Work-family conflict: A comparison of dual-career and traditional-career men. *Journal of Organizational Behavior, 13*(4), 389–411.

Hill, E. J., Miller, B. C., Weiner, S. P., & Colihan, J. (1998). Influences of the Virtual Office on Aspects of Work and Work/Life Balance. *Personnel Psychology*, 51, 667-683.

Hill, E., Jeffrey, M., Brent, C.W., Sara, P., & Colihan, J. (1998). INFLUENCES OF THE VIRTUAL OFFICE ON ASPECTS OF WORK AND WORK/LIFE BALANCE. *Personnel Psychology, 51*(3), 667-683.

Hinkin, T. (1995). A Review of Scale Development Practises in the Study of Organisations. *Journal of Management*, 21(5), 967-988.

Hinkin, T. (1998). A Brief Tutorial on the Development of Measures for Use in Survey Questionnaires. *Organizational Research Methods*, 1(1), 104-121

Hinkin, T. R. (1985). Development and application of new social power measures in superior subordinate relationships. Unpublished doctoral dissertation, University of Florida.

Hobfoll SE (1989) Conservation of resources. A new attempt at conceptualizing stress. *American Psychologist* 44(3), 513–524.

Hobfoll, S. E. (2010). Conservation of resources theory: Its implication for stress, health, and resilience. In S. Folkman (Ed.), The Oxford handbook of stress, health, and coping. New York: Oxford University Press.

Hobfoll, S., Halbesleben, J., Neveu, J., & Westman, M. (2018). Conservation of Resources in the Organizational Context: The Reality of Resources and Their Consequences. *Annual Review of Organizational Psychology and Organizational Behavior, 5*, 103-128

Hodliffe, M. (2014). The development and validation of the employee resilience scale (EmpRes): The conceptualization of a new model (Unpublished doctoral dissertation). University of Canterbury, Christchurch, New Zealand.

Hoeven, C., & Zoonen, W. (2015). Flexible work designs and employee well-being: Examining the effects of resources and demands. New Technology, *Work and Employment*, 30(3), 237-255

Hogg, M. A. (1992). *The Social Psychology of Group Cohesiveness:From Attraction to Social Identity.* Harvester Wheatsheaf, Hemel Hempstead, UK

Holden L.M. (2005). Complex adaptive systems: concept analysis. *Journal of Advanced Nursing*, 52(6), 651–657

Holden, L., Scuffham, P. A., Hilton, M. F., Vecchio, N. N., & Whiteford, H. A. (2010). Work performance decrements are associated with Australian working conditions, particularly the demand to work longer hours. *Journal of Occupational and Environmental Medicine*, 52, 281–290.

Hollnagel, E., Nemeth, C. P., & Dekker, S. (2008). Resilience engineering perspectives: remaining sensitive to the possibility of failure (Vol. 1). London: Ashgate Publishing Ltd.

Hoogervorst, J.A.P, Van der Flier, H, & Koopman, P.L. (2004). Implicit communication in organisations. The impact of culture, structure and management practices on employee behaviour. *Journal of Managerial Psychology, 19*(3), 288-310.

Hoole, C., & Bonnema, J. (2015). Work engagement and meaningful work across generational cohorts. *SA Journal of Human Resource Management*, 13(1), 1-11

Horn, J. L. (1965). A rationale and technique for estimating the number of factors in factor analysis. *Psychometrika*, 30, 179-185.

Horn, J. L. (1969). On the internal consistency reliability of factors. *Multivariate Behavioral Research*, 4, 115-125.

Horne III, J. and Orr, J. (1998) Assessing Behaviors That Create Resilient Organizations. *Employment Relations Today*, 24, 29-39.

Hornung, S., & Rousseau, D. (2007). Active on the Job-Proactive in Change: How Autonomy at Work Contributes to Employee Support for Organizational Change. *The Journal of Applied Behavioral Science*, 43(4), 401-426.

Hoven, H., & Siegrist, J. (2013). Work characteristics, socioeconomic position and health: A systematic review of mediation and moderation effects in prospective studies. *Occupational and Environmental Medicine*, 70(9), 663-669.

Huff, A., Sproull, L., & Kiesler, S.(1989). Computer communication and organizational commitment; tracing the relationship in a city government. *J. Appl. Soc. Psych.* 19(6) 1371–1391.

Hundley, G. (2001). Domestic division of labor and self/organizationally employed: Differences in job attitudes and earnings. *Journal of Family and Economic Issues, 22,* 121–140.

Hunns, D.M & Daniels, B.K. (1981). Paired comparisons and estimates of failure likelihood. IPC
Business Press Ltd.

Hunt, S. D. (1991). Modem marketing theory. Cincinnati, OH: South-Western.

Huy, Q.N. (2002) Emotional Balancing of Organizational Continuity and Radical Change: The Contribution of Middle Managers. Administrative Science Quarterly, 47, 31-69.

Idaszak, J. R., & Drasgow, F. (1987). A revision of the Job Diagnostic Survey: Elimination of a measurement artifact. *Journal of Applied Psychology, 72*(1), 69-74. http://dx.doi.org/10.1037/0021-9010.72.1.69

Ihuah, P.,& Eaton, D. (2013). The Pragmatic Research Approach: A Framework for Sustainable Management of Public Housing Estates in Nigeria Journal of US-China Public Administration, 10(10), 933-944.

Jackson, D., Firtko, A., & Edenborough, M. (2007). Personal resilience as a strategy for surviving and thriving in the face of workplace adversity: A literature review. *Journal of Advanced Nursing,* 60(1), 1-9.

Janik, M., & Rothmann, S. (2015). Meaningful work and secondary school teachers'. *South African Journal of Education,* 35(2)

Jehn, K. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly*, 40, 256-282.

Joffe, H., Elsey, J., & Alexander, Gerianne M. (2014). Free Association in Psychology and the Grid Elaboration Method. *Review of General Psychology*, 18(3), 173-185.

Johannes Siegrist, (2002), Effort-reward imbalance at work and health, in Pamela L. Perrewe, Daniel C. Ganster (ed.) Historical and Current Perspectives on Stress and Health (Research in Occupational Stress and Well-being, Volume 2) Emerald Group Publishing Limited, pp.261 – 291

Johns, G. (2006). The essential impact of context on organizational behavior. *Academy of Management Review*, 31, 386–408.

Johns, G. (2010). Some unintended consequences of job design. *Journal of Organizational Behavior,* 31, 361–369. doi: 10.1002/job.669

Johnson, B., & Down, B. (2012). Critically re-conceptualising early teacher resilience. Discourse: *Studies in the Cultural Politics of Education*, 1-13.

Johnson, J. V., & Hall, E. M. (1988). Job strain, work place social support, and cardiovascular disease: a cross-sectional study of a random sample of the Swedish working population. *American journal of public health*, 78(10), 1336-1342

Johnson, M. K.(2000). Change in job values during the transition to adulthood. *Work and Occupations*, 28: 315-345.

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14–26.doi:10.1177/1558689806298224

Johnson, R. B.,& Onwuegbuzie, A.J. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher,33*(7), 14-27.

Jones, F., O'Connor, D., Conner, M., McMillan, B., Ferguson, E., & Zedeck, Sheldon. (2007). Impact of Daily Mood, Work Hours, and Iso-Strain Variables on Self-Reported Health Behaviors. *Journal of Applied Psychology, 92*(6), 1731-1740.

Joyce, K., Pabayo, R., Critchley, J., & Bambra, C. (2010). Flexible working conditions
and their effects on employee health and wellbeing. *Cochrane Public Health
Group, 2.*

Judd, C. M., & Kenny, D. A. (2010). Data analysis in social psychology: Recent and
recurring issues. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of
social psychology* (pp. 115-139). Hoboken, NJ, US: John Wiley & Sons Inc.

Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership: A
meta-analytic test of their relative validity. *Journal of Applied Psychology*, 89(5),
755–768.

Judge, T. A., Higgins, C. A., Thoresen, C. J., Barrick, M. R. (1999). The Big Five
Personality Traits, General Mental Ability, and Career Success across the Life
Span. *Personnel Psychology*. 52 (3), 621-652 DOI: 10.1111/j.1744-
6570.1999.tb00174.x

Judge, T. A., Weiss, H. M., Kammeyer-Mueller, J. D., & Hulin, C. L. (2017). Job
attitudes, job satisfaction, and job affect: A century of continuity and of change.
*Journal of Applied Psychology, 102(3), 356–374.*doi:10.1037/apl0000181

Jundt, D., Shoss, M., & Huang, J. (2015). Individual adaptive performance in
organizations: A review. *Journal of Organizational Behavior*, 36, S53–S71.
http://dx.doi.org/10.1002/job.1955

Kaarlela-Tuomaala, A., Helenius, R., Keskinen, E., Hongisto, V. (2009). Effects of
acoustic environment on work in private office rooms and open-plan offices –
longitudinal study during relocation. *Ergonomics*, 52(11), 1423-1444.

Kaczmarczyk, S. (2005). Financial impact of alternative workplace strategies. *Journal of
Facilities Management*, 3(2), 117-124.

Kahn, W. A. (1990). Psychological conditions of personal engagement and
disengagement at
work. *Academy of Management Journal*, 33, 692-724.
https://doi.org/10.2307/256287

Kalimo, R., Pahkin, K., Mutanen, P., & Toppinen-Tanner, S. (2003). Staying well or burning out at work: Work characteristics and personal resources as long-term predictors. *Work & Stress, 17*(2), 109–122.

Kalleberg, A. L., & Griffin, L. J. (1978). Positional Sources of Inequality in Job Satisfaction. *Sociology of Work and Occupations*, 5(4), 371–401. https://doi.org/10.1177/073088847800500401

Kanter, R.M. (1983). The Change Masters: Innovation and Entrepreneurship in the American Corporation. New York: Simon & Schuster

Kaplowitz, M. D., Hadlock, T. D., & *Levine*, R. (*2004*). A Comparison of Web and Mail Survey Response Rates. *Public Opinion Quarterly*, 68(1), 94-101.

Karanika-Murray, M., & Michaelides, G. (2015). Workplace design: Conceptualizing and measuring workplace characteristics for motivation. Journal of Organizational Effectiveness: People and Performance, 2(3), 224 - 243. doi: 10.1108/JOEPP-08-2014-0048

Karasek, R. (1979). 'Job demands, job decision latitude, and mental strain: Implications for job redesign', *Administrative Science Quarterly*, 24, 285-306.

Karasek, R., & Theorell, T. (1990). *Healthy work : Stress, productivity, and the reconstruction of working life*. New York: Basic Books.

Karen van Rijswijk, K., Bekker, M., Rutte, C., & Croon, M. (2004). The Relationships Among Part-Time Work, Work–Family Interference, and Well-Being. *Journal of Occupational Health Psychology,* 9(4), 286-295.

Kast, F.E., & Rosenzweig, J.E. (1972) General Systems Theory: Applications for Organization and Management. *Academy of Management Journal*, 1972, 447-466. http://dx.doi.org/10.2307/255141

Katz, J.E., & Aarhus, M.A. (2002). Making meaning of mobiles: A theory of apparatgeist. In J.E. Katz & M. Aarhus (Eds.), Perpetual contact: Mobile communication, private talk, public performance (pp. 301-318). Cambridge, UK: Cambridge University Press.

Kaushik, V., & Walsh, C. (2019). Pragmatism as a Research Paradigm and Its Implications for Social Work Research. *Social Sciences (Basel), 8*(9), 255.

Kelle, U. (2008). Combining qualitative and quantitative methods in research practice: Purposes and advantages. *Qualitative Research in Psychology*, 3(4), 293-311.

Kelloway, E. K., & Day, A. L. (2005). Building healthy workplaces: What we know so far. *Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement, 37*(4), 223-235. http://dx.doi.org/10.1037/h0087259

Kelloway, K., Turner, N., Barling, J., & Loughlin, C. (2012). Transformational leadership and employee psychological well-being: The mediating role of employee trust in leadership. *Work & Stress, 26,* 39–55. **http://dx.doi.org/10.1080/02678373.2012.660774**

Kerlinger, F. (1986). Foundations of behavioral research (3rd ed.). New York: Holt, Rinehart & Winston.

Kessler-Harris, A.(1982). Out to Work: A History of Wage-Earning Women in the United States. New York:

Keupp, H. (2006). Health promotion: an issue of active identity formation. *Zeitschrift für qualitative Bildungs Beratungsund Sozialforschung*, 7(2), 217-238

Kiesler, S. 1997. *Culture of the Internet*. Lawrence Erlbaum Associates, Hillsdale, NJ

Kim, S. (2002). Participative Management and Job satisfaction: Lessons for Management Leadership. *Public Administration Review*, 62(2), 31-241.

Kim, M., & Reifel, S. (2010). Child Care Teaching as Women's Work: Reflections on Experiences. *Journal of Research in Childhood Education*, 24, 229-247.

King, D. (2016). Not if, but when we need resilience in the workplace. *Journal of Organizational Behavior*, 37(5), 782-787.

Kirkwood, T., Bond, J., May, C., McKeith, I. & Teh, M. (2008). Foresight Mental Capital and Wellbeing Project. Mental capital through life: Future challenges. The Government Office for Science, London.

Kivimaki M, Vahtera J, Virtanen M.(2003). Temporary employment and risk of overall and cause-specific mortality. *American Journal of Epidemiology, 158,* 663–668.

Klein, K. J., Conn, A. B., Smith, D. B., & Sorra, J. S. (2001). Is everyone in agreement? An exploration of within-group agreement in employee perceptions of the work environment. *Journal of Applied Psychology,* 86, 3–16. doi: 10.1037//0021-9010.86.1.3

Klein, S. M. (1996). A management communication strategy for change. *Journal of Organizational Change Management*, 9(2), 32-46.

Kline, R. B. (2005). Principles and Practice of Structural Equation Modeling (2nd ed.). New York: Guilford.

Kline, R. B. (2015), Principles and practice of structural equation modeling, Guilford publications.

Knight, C., & Haslam, S. (2010). Your Place or Mine? Organizational Identification and Comfort as Mediators of Relationships Between the Managerial Control of Workspace and Employees' Satisfaction and Well-being. *British Journal of Management,* 21(3), 717-735.

Knight, E., & Paroutis, S. (2017). Becoming salient: The TMT leader's role in shaping the interpretive context of paradoxical tensions. *Organization Studies*, 38(3–4), 403–432.

Knutsson, A. (2003). Health disorders of shift workers. *Occupational Medicine,* 53, 103-108.

Koçoglu, M., Gürkan, G. Ç., & Aktas, H. (2014). The Mediating Role of Workload on the Relationship Between Leader Member Exchange (LMX) and Job Satisfaction. *Canadian Social Science*, 10(1), 41

Koçoğlu, M., Gürkan, G., & Aktaş, H. (2014). The Mediating Role of Workload on the Relationship Between Leader Member Exchange (LMX) and Job Satisfaction.Canadian Social Science, 10(1), 41-48

Koerber, R., Rouse, M., Stanyar, K., & Pelletier.M. (2017). Building resilience in the workforce. *Organizational Dynamics, 47*(2), 124-134.

König, C.J, Debus M.E, & Häusler, S. (2010) Examining occupational self-efficacy, work locus of control and communication as moderators of the job insecurity relationship – job performance. *Economic and Industrial Democracy,* 31(2), 231–247**.**

Korunka, C., Weiss, A., & Karetta, B. (1993). Effects of new technologies with special regard for the implementation process per se. *Journal of Organizational Behavior*, 14(4), 331-348.

Kossek, E.E., & Perrigino, M.B. (2016). Resilience: A review using a grounded integrated occupational approach. *The Academy of Management Annals*, 10(1),729–797.

Kotter, J. (2012). Leading change. Boston, Massachusetts: Harvard Business Review Press.

Kotter, J. P. (1995) Leading Change: Why Transformation Efforts Fail. Harvard Business Review, 73, 59-67.

Kotter, J., & Schlesinger, L. (1979). Choosing Strategies for Change. *Harvard Business Review,* 57(2), 106.

Kovach, K.A. (1995). Employee motivation: Addressing a crucial factor in your organization's performance. *Employment Relations Today*. 93-107.

Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukophadhyay, T., & Scherlis, W. (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? *American Psychologist, 53*(9), 1017–1031.

Krosnick, J. A. (1991), Response strategies for coping with the cognitive demands of attitude measures in surveys. *Appl. Cognit. Psychol*., 5: 213-236

Krosnick, J. A., & Fabrigar, L. R. (1997). Designing rating scales for effective measurement in surveys. In L. E. Lyberg, P. Biemer, M. Collins, E. D. De Leeuw, C. Dippo, N. Schwarz, & D. Trewin (Eds.), Survey Measurement and Process Quality (pp. 141-164). New York: Wiley.

Krosnick, J. A., & Presser, S. (2010). Questionnaire design . In J. D. Wright & P. V. Marsden (Eds.), Handbook of Survey Research (Second Edition). West Yorkshire, England: Emerald Group.

Krosnick, J.A., & Stanley, P. (2010). "Questionnaire Design." Retrieved from https://web.stanford.edu/dept/communication/faculty/krosnick/docs/2009/2009_handbook_krosnick.pdf
Krueger, R. (1998). Developing questions for focus groups. Thousand Oaks, CA: Sage.

Kuntz, J., Malinen, S., Näswall, K., & Kaiser, Robert B. (2017). Employee resilience: directions for resilience development. *Consulting Psychology Journal: Practice and Research*, 69(3), 223-242.

Kuntz, J., Naswall, K.,& Malinen, S. (2016). Resilient Employees in Resilient Organizations: Flourishing Beyond Adversity. *Industrial and Organizational Psychology*. 9. 456-462. 10.1017/iop.2016.39.

Kupperschmidt (2006) Addressing Multigenerational Conflict: Mutual Respect and Carefronting as Strategy. Online Journal of Issues in Nursing 11(2), Manuscript 3.

Kuvaas, B., Buch, R., Dysvik, A., & Haerem, T. (2012). Economic and social leader–member exchange relationships and follower performance. *The Leadership Quarterly*, 23(5), 756–765.

Kwok, A.H., Doyle, E.E.H., Becker, J., Johnston, D.,& Paton, D.(2016). What is 'social resilence'? Perspectives of disaster researchers, emergency management

practitioners, and policymakers in New Zealand. *Int J Disaster Risk Reduction*. 19,197–211.

Kyei-Poku, I. (2014). The benefits of belongingness and interactional fairness to interpersonal citizenship behavior. *Leadership & Organization Development Journal*, 35, 691–709. http://dx.doi.org/10.1108/LODJ09-2012-0117

Lahelma, E., Arber, S., Kivelä, K., & Roos, E. (2002). Multiple roles and health among British and Finnish women: the influence of socioeconomic circumstances. *Social science & medicine*, 54(5), 727-740.

LaMontagne, A.D., Smith, P.M., Louie, A.M., Quinlan, M., Ostry, A.S., Shoveller, J. (2012). Psychosocial and other working conditions: Variation by employment arrangement in a sample of working Australians. *American journal of industrial medicine,* 55(2), 93-106.

Landsbergis, P. A. (1988). Occupational stress among health care workers: A test of the job demands– control model. *Journal of Organizational Behavior*, 9, 217–239

Lapierre, L. M., & Allen, T. D. (2006). Work-supportive family, family-supportive supervision, use of organizational benefits, and problem-focused coping: Implications for work-family conflict and employee well-being. *Journal of Occupational Health Psychology, 11*(2), 169-181.

Larocco, J., House, J., & French, J. (1980). Social support, occupational stress, and health. *Journal of Health and Social Behavior*, 21(3), 202-18.

Lee, A. V., Vargo, J., & Seville, E. (2013). Developing a tool to measure and compare organizations' resilience. *Natural Hazards Review*, 14(1), 29-41**.**

Lee, M.D., & Kossek, E.E. (2004). Crafting lives that work: A six year retrospective on reduced load work in the careers and lives of professionals and managers. Alfred P. Sloan Foundation Study Feedback Report.

Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology, 81*(2), 123-133. http://dx.doi.org/10.1037/0021-9010.81.2.123

Leiter, M. P., Day, A., Oore, D. G., & Spence Laschinger, H. K. (2012). Getting better and staying better: Assessing civility, incivility, distress, and job attitudes one year after a civility intervention. *Journal of Occupational Health Psychology*, 17, 425–434. http://dx.doi.org/10.1037/a0029540

Leka, S., &Houdmont, J., (2012).Occupational Health Psychology. West Sussex: Wiley-Blackwell.

Lengnick-Hall, C. A., & Beck, T. E. (2003). Beyond bouncing back: The concept of organizational resilience. Seattle, WA: Paper presented at the National Academy of Management meetings.

Lengnick-Hall, C. A., & Beck, T. E. (2009). Resilience capacity and strategic agility: Prerequisites for thriving in a dynamic environment. In C. Nemeth, E. Hollnagel, & S. Dekker (Eds.), Resilience engineering perspectives, 2, Aldershot, UK: Ashgate Publishing.

Lengnick-Hall, C. A., Beck, T. E., & Lengnick-Hall, M. L. (2011). Developing a capacity for organizational resilience through strategic human resource management. *Human Resource Management Review*, 21(3), 243-255.

Lengnick-Hall, C. A., Lengnick-Hall, M. L., & Beck, T. E. (2010). Developing a capacity for organizational resilience through strategic human resource management. *Human Resource Management Review,* 21(3), 243-255

Lengnick-Hall, C.A., Beck, T.E. and Lengnick-Hall, M.L. (2010). Developing a Capacity for Organisational Resilience through Strategic Human Resource Management. Human Resource Management Review. Doi:10,1016/jhrmr.2010.07.001.

Lewin-Epstein, N., & Yuchtman-Yaar, E. (1991). *Health risks of self-employment. Work and Occupations,* 18, 291–312.

Lewis, L. K., Schmisseur, A. M., Stephens, K. K., & Weir, K. E. (2006). Advice on Communicating During Organizational Change The Content of Popular Press Books. *Journal of Business Communication*, 43(2), 113-137.

Lewis, S., & Smithson, J. (2006). Transitions final report for the EU Framework 5 study Final Report for the EU FP5 Project 'Gender, Parenthood and the Changing European Workplace' (Transitions). 10.13140/2.1.1616.6403.

Li, F. (2010b). "Managers' Self-Serving Attribution Bias and Corporate Financial Policies." Working paper, The University of Michigan.

Libby, R., & K. Rennekamp. 2012. "Self-Serving Attribution Bias, Overconfidence, and the Issuance of Management Forecasts." *Journal of Accounting Research* 50 (1): 197-231.

Linnenluecke, M. (2015), "Resilience in business and management research: a review of influential publications and a research agenda", *International Journal of Management Reviews*, 19(1), pp. 4-30.

Linnenluecke, M. (2015). Resilience in business and management research: A review of influential publications and a research agenda. *International Journal of Management Reviews*, 19(1), 4–30.

Linnenluecke, M.K. (2017). Resilience in business and management research: A review of influential publications and a research agenda. *International Journal of Management Reviews*, *19*(1), 4–30

Lipponen, J., Bardi, A., & Haapamäki, J. (2008). The interaction between values and organizational identification in predicting suggestion-making at work. *Journal of Occupational and Organizational Psychology*, 81, 241–248. http://dx.doi.org/10.1348/096317907X216658

Littman-Ovadia, H., & Steger, M. F. (2010). Character strengths and well-being among volunteers and employees: Towards an integrative model. *The Journal of Positive Psychology*, 5, 419–430. https://doi.org/10.1080/17439760.2010.516765

Locke, E. (1976). The Nature and Causes of Job Satisfaction. *The handbook of industrial and organizational psychology.* 31.

Lockwood, N. R. (2007). Leveraging Employee Engagement for Competitive Advantage: HR's Strategic Role. *SHRM Research Quarterly*, 1-11.

Lopez, F.G. & Ramos, K. (2016). An exploration of gender and career stage differences on a multidimensional measure of work meaningfulness. Journal of Career Assessment, online first publication, doi.org/10.1177/1069072716639851.

Lunt, J., Fox, D., Bowen, J., Gret, H., Crozier, S., & Carter, L. (2007). Applying the Biopsychosocial Approach to Managing Risks of Contemporary Occupational Health Conditions: Scoping Review (Research Report No. HSL/2007/24). Retrieved from Health and Safety Laboratory website: http://www.hse.gov.uk/research/hsl_pdf/2007/hsl0724.pdf

Luthans F, Vogelgesant, G & Lester, P. (2006) Developing the psychological capital of resiliency. *Human Resource Development Review* 5(1), 25–44.

Luthans, F. (2002). The need for and meaning of positive organisational behaviour. *Journal of Organizational Behaviour* (23), 695-706.,

Luthans, F., & Vogelgesang, G., & Lester, P. (2006). Developing the Psychological Capital of Resiliency. *Human Resource Development Review*. 5. 25-44. 10.1177/1534484305285335.

Luthans, F., Avey, J. B., Avolio, B. J., & Peterson, S. J. (2010). The development and resulting performance impact of positive psychological capital. *Human Resource Development Quarterly*, 21(1), 41-67.

Luthans, F., Avey, J. B., Avolio, B. J., Norman, S. M., & Combs, G. M. (2006). Psychological capital development: toward a micro-intervention. *Journal of Organizational Behavior*, 27(3), 387-393.

Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology, 60*(3), 541-572.

Luthans, F., Avolio, B. J., Walumbwa, F. O., & Li, W. (2005). The psychological capital of Chinese workers: Exploring the relationship with performance. *Management and Organization Review, 1*(2), 249-271.

Luthans, F., Vogelgesang, G.R., & Lester,P.B. (2006). Developing the Psychological Capital of Resiliency. *Human Resource Development Review,* 5(1), 25-44.

Luthans, F., Youssef, C. M., & Avolio, B. J. (2006). Psychological capital: Developing the human competitive edge. New York: Oxford University Press.

Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child development*, 71(3), 543-562.

Lyon, D., & Woodward, A. E. (2004). Gender and Time at the Top Cultural Constructions of Time in High-Level Careers and Homes. *European journal of women's studies*, *11*(2), 205-221

Lyons, S. T., Schweitzer, L., & Ng, E. S. W. (2015). Resilience in the modern career. *Career Development International,* 20(4), 363–383.

MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods*, 4, 84-89.

MacEachen, Ellen, Polzer, Jessica, & Clarke, Judy. (2008). "You are free to set your own hours": Governing worker productivity and health through flexibility and resilience. *Social Science & Medicine, 66*(5), 1019-1033.

MacKay, C.J., Cousins, R., Kelly, P.J., Lee, S., & McCaig, R.H. (2004). 'Management Standards' and work-related stress in the UK: Policy background and science. *Work & Stress, 18*(2), 91-112.

Macklin, D. S., Smith, L. A., & Dollard, M. F. (2006). Public and private sector work stress: Workers compensation, levels of distress and job satisfaction, and the demand-control-support model. Australian Journal of Psychology, 58, 130–143. https://doi.org/dkshc2

Maclean, L., Meyer, M., & Estable, A. (2004). Improving Accuracy of Transcripts in Qualitative Research. *Qualitative Health Research*, 14(1), 113-123.

MacLeod, J. (1995). Ain't No Makin' It: Aspirations and Attainment in a Low-Income Neighborhood. Westview.

Macy, W. H., & Schneider, B. (2008). The meaning of employee engagement. *Industrial and Organizational Psychology*, 1(1), 3-30.

Maddi, S. R., & Khoshaba, D. M. (2005). Resilience at work: How to succeed no matter what life throws at you. New York: AMACOM.

Maddi, S.R. (2022). The story of hardiness: Twenty years of theorizing, research, and practice. *Consulting Psychology Journal*, 54, 173-185.

Madill, A., Jordan, A., & Shirley, C. (2000). Objectivity and reliability in qualitative analysis: Realist, contextualist and radical constructionist epistemologies. *British Journal of Psychology*, 91, 1-20.

Maguire, B., & Cartwright, S. (2008). Assessing a community's capacity to manage change: A resilience approach to social assessment. Canberra: Bureau of Rural Sciences.

Malone, T. W. (2004). The future of work. Boston, MA: Harvard Business School Press

Manfredi, S., & Holliday, M. (2004). Work-Life Balance: An Audit of Staff Experience at Oxford Brookes University. Oxon, UK: The Centre for Diversity Policy Research. Retrieved from http://www.brookes.ac.uk/business/research/cdpr Quinn, R. P., Mangione, T. W., & Seashore, S. E. (1975). 1972-73 quality of employment survey (Vol. 462330). ISR Social Science Archive, Institute for Social Research.

Mann. S., & Holdsworth. L. (2003). The psychological impact of teleworking: Stress, emotions and health. New Technology, *Work and Employment*, 18, 196–211.

Marais, K., Dulac, N., & Leveson N.(2004) Beyond normal accidents and high
     reliability organizations: The need for an alternative approach to safety in
     complex systems. *Engineering Systems Division Symposium*, 1-16

Marshall, M. (1999). Improving quality in general practice: Qualitative case study of
     barriers faced by health authorities. *British Medical Journal*, 319(7203), 164-
     167.

Marsick, V. J., & Watkins, K. E. (2003). Demonstrating the value of an organization's
     learning culture: the dimensions of the learning organization questionnaire.
     Advances in developing human resources, 5(2), 132-151.

Martin, E. (1994). Flexible bodies: The role of immunity in american culture from the
     days of polio to the age of aids. Boston, MA: Beacon Press

Martinko, M. J., Harvey, P., Sikora, D., & Douglas, S. C. (2011). Perceptions of abusive
     supervision: The role of subordinates' attribution styles. *The Leadership
     Quarterly*, 22, 751–764.

Maslach, C., & Leiter, M. P. (2008). Early predictors of job burnout and engagement.
     Journal of Applied Psychology, 93(3), 498–512.doi:10.1037/0021-
     9010.93.3.498

Masten, A. (2001). Resilience Process in Development. *American Psychologist*, 56(3),
     227-228.

Masten, A. S., & Garmezy, N. (1985). Risk, vulnerability, and protective factors in
     developmental psychopathology. In B. B. Lahey & A. E. Kazdin (Eds.),
     Advances in clinical child psychology, 8, (1-52). New York: Plenum.

Masten, A. S., & Reed, M.-G. J. (2002). Resilience in development. Handbook of
     positive psychology. Oxford, England: Oxford University Press.

Masten, A., & Obradović, J. (2006). Competence and Resilience in Development.
     Annals of the New York Academy of Sciences,1094(1), 13-27.

Mazmanian, M., Orlikowski, W. J., & Yates, J. (2013). The Autonomy Paradox: The
     Implications of Mobile Email Devices for Knowledge
     Professionals. *Organization Science (Providence, R.I.), 24*(5), 1337-1357

McAllister, M., & McKinnon, J. (2009). The importance of teaching and learning resilience in the health disciplines: A critical review of the literature. *Nurse Education Today,* 29, 371-379.

McArdle, J. J. (1990). Principles versus principals of structural factor analyses. *Multivariate Behavioral Research*, 25, 81-87.

McDargh, E. (2003). Mastering resilience skills for off-the-chart results. *Management Quarterly*, 44(1), 2-19.

McDonald, R. P. (1985). Factor analysis and related methods. Hillsdale, NJ: Erlbaum.

McLeod, J. (2004) Social construction, narrative and psychotherapy. In *The Handbook of Narrative and Psychotherapy: Practice, Theory and Research* (ed. Lynne Angus and John McLeod). Thousand Oaks, CA: Sage

McManus, S. (2007). Organisational resilience in New Zealand. Doctoral Thesis. Univ. of Canterbury, Christchurch, New Zealand.

McManus, S., Seville, E., Vargo, J., & Brunsdon, D. (2008). Facilitated process for improving organizational resilience. *Natural Hazards Review*, 9(2), 81-90.

McNair W, Smith B, Ellis J (2007) A vision of mentorship in practice. *The Journal of Perioperative Practice* 17(9): 421.

Meier, Laurenz & Semmer, Norbert & Elfering, Achim & Jacobshagen, Nicola. (2008). The Double Meaning of Control: Three-Way Interactions Between Internal Resources, Job Control, and Stressors at Work. *Journal of occupational health psychology*. 13. 244-58. 10.1037/1076-8998.13.3.244.

Meneghel, I., Bogogni, L., Miraglia, M., Salanova, M., & Martinez, I. (2016). From social context and resilience to performance through job satisfaction: *A multilevel study over time. Human Relations*, 69, 2047–2067.

Meneghel, I., Salanova, M. & Martínez, I.M. (2016), "Feeling good makes us stronger: how team resilience mediates the effect of positive emotions on team performance", *Journal of Happiness Studies*, 17(1), pp. 239-255.

Meng, H., Luo, Y., Huang, L., Wen, J., Ma, J., & Xi, J. (2017). On the relationships of resilience with organizational commitment and burnout: A social exchange

perspective. *The International Journal of Human Resource Management*, 30, 2231–2250.

Merton, R., Fiske, M., & Kendall, P. (1990). The focused interviews: a manual of problems and procedures 2nd edition. New York: The Free Press

Mesmer-Magnus, J. R., & Viswesvaran, C. (2006). How family–friendly work environments affect work/family conflict: A meta-analytic examination. *Journal of Labor Research*, 4, 555–574.

Michie S. & Cockcroft A. (1996). Overwork can kill. British Journal of Medicine, 312, 921–922.

Miles, R. M. (2001). Accelerating corporate transformations by rapidly engaging all employees. Organizational Dynamics, 313–321.

Miller, Katherine & Monge, Peter. (1985). Social Information and Employee Anxiety About Organizational Change. *Human Communication Research*. 11. 365 - 386. 10.1111/j.1468-2958.1985.tb00052.x.

Millward, L.J., Haslam, S. A., & Postmes, T. (2007). Putting Employees in Their Place: The Impact of Hot Desking on Organizational and Team Identification. *Organization Science, 18*(4), 547-559.

Mitchell, I.R., & Kalh, S. (1982). Effects of job experience on supervisor attributions for a subordinate's poor performance. *Journal of Applied Psychology*, 67, 181-188.

Mitroff, I. (2001). Managing Crises Before They Happen: What Every Executive and Manager Needs to Know About Crisis Management, New York, Amacom Editions.

Moenkemeyer,G., Hoegl, M., & Weiss, M.(2012). Innovator resilience potential: A process perspective of individual resilience as influenced by innovation project termination. *Human Relations,* 65(5), 627-655.

Montanelli, R. G., Jr., & Humphreys, L. G. (1976). Latent roots of random data
    correlation matrices with squared multiple correlations on the diagonal: *A Monte*
    Carlo study. Psychometrika, 41, 341-348.

Montreuil, Sylvie & Lippel, Katherine. (2003). Telework and Occupational Health: *A*
    Quebec Empirical Study and Regulatory Implications. Safety Science. 41. 339-
    358. 10.1016/S0925-7535(02)00042-5.

Moran, J., & Brightman, B. (2001). Leading organizational change. *Career*
    Development International, *6*(2), 111-119.

Morgan, D. L. (1993). Successful focus groups: *Advancing the state of the art*, 156.
    Sage Publications

Morgan, D. L. (2014). Pragmatism as a Paradigm for Social Research. *Qualitative*
    Inquiry, *20*(8), 1045–1053.

Morgan, P.B.C., Fletcher, D. and Sarkar, M. (2013), "Defining and characterizing team
    resilience in elite sport", *Psychology of Sport and Exercise*, 14 (4), pp. 549-559.

Morrow V, (2001) "Young people's explanations and experiences of social exclusion:
    retrieving Bourdieu's concept of social capital", *International Journal of*
    Sociology and Social Policy, 21 Issue: 4/5/6, pp.37-
    63, https://doi.org/10.1108/01443330110789439

Moyle, P., & Parkes, K. (1999). The effects of transition stress: A relocation
    study. *Journal of Organizational Behavior, 20*(5), 625-646.
    http://dx.doi.org/10.1002/(SICI)1099-1379(199909)20:5<625::AID-
    JOB898>3.0.CO;2-7

Muller, Y., & Rothmann, S. (2009). Sense of coherence and employees' perceptions of
    helping and restraining factors in an organisation. SA Journal of Industrial
    Psychology/SA Tydskrif vir Bedryfsielkunde, 35(1).

Muthén, B. O. (2004). Mplus technical appendices. Los Angeles, CA: Muthén &
    Muthén.

Muthén, L. K., & Muthén, B. O. (1998). 2007. Mplus user's guide, 5.

Mythen, G. (2005). Employment, individualization and insecurity: rethinking the risk society perspective. The Sociological Review,53(1), 129-149

Näswall, K., Kuntz, J., Hodliffe, M., & Malinen, S. (2015). Employee Resilience Scale (EmpRes): Technical report (Resilient Organisations Research Report No. 2013/06). Christchurch, New Zealand: University of Canterbury

Ndjaboue, R., Brisson, C., & Vezina, M. (2013). Organizational Justice and Mental Health: A Systematic Review of Prospective Studies. *Occupational & Environmental medicine*, 69, 694-700. http://dx.doi.org/10.1136/oemed-2011-100595

Nelson, A. C. L. (1995). Uncertainty amidst change: The impact of privatization on employee job satisfaction and well-being. *Journal of Occupational & Organizational Psychology*, 68(1), 57-71.

Nelson, M. (1995). Interpersonal team leadership skills. *Hospital Material Management Quarterly*, 16 (4), 53 – 63.

Neves, P., & Caetano, A. (2006). Social exchange processes in organizational change: The roles of trust and control. *Journal of Change Management*, 6(4), 351-364.

Newell, S., Robertson, M., Scarbrough, H., & Swan, J. (2002). Managing knowledge work. New York, NY: Palgrave

Nijp, H.H, Beckers, D.G.J, Geurts, S.A.E, Tucker P, & Kompier, M.A.J. (2012). Systematic review on the association between worktime control and work-non-work balance, health and well-being, and job-related outcomes. *Scand J Work Environ Health*. 38:299–313.

Nilakant, V., Walker B., Kuntz, J., de Vries, H., Malinen, S., Näswall K., & van Heugten, S. (2016). Dynamics of Organizational Response to a Disaster: a Study of Organizations Impacted by Earthquakes. In C. Michael Hall, Sanna Malinen, Russell Wordsworth and Rob Vosslamber (Eds), Business and Post-Disaster Management: Business, organisational and consumer resilience and the Christchurch Earthquakes. Routledge, 35-48.

Nilakant, V., Walker, B., Van Heugen, K., Baird, R., & De Vries, H. (2014). Research note: Conceptualising adaptive resilience using grounded theory. *New Zealand Journal of Employment Relations,* 39(1), 79-86.

Nunnally JC. Psychometric Theory. (2nd Edition) New York: McGraw-Hill, 1978

O'Herlihy, K. (2016). Openness to Experience and Resilience as Antecedents to Employees' Capacity for Organisational Change. Doctoral dissertation. Retrieved from https://esource.dbs.ie/bitstream/handle/10788/3123/hdip_o%27herlihy_k_2016.pdf?sequence=1&isAllowed=y

O'Muircheartaigh, C., Krosnick, J. A., & Helic, A. (1999, May). Middle alternatives, acquiescence, and the quality of questionnaire data. Paper presented at the American Association for Public Opinion Research Annual Meeting, St. Petersburg, FL.

O'Hara, R., Johnson, M., Hirst, E., Weyman, A., Shaw, D, Mortimer, P, . . . Siriwardena, N. (2014). A qualitative study of decision-making and safety in ambulance service transitions. *Health Services and Delivery Research, 2*(56), 1-138.

O'Leary, V. E., & Ickovics, J. R. (1995). Resilience and thriving in response to challenge: an opportunity for a paradigm shift in women's health. *Women's health (Hillsdale, NJ),* 1(2), 121-142.

Oliver, D. G., Serovich, J. M., & Mason, T. L. (2005). Constraints and opportunities with interview transcription: Towards reflection in qualitative research. *Social Forces*, 84(2), 1273–1289.

Ollier-Malaterre, Ariane. (2010). Contributions of Work-Life and Resilience Initiatives to the Individual/Organisation Relationship. *Human Relations - Hum Relat.* 63, 41-62. 10.1177/0018726709342458.

Olson-Buchanan, J. B., & Boswell, W. R. (2006). Blurring boundaries: Correlates of integration and segmentation between work and nonwork. *Journal of Vocational Behavior*, 68, 432– 445

Ong, A. D., Bergeman, C., Bisconti, T. L., & Wallace, K. A. (2006). Psychological resilience, positive emotions, and successful adaptation to stress in later life. *Journal of personality and social psychology*, 91(4), 730.

Ong, A.D., Bergeman, C.S. & Boker, S.M. (2009). Resilience comes of age: Defining features in later adulthood. Journal of Personality, 77(6), 1777-1804.

Oppenheim, A. N. (2000) Questionnaire Design, Interviewing and Attitude Measurement, New ed., London: Continuum.

Oreg, S. (2006). Personality, context, and resistance to organizational change. *European Journal of Work and Organizational Psychology*, 15(1), 73-101.

Oreg, S., Vakola, M., & Armenakis, A. (2011). Change recipients' reactions to organizational change A 60-year review of quantitative studies. *The Journal of Applied Behavioral Science*, 47(4), 461-524.

O'Reilly, M., & Parker, N. (2012). 'Unsatisfactory Saturation': A critical exploration of the notion of saturated sample sizes in qualitative research. *Qualitative Research*, 13(2), 190-197. https://doi.org/10.1177/1468794112446106

Ostberg, O. (1980). Risk Perception and Work Behaviour in Forestry: Implications for Accident Prevention policy. *Accident Analysis and Prevention*, 12, 189-200.

Owens, P. L. (2006). One more reason not to cut your training budget: The relationship between training and organizational outcomes. *Public Personnel Management*, 35(2), 163-172.

Parker, S.C.(1996). A time series modle of self-employment under uncertainty,*Economica*,63,459-75

Parker, Sharon & Wall, Toby & Jackson, Paul. (1997). "That's Not My Job": Developing Flexible Employee Work Orientations. *Academy of Management Journal*. 40. 899-929. 10.2307/256952.

Parlalis, S. K. (2011). Organizational changes and job satisfaction among support staff. *Journal of Social Service Research*, 37(2), 197-216.

Patton, M. Q. (1990). Qualitative evaluation and research methods (2nd ed.). Thousand Oaks, CA, US: Sage Publications, Inc.

Patton, M. Q. (2002). Qualitative Research and Evaluation Methods. (3rd Ed.). Thousand Oaks, CA: Sage.

Patton, M. Q. (2011). Developmental evaluation: Applying complexity concepts to enhance innovation and use. New York, NY, US: Guilford Press.

Perrow, C. (1984) Normal Accidents: Living with High-Risk Technologies. Princeton University Press, Princeton, New Jersey.

Perry-Jenkins, M., & MacDermid, S. M. (2012). The state of theory in work and family research at the turn of the twenty-first century. In M. A. Fine & F. D. Fincham (Eds.), Handbook of family theories: *A content-based approach* (pp. 356-378). New York City, NY: Routledge

Peters, B. G. (2000). Institutional Theory in Political Science: The New Institutionalism. London: Continuum.

Peters, J., & Pearce, J. (2012). Relationships and early career teacher resilience: A role for school principals. *Teachers and Teaching*, 18(2), 249–262.

Peters, P., Den Dulk, L., & Van der Lippe, T. (2009). The effects of time-spatial flexibility and new working conditions on employees' work–life balance: The Dutch case. *Community, Work & Family, 12*(3), 279-297.

Peters, P., Den Dulk, L., & Van Der Lippe, T. (2009). The effects of time-spatial flexibility and new working conditions on employees' work–life balance: *The Dutch case. Community, Work & Family*, 12(3), 279-297.
Peterson, C. (2000). The future of optimism. *American psychologist*, 55(1), 44-55.

Peterson, D. B., & Hicks, M. D. (1996). Leader as coach: Strategies for coaching and developing others. Minneapolis, MN: Personnel Decisions International.

Pfeffer, J. (1994) Competitive Advantage through People Unleashing the Power of the Workforce. Harvard Business School Press, Boston.

Piderit, S. K. (2000). Rethinking resistance and recognizing ambivalence: A multidimensional view of attitudes toward an organizational change. *Academy of management review*, 25(4), 783-794.

Pidgeon, N., & O'Leary, M. (2000). Man-made disasters: Why technology and organizations (sometimes) fail. *Safety Science,* 34(1-3), 15-30. http://dx.doi.org/10.1016/S0925-7535(00)00004-7

Pidgeon, N., Kasperson, R., & Slovic, Paul. (2003). *The social amplification of risk*. Cambridge: Cambridge University Press.

Pidgeon, N. F., Walls, J., Weyman, A. K. & Horlick-Jones, T. (2003). "Public perceptions of and trust in HSE as a risk regulator. HSE Contract Research Report No: RR.100. HSE Books, HMSO".

Piore, M.J. & C. Sabel (1984) The Second Industrial Divide. New York:Basic Books.

Pisarski, A., Brook, C., Bohle, P., Gallois, C., Watson, B., & Winch, S. (2006). Extending a model of shift-work tolerance. *Chronobiology International*, 23(6), 1363-1377.

Pisarski, A., Lawrence, S. A., Bohle, P., & Brook, C. (2008). Organizational influences on the work life conflict and health of shiftworkers. *Applied Ergonomics,* 39(5), 580–588.doi:10.1016/j.apergo.2008.01.005

Polk, L.V. (1997). Toward a middle-range theory of resilience. *Advances in Nursing Science*, 19(3), 1-13.

Ponomarov, S., & Holcomb, M.(2009) "Understanding the concept of supply chain resilience", *The International Journal of Logistics Management*, 20(1), pp.124-143, https://doi.org/10.1108/09574090910954873

Porath, C., & Gerbasi, A. (2015). Does civility pay? *Organizational Dynamics*, 44, 281–286. http://dx.doi.org/ 10.1016/j.orgdyn.2015.09.005

Postmes, T.,Haslam, S., & Swaab, R.(2005). Social identity and social influence in small groups: Communication, consensualization and socially shared cognition. *Eur. Rev. Soc. Psych.,*16(2), 1–42.

Power, M. (2004). The Risk Management of Everything. *Journal of Risk Finance*, The. 5. 58-65. 10.1108/eb023001.

Powley, E. H. (2009). Reclaiming resilience and safety: Resilience activation in the critical period of crisis. *Journal of Human Relations*, 62, 1289 - 1326.

Prahalad, C. K. (1995). Weak Signals versus Strong Paradigms. *Journal of Marketing Research*, *32*(3), 3-6.

Price, J. L., & Mueller, C. W. (1986). Handbook of organizational measurement. Marshfield, MA: Pitman.

Probst, T. M. (2005). Countering the Negative Effects of Job Insecurity Through Participative Decision Making: Lessons From the Demand-Control Model. *Journal of Occupational Health Psychology,* 10(4), 320-329. http://dx.doi.org/10.1037/1076-8998.10.4.320

Puffer, S. M. (1987). Prosocial Behaviour, Noncompliant Behaviour, and Work Performance among Commission Salespeople. *Journal of Applied Psychology*, 72(4), 615-621.

Rail Safety and Standards Board. (2003). *Measuring safety culture in the rail industry*. London.UK: RSSB

Rafferty, A.E & Griffin, M.A. (2004). Dimensions of transformational leadership: Conceptual and empirical extensions. *Leadership Quarterly,* 15(3) 329-354.

Ramsey, R. (2006). "Presenteeism" a new problem in the workplace'. Supervision, 67: 8, 14–17. Samuel, R.J.& Wilson, L.M. (2007). 'Is presenteeism hurting your workforce?'. *Employee Benefit Plan Review*, 61: 11, 5–7.

Rasmussen, J.(2000). "Human Factors in a Dynamic Information Society: Where are We Heading?" *Ergonomics,* 43 (7), 869–879. doi:10.1080/001401300409071

Rau, B., & Hyland, M. (2002). Role conflict and flexible work arrangements: the effects on applicant attraction. *Personnel Psychology*, 55(1), 111-136

Redman, T., Snape, E., & Ashurst, C. (2009). Location, Location, Location: Does Place of Work Really Matter? *British Journal of Management*, 20, S171.

Reich, J. W., Zautra, A. J., & Hall, J. S. (Eds.). (2010). Handbook of adult resilience. New York, NY, US: The Guilford Press.

Reicher, S., Spears, R., & Postmes, T. (1995). A social identity model of deindividuation phenomena. *Eur. Rev. Soc. Psych.*, 6,161–198

Rennecker, J. & L. Godwin (2005), 'Delays and Interruptions: A Self-Perpetuating Paradox of Communication Technology Use', *Information and Organization* 15, 3, 247–266.

Repetti, R. L. (1987). Linkages between work and family roles. *Applied Social Psychology Annual, 7,* 98–127.

Rhoades, L., & Eisenberger, R. (2002), "Perceived organizational support: a review of the literature". *Journal of Applied Psychology*, 87, 698-714.

Rich, B. L., Lepine, J. A., & Crawford, E. R. (2010). Job engagement: Antecedents and effects on job performance. *Academy of management journal*, 53(3), 617-635.

Richardson, G. E. (2002). The meta theory of resilience and resiliency. *Journal of clinical psychology*, 58(3), 307-321.

Richman, A & Civian, J & L. Shannon, L & Hill, E & Brennan, R. (2008). The Relationship of Perceived Flexibility, Supportive Work-Life Policies, and Use of Formal Flexible Arrangements and Occasional Flexibility to Employee Engagement and Expected Retention. *Community Work & Family*. 11. 183-197. 10.1080/13668800802050350.

Riketta, M.,& Van Dick, R. (2005). Foci of attachment in organizations: A meta-analytic comparison of the strength and correlates of workgroup versus organizational identification and commitment. *J. Vocational Behav.,* 67, 460–510

Robbins, J.M., Ford, M.T. & Tetrick, L.E. (2012), "Perceived unfairness and employee health: a meta-analytic integration", *Journal of Applied Psychology*, 97(2), 235-272.

Roberts, Karlene H., (1990). "Some Characteristics of One Type of High Reliability Organization," *Organization Science*, 1(2), 160.

Robertson, I., Cooper, C., Sarkar, M., & Curran, T. (2015). Resilience training in the workplace from 2003 to 2014: A systematic review. *Journal of Occupational and Organizational Psychology*, 88, 533–562. http://dx.doi.org/10.1111/joop.12120

Robson, C. (1993) Real World Research. Oxford: Blackwell

Rochlin , G. I. (1999) . Safe operation as a social construct. *Ergonomics*, 42 , 1549 – 1560.

Rodriguez, J.K., & Stewart, P. (2017). HRM and work practices in Chile: The regulatory power of organisational culture. *Employee Relations, 39*(3), 378-390.

Rossi, A. M., Meurs, J. A., & Perrewé, P. L. (2013). Improving Employee Health and Well Being. United States of America: Information Age Publishing Inc.

Rosso, B.D., Dekas, K.H., & Wrzesniewski, A. (2010). On the meaning of work: A theoretical integration and review. *Research in Organizational Behavior*, 30, 91–127. http://dx.doi.org/10.1016/j.riob.2010.09.001

Rothmann, Sebastiaan & Muller, Yolande. (2009). Sense of coherence an employees'experience of helping and restraining factors in the working environment. *Sa Journal of Industrial Psychology*. 35. 10.4102/sajip.v35i1.731.

Rothstein, M.G., McLarnon, M., & King, G.(2016). The Role of Self-Regulation in Workplace Resiliency. *Industrial and Organizational Psychology*, 9, 416-421.

Rothwell, W. J., Sullivan, R., & McLean, G. N. (1995). Practicing organization development: A guide for consultants. San Francisco: Jossey-Bass, Inc. Publishers

Rousseau, D. M. (2001). Schema, promise and mutuality: The building blocks of the psychological contract. *J. Occupational Organ. Psych,* 74, 511–541.

Rousseau, D. M., & Tijoriwala, S. A. (1999). What's a good reason to change? Motivated reasoning and social accounts in promoting organizational change. *Journal of Applied Psychology, 84*(4), 514-528.

Rubin, D. B. (1976), 'Inference and missing data', *Biometrika* 63(3), 581–592.

Rubin, H.J., & Rubin, I.S. (1995) Qualitative Interviewing: The Art of Hearing Data. 2nd Edition, Sage Publications, London.

Russ, E., Lonne, B., & Darlington, Y. (2008). Using Resilience to Reconceptualise Child Protection Workforce Capacity. *Australian Social Work*, 62(3), 324-338.

Rutter, M. (1979). Protective factors in children's responses to stress and disadvantage. *Annals of the Academy of Medicine, Singapore*, 8(3), 324-338.

Rutter, M. (2006). Implications of resilience concepts for scientific understanding. *Annals of the New York Academy of Sciences,* 1094, 1-12

Ryan, A. M., & Kossek, E. E. (2008). Work-life policy implementation: Breaking down or creating barriers to inclusiveness? *Human Resource Management*, 47(2), 295-310.

Sabanci, A. (2011). The effect of teachers' stress on educational organizations' health. *International Journal of Business and Social Science*, 2(11), 91-100

Safe Work Australia (2010) *Compendium of Workers' Compensations Statistics Australia 2007-2008*. Retrieved February 15, 2011, from: http://www.safeworkaustralia.gov.au/Pages/default.aspx.

Sainsbury Centre Mental Health at Work (2007) Developing the business case. London: Sainsbury Centre for Mental Health.

Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, 21(7), 600-619.

Saksvik, P. Ø., Tvedt, S. D., Nytr⊘, K., Andersen, G. R., Andersen, T. K., Buvik, M. P., & Torvatn, H. (2007). Developing criteria for healthy organizational change. *Work & Stress*, 21(3), 243–263.

Savalei, V., & Rhemtulla, M. (2013). The performance of robust test statistics with categorical data. *British Journal of Mathematical and Statistical Psychology*, 66(2), 201-223.

Schabracq, M.J. (2003). Everyday well-being and stress in work and organisations. In M.J. Schabracq, J.A.M. Winnubst & C.L. Cooper (Eds.), The handbook of work and health psychology (pp. 37 – 62). Chichester: Wiley.

Schaubroeck, J., Lam, S.S.K., & Peng, A.C. (2011). Cognition-based and affect-based trust as mediators of leader behavior influences on team performance. *Journal of Applied Psychology*, 96(4), 863-871.

Schaufeli, W. B. (2015). Engaging leadership in the job demands-resources model. *Career Development International*, 20, 446–463. http://dx.doi.org/10.1108/CDI-02-2015-0025

Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior*, 25, 293-315.

Schaufeli, W.B., Bakker, A.B., & Van Rhenen. W. (2009). How changes in job demands and resources predict burnout, work engagement and sickness absenteeism. Journal of Organizational Behavior 30(7): 893–917.

Scheck,C.L.,Kinicki,A.J.,& Davy,J.(1997). Testing the mediating processes between work stressors and subjective well-being. *Journal of Vocational Behavior*,50,96-123

Schein, E. (2002). A conceptual model for managed culture change. In E. Schein (Ed.), Organizational culture and leadership (3rd ed.). Chichester: Jossey-Bass.

Schein, E. H. (1980)Organizational psychology, 3d Ed. Englewood Cliffs, N.J.: Prentice-Hall.

Schirmer, L. L., & Lopez, F. G. (2001). Probing the social support and work strain relationship among adult workers: Contributions of adult attachment orientations. *Journal of Vocational Behavior, 59*(1), 17-33

Schmitt, N. W., & Stults, D. M. (1985). Factors defined by negatively keyed items: The results of careless respondents? *Applied Psychological Measurement*, 9, 367-373.

Schneider, B. (Ed) (1990). Organizational Climate and Culture. San Francisco: Jossey-Bass.

Schoon, I. (2006). Risk and Resilience. Adaptations in Changing Times. *Risk and Resilience: Adaptations in Changing Times*. 1-222. 10.1017/CBO9780511490132.

Schriesheim, C. A., & Eisenbach, R. J. (1990). Item wording effects on exploratory factoranalytic results: An experimental investigation. Proceedings of the 1990 Southern Management Association annual meetings, 396-398

Schriesheim, C. A., Eisenbach, R. J., & Hill, K. D. (1989). An experimental investigation of item reversal effects on questionnaires. Paper presented at the annual meeting of the Academy of Management, Washington, D.C.

Schultz, J., & John, R. S. (2007). Eight Steps To Sustain Change. *Quality progress, 40*(11), 25.

Schumacker, R. E., & Lomax, R. G. (2010). A beginner's guide to structural equation modeling (3rd ed.). New York, NY, US: Routledge/Taylor & Francis Group.

Schwartz, B. (2000). Self-determination: The tyranny of freedom. *American psychologist*, 55(1), 79-88.

Scoffield, H. (2006). Number crunching work instability.Toronto: Globe & Mail

Scott, H. K. (2004). Reconceptualising the nature and health consequences of work-related insecurity for the new economy: the decline of workers' power in the flexibility regime. International Journal of Health Services, 34(1), 143-153.

Searle, J. R. (1969). Speech acts: An essay in the philosophy of language. Cambridge: Cambridge University Press.

Seery, M. D., Leo, R. J., Lupien, S. P., Kondrak, C. L., & Almonte, J. L. (2013). An upside to adversity?: Moderate cumulative lifetime adversity is associated with resilient responses in the face of controlled stressors. *Psychological Science*, 24, 1181–1189. http://dx.doi.org/10.1177/0956797612469210

Seligman, M. E. P. (1975). Depression and learned helplessness. In R. J. Friedman & M. M. Katz (Eds.), The psychology of depression: Contemporary theory and research. Washington, D.C.: Winston-Wiley.

Seligman, M.E.P. (1999). The presidents address. APA Annual Report. *American Psychologist* 54:559-562.

Senge, P. (2006). The Fifth Discipline: The Art and Practice of the Learning Organization. United States.

Sennett, R. (1998). The corrosion of character: The personal consequences of work in the new capitalism. WW Norton & Co Inc.

Sennett, R.(1998). The Corrosion of Character: The Personal Consequences of Work in the New Capitalism. W. W. Norton & Company, New York.

Sert, A., Elçi, M., Uslu, T., & Şener, İ. (2014). The Effects of Organizational Justice and Ethical Climate on Perceived Work Related Stress. *Procedia - Social and Behavioral Sciences,* 150, 1187–1198

Settoon, R., Bennett, N., & Liden, R. (1996). Social exchange in organizations: Perceived organizational support, leader-member exchange, and employee reciprocity. *Journal of Applied Psychology*, 81(3), 219-227.

Seville, E., Brunsdon, D., Dantas, A., Le Masurier, J., Wilkinson, S., & Vargo, J. (2006). Building Organisational Resilience: A summary of key research findings.

Christchurch , New Zealand: Resilient Organisations Research Programme, August 2006.

Sherlock-Storey, Mandi (2016) Developing employee resilience to organisational change: the development of a practitioner intervention framework. Doctoral thesis, Northumbria University.

Sherman R. (2006) Leading a Multigenerational Nursing Workforce: Issues, Challenges and Strategies. *The Online Journal of Issues in Nursing*. 11(2), Manuscript 2.

Shih, J. (2004). Project time in Silicon Valley. *Qualitative Sociology*,27(2), 223-245.

Shin, J., Taylor, M. S., & Seo, M.-G. (2012). Resources for change: The relationships of organizational inducements and psychological resilience to employees' attitudes and behaviors toward organizational change. *Academy of Management Journal*, 55(3), 727-748.

Shoaf, C., Genaidy, A., Karwowski, W., Huang, S., Sommerich, Carolyn, & Wogalter, Michael S. (2004). Improving performance and quality of working life: A model for organizational health assessment in emerging enterprises. *Human Factors and Ergonomics in Manufacturing & Service Industries, 14*(1), 81-95.

Shockley, K.M, & Allen, T.D. (2007). When flexibility helps: Another look at the availability of flexible work arrangements and work-family conflict. *Journal of Vocational Behavior*, 71(3), 479–493.

Shuttleworth, A. (2004). *Managing workplace stress: how training can help. Industrial and Commercial Training,* 36(2), 61–65.doi:10.1108/00197850410524824

Siebern-Thomas, F. (2005). Job quality in European labour markets. Job quality and employer behaviour. Basingstoke: *Palgrave Macmillan*, 31-66.

Siegel, A. L., & Ruh, R. A. (1973). Job Involvement, Participation in decision Making, Personal Background and Job Behaviour. *Organisational Behaviour and Human Performance*, 9, 318- 327.

Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. *Journal of occupational health psychology*, 1(1), 27.

Siegrist, J. (2002). Effort-Reward Imbalance at Work and Health. *Historical and Current Perspectives on Stress and Health*, 2, 261-291.

Siegrist, J., Siegrist, K., & Weber, I. (1986). Sociological concepts in the etiology of chronic disease: the case of ischemic heart disease. *Social Science & Medicine*, 22, 247–253.

Siegrist, Johannes & Rödel, Andreas. (2007). Work stress and health risk behavior. *Scandinavian journal of work, environment & health.* 32. 473-81. 10.5271/sjweh.1052.

Siegrist. J., (2006). Work, health and welfare: new challenges. *International Journal of Social Welfare*, 15(Suppl. 1), S5–S12.

Sims, R. R. (2002). Employee involvement is still the key to successfully managing change. In S. J. Sims & R. R. Sims (Eds.), Changing the way we manage change (pp. 33-54). Westport, CT: Quorum Books.

Simsek, Zeki & Veiga, John. (2001). A Primer on Internet Organizational Surveys. *Organizational Research Methods*. 4. 218-235. 10.1177/109442810143003.

Sinclair, V. G., & Wallston, K. A. (2004). The development and psychometric evaluation of the Brief Resilient Coping Scale. Assessment, 11(1), 94-101.

Sjöberg, L. (1967). Successive intervals scaling of paired comparisons. *Psychometrika*, 32(3), 297-308.

Smith, C. A., Organ, D. W, & Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology*, 68, 653-663.

Smith, I. (2005). Achieving readiness for organisational change. *Library Management*, 26(6- 7), 408-412.

Smith, T. W. (1995). The impact of the presence of others on a respondent's answers to questions.*International Journal of Public Opinion Research*, 9, 33–47

Sommer, S., Howell, J., & Hadley, C. (2016). Keeping positive and building strength: The role of affect and team leadership in developing resilience during an

organizational crisis. *Group & Organization Management*, 41, 172–202. http://dx.doi.org/10.1177/1059601115578027

Southwick, S., Bonnano, G., Masten, A., Panter-Brick and Yehuda, R. (2014), "Resilience definitions, theory and challenges: Interdisciplinary perspectives", *European Journal of Psychotraumatology*, 5 (1), pp. 1-14.

Spector, P. E. (1992). Summated Rating Scale Construction: An Introduction. London, UK: Sage Publications Inc

Spector, P. E. (1997). Job Satisfaction: Application, assessment, causes, and consequences. Thousand Oaks, CA: Sage Publications, Inc.

Spitzmuller, M., Sin, H.-P., Howe, M., & Fatimah, S. (2015). Investigating the uniqueness and usefulness of proactive personality in organizational research: A meta-analytic review. *Human Performance*, 28, 351–379. http://dx.doi.org/10.1080/08959285.2015.1021041

Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal,* 38(5), 1442-1465. http://dx.doi.org/10.2307/256865

Spreitzer, G.M., Kizilos, M.A., & Nason, S.W. (1997). A dimensional analysis of the relationship between psychological empowerment, and effectiveness, satisfaction, and strain. *Journal of Management*, 23, 670–704.

Stainton Rogers, W. (2011). Social psychology (2nd ed.). Maidenhead: McGraw-Hill/Open University Press

Stansfield, S., & Marmot, M. (2002). Stress and the heart: Psychosocial pathways to coronary heart disease. London: BMJ Books.

Starbuck, C. R. (2016). Managing Insidious Barriers to Upward Communication in Organizations: An Empirical Investigation of Relationships Among Implicit Voice Theories, Power Distance Orientation, Self-Efficacy, and Leader-Directed Voice.

Steger, M. F., & Dik, B. J. (2009). If one is searching for meaning in life, does meaning in work help? *Applied Psychology: Health and Well-Being*, 1, 303–320. https://doi.org/10.1111/j.1758-0854.2009.01018.x

Stephens, J. P., Heaphy, E. D., Carmeli, A., Spreitzer, G. M., & Dutton, J. E. (2013). Relationship quality and virtuousness: Emotional carrying capacity as a source of individual and team resilience. *Journal of Applied Behavioral Science*, 49(1), 13–41.

Stephenson, A. V. (2010). Benchmarking the resilience of organisations.Ph.D. thesis, Univ. of Canterbury, Christchurch, New Zealand.

Stevens J.P. (1984). Outliers and influential data points in regression analysis. *Psychological Bulletin*,95, 334-344.

Stevens, J.P. (2002). Applied Multivariate Statistics for the Social Sciences. 4th edn. Mahwah, New Jersey: Lawrence Erlbaum Associates.

Stone, E. (1978). Research methods in organizational behavior. Glenview, IL: Scott, Foresman.

Stone, F. (2004). Deconstructing silos and supporting collaboration. *Employment Relations Today*, 31(1), 11. http://dx.doi.org/10.1002/ert.20001

Strauss, W. & Howe, C. (1991) Generations: The history of America's future 1584– 2069. New York, William Morrow.

Streiner, D., Norman, G., & John, C. (2015). Health Measurement Scales: A Practical Guide To Their Development and Use (5thed.). Oxford: Oxford University Press

Sullivan, K. (1998) 'Managing the "Sensitive" Interview: A Personal Account'. *Nurse Researcher*, 6, 72–85.

Sutcliffe, K. M., & Vogus, T. J. (2003). Organizing for resilience. In K. Cameron, J. E. Dutton, & R. E. Quinn (Eds.), Positive organizational scholarship (Chapter 7, pp. 94–110). San Francisco, CA: Berrett-Koehler

Suzuki, L., Ahluwalia, M., Arora, A., & Mattis, J. (2007). The Pond You Fish In Determines the Fish You Catch: Exploring Strategies for Qualitative Data Collection. *The Counseling Psychologist*,35(2), 295-327.

Svendsen, D.S. (1997) 'A heuristic study of women's attempts to integrate utilitarian and expressive aspects of self through work', unpublished doctoral dissertation, the George Washington

Swanberg, Jennifer E., McKechnie, Sharon P., Ojha, Mamta U., & James, Jacquelyn B. (2011). Schedule Control, Supervisor Support and Work Engagement: A Winning Combination for Workers in Hourly Jobs? *Journal of Vocational Behavior*, 79(3), 613-624

Tabachnick, B. G., & Fidell, L. S. (2013). Using Multivariate Statistics (6th ed). New Jersey: Pearson Education Inc

Tanis, M., &. Postmes, T. (2007). Two faces of anonymity: Paradoxical effects of cues to identity in CMC. *Comput. Human Behavior,* 23, 955–970.

Tanner, G., & Otto, K. (2016). Superior–subordinate communication during organizational change: Under which conditions does high-quality communication become important? *The International Journal of Human Resource Management*, 27, 2183–2201.
http://dx.doi.org/10.1080/09585192.2015.1090470

Tashakkori, A. & Teddlie, C. (2003). Handbook of Mixed Methods in Social & Behavioral Research. Thousand Oaks: Sage.

Tavakol, M., Mohagheghi, M., & Dennick, R. (2008). Assessing the Skills of Surgical Residents Using Simulation. *Journal of Surgical Education*, 65(2), 77-83

Tavares, S., van Knippenberg, D., & van Dick, R. (2016). Organizational identification and "currencies of exchange": Integrating social identity and social exchange perspectives. *Journal of Applied Social Psychology*, 46, 34–45.
http://dx.doi.org/10.1111/jasp.12329

Taylor, S. E., Kemeny, M. E., Reed, G. M., Bower, J. E., & Gruenewald, T. L. (2000). Psychological resources, positive illusions, and health. *American psychologist*, 55(1), 99.

Terry, G., & Braun, V. (2011). 'I'm committed to her and the family': Positive accounts of vasectomy among New Zealand men. Journal of Reproductive and Infant Psychology, 29(3), 276-291.

The British Psychological Society. (2009). Code of Ethics and Conduct: Guidance published by the Ethics Committee of the British Psychological Society. BPS: Leicester.
http://www.bps.org.uk/system/files/documents/code_of_ethics_and_conduct.pdf

Thomas, K. W., & Velthouse, B. A. (1990). Cognitive elements of empowerment: An "interpretive" model of intrinsic task motivation. The Academy of Management Review, 15(4), 666-681. http://dx.doi.org/10.2307/258687

Thurstone, L. L. (1927). A Law of Comparative Judgements. *Psychological Review*, 34, 273- 286.

Thurstone, L. L. (1947). Multiple-factor analysis. Chicago: University of Chicago Press.

Thurstone, L. L. (1959). The measurement of values.

Tikkanen, T. (2006); The life long learning debate and older workers. In: Tikkanen, T. and Nyham, B. (2006) (Eds) Promoting lifelong learning for older workers. An international overview – Cedefop Reference Series. 65.

Timms, C., Brough, P., O'Driscoll, M., Kalliath, T., Siu, O., Sit, C., & Lo, D. (2015). Flexible work arrangements, work engagement, turnover intentions and psychological health. Asia Pacific Journal of Human Resources, 53(1), 83-103.

Tims, M., Bakker, A. B., & Derks, D. (2012). Development and validation of the job crafting scale. *Journal of vocational behavior*, 80(1), 173-186. https://doi.org/10.1016/j.jvb.2011.05.009

Titchener, Edward Bradford. 1901. Experimental psychology: A manual of laboratory practice.Volume 1: Qualitative experiments. New York: Macmillan

Tonkin, K., Malinen, S., Näswall, K., & Kuntz, J. (2018). Building employee resilience through wellbeing in organizations. *Human Resource Development Quarterly*, 29(2), 107-124.

Tourangeau, R., Rips, L. J., & Rasinski, K. (2000). The psychology of survey response. Cambridge, England: Cambridge University Press.

Towers, I., L. Duxbury, C. Higgins & J. Thomas (2006), 'Time Thieves and Space Invaders: Technology, Work and the Organization', *Journal of Organizational Change Management* 19, 5, 593–618.

Treiber, L. A., & Davis, S. N. (2012). The role of "workplace family" support on worker health, exhaustion and pain. *Community, Work & Family*, 15, 1-27

Trist, E.L. & Bamforth, K.W., 1951. Some social and psychological consequences of the Longwall Method of coal-getting: An examination of the psychological situation and defences of a work group in relation to the social structure and technological content of the work system. *Human relations*, 4(1), pp.3-38.

Truss, C., Mankin, D., Kelliher C. (2011), Strategic Human Resource Management, Oxford: Oxford University Press

Tucker, L. R., & MacCallum, R. C. (1997). Exploratory factor analysis. Unpublished manuscript, Ohio State University, Columbus.

Tucker, P., Dahlgren, A., Akerstedt, T., & Waterhouse, J. (2008). The impact of free-time activities on sleep, recovery, and well-being. *Applied Ergonomics*, 39, 653 - 662.

Tugade, M. M., & Fredrickson, B. L. (2004). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal of personality and social psychology*, 86(2), 320-333.

Tugade, M. M., Fredrickson, B. L., & Feldman Barrett, L. (2004). Psychological resilience and positive emotional granularity: Examining the benefits of positive emotions on coping and health. *Journal of personality,* 72(6), 1161-1190.

Tulgan, B. (2003). Trends point to a dramatic generational shift in the future workforce. *Employment Relations Today*, 30(4), 23-31.

Turner, B.A., & Pidgeon, N.F. (1997). Man-made Disasters, 2nd Edition. Butterworth Heinemann, London

Turner, S. B. (2014). The resilient nurse: An emerging concept. *Nurse Leader*, 12(6), 71–90.

Twenge, J.M., Campbell, S.M., Hoffman, B.J., & Lance, C.E. (2010). Generational differences in work values: Leisure and extrinsic values increasing, social and intrinsic values decreasing. *Journal of Management*, 36(5), 1117–1142.

Ullman, J. B. (2013). Structural Equation Modeling. In B. G. Tabachnick & L. S. Fidell (Eds.), *Using Multivariate Statistics* (6th ed., pp. 681-785). London: Pearson.

Ussher, J.M. (1999). Eclecticism and methodological pluralism: The way forward for feminist research. *Psychology of Women Quarterly*, 23, 41–46.

Vakola, M., & Nikolaou, I. (2005). Attitudes towards organizational change: what is the role of employees' stress and commitment? *Employee relations*, 27(2), 160-174.

Van Dam, K., Oreg, S., & Schyns, B. (2008). Daily work contexts and resistance to organisational change: The role of leader–member exchange, development climate, and change process characteristics. *Applied Psychology*, 57(2), 313-334.

Van den Heuvel, M., Demerouti, E., Bakker, A., & Schaufeli, W. B. (2013). Adapting to change: The value of change information and meaning-making. *Journal of Vocational Behavior*, 83(1), 11-21. doi: 10.1016/j.jvb.2013.02.004

Van den Heuvel, M., Demerouti, E., Schaufeli, W. B., & Bakker, A. B. (2010). Personal resources and work engagement in the face of change. In J. Houdmont, & S. Leka (Eds.), *Contemporary occupational health psychology : global perspectives*

on research and practice (pp. 124-150). Chichester: Wiley.
DOI: 10.1002/9780470661550.ch7

Van den Heuvel, M., Demerouti, E., Schreurs, B. H. J., Bakker, A. B., & Schaufeli, W. B. (2009). Does meaning-making help during organizational change? Development and validation of a new scale. *Career Development International*, 14, 508-533.

Van Der Doef, M., & Maes, S. (1999). The Job Demand-Control (-Support) Model and Psychological Well-Being: A Review of 20 Years of Empirical Research. Work & Stress, 13, 87-114. http://dx.doi.org/10.1080/026783799296084

Van der Vegt, G., Essens, P., Wahlstrom, M., & George, G. (2015). Managing risk and resilience. *Academy of Management Journal*, 58, 971–980. http://dx.doi.org/10.5465/amj.2015.4004

Van der Voordt, T. J. (2004). Productivity and employee satisfaction in flexible workplaces. *Journal of Corporate Real Estate, 6*(2), 133-148.

Van Dick, R.(2004). My job is my castle: Identification in organizational contexts. *Internat. Rev.Indust. Organ. Psych.*, 19,171–204.

Van Dyne, L., Kossek, E., & Lobel, S. (2007). Less need to be there: Crosslevel effects of work practices that support work-life flexibility and enhance group processes and group-level OCB. Human Relations, 60, 1123-1154

Van Knippenberg, D., & Van Schie, E.C.,(2000). Foci and correlates of organizational identification. *J. Occupational Organ. Psych,* 73(2), 137–147.

Van Mierlo, H., Rutte, C. G., Kompier, M. A. J., & Doorewaard, J. A. C. M. (2005). Self-managing teamwork and psychological well-being: Review of a multilevel research domain. *Group & Organization Management*, 30, 211-235

van Mierlo, H., Vermunt, J. K., & Rutte, C. G.(2008). Composing group-level constructs from individual-level survey data. *Organizational Research Methods*, 12: 368-392.

van Vegchel, N., de Jongea, J., Bosmab, H., & Schaufelia, W. (2005). Reviewing the effort– reward imbalance model: drawing up the balance of 45 empirical studies, *Social Science & Medicine,* 60, 1117–1131.

Van Woerkom, M., Bakker, A. B., & Nishii, L. H. (2016). Accumulative job demands and support for strength use: Fine-tuning the job demands-resources model using conservation of resources theory. *Journal of Applied Psychology*, 101, 141–150. http://dx.doi.org/10.1037/apl0000033

Vanhove, A., Herian, M., Perez, A., Harms, P., & Lester, P. (2015). Can resilience be developed at work? A meta-analytic review of resilience-building programme effectiveness. *Journal of Occupational and Organizational Psychology*, 89(2), 278-307.

Vecchio, R. P. (1985). Predicting employee turnover from leader-member exchange: A failure to replicate. *Academy of Management Journal,* 28, 478-485.

Vecchio, R. P., & Brazil, D. M. (2007). Leadership and sex-similarity: A comparison in a
military setting. *Personnel Psychology,* 60, 303–33

Veenstra, K., Haslam, S. A., & Reynolds, K .(2004). The psychology of casualization: Evidence for the mediating roles of security, status and social identification. *British J. Soc. Psych*, 43(4), 499–514.

Velicer, W. F., & Jackson, D. N. (1990a). Component analysis versus common factor analysis: Some issues in selecting an appropriate procedure. Multivariate Behavioral Research, 25, 1-28. Velicer, W. F., & Jackson, D. N. (1990b). Component analysis versus common factor analysis: Some further observations. *Multivariate Behavioral Research*, 25, 97- 114

Viswesvaran, C., Sanchez, J., & Fisher, J.(1999). The Role of Social Support in the
Process of Work Stress: A Meta-Analysis. *Journal of Vocational Behavior*, 54(2), 314-334.

Waddell, G., & Burton, A. K. (2006). Is Work Good for your Health and Well-being?
Norwich: TSO (The Stationary Office).

Wainwright, D., Crawford, J., Loretto, W., Phillipson, C., Robinson, M., Shepherd, S.,
& Weyman, A. (2018). Extending working life and the management of change.
Is the workplace ready for the ageing worker. *Ageing & Society*, 1, 23.

Wajcman, J., Bittman, M.,& Brown, J.E. (2008) 'Intimate Connections: The Impact of
the Mobile Phone on Work–Life Boundaries', in G. Goggin and L. Hjorth (eds)
Mobile Technologies: From Telecommunications to Media. London: Routledge.

Wald, H. S. (2018). Optimizing resilience and wellbeing for healthcare professions
trainees and healthcare professionals during public health crises - Practical tips
for an 'integrative resilience' approach. *Medical Teacher,* 1-12.

Waldman, D. A., Ramirez, G. G., House, R. J., & Puranam, P. (2001). Does Leadership
Matter? CEO Leadership Attributes and Profitability Under Conditions of
Perceived Environmental Uncertainty. *Academy of Management Journal*, 44(1),
134–*143.* doi:10.5465/3069341

Wall, J. A., & Callister, R. R. (1995). Conflict and its management. *Journal of
Management*, 21, 515-558.

Walsh, K. and J.R. Gordon. (2008). Creating an individual work identity. *Human
Resource Management*, 18: 46-61.

Walther, J.B. (1992). Interpersonal effects in computer-mediated interactions: A
relational perspective. Communication Research, 19, 52-90.

Walther, J.B. (1995). Relational aspects of computer-mediated communication:
Experimental observations over time. Organization Science, 6, 186-203.

Walton, R.E. (1974). Improving the quality of work life. *Harvard Business Review*, 52(3), 12-15.

Wang, J., & Wang, X. (2012), Structural equation modeling: Applications usingMplus, John Wiley & Sons.

Warkentin, M.E., Sayeed, L., & Hightower, R. (1997). Virtual Teams versus Face-to-Face Teams: An Exploratory Study of a Web-based Conference System. *Decision Sciences, 28*(4), 975-996.

Warr, P. (1996). *Psychology at work* (4th ed.). London: Penguin.

Waugh, C. E., Fredrickson, B. L., & Taylor, S. F. (2008). Adapting to life's slings and arrows: Individual differences in resilience when recovering from an anticipated threat. *Journal of Research in Personality*, 42, 1031–1046. http://dx.doi.org/10.1016/j.jrp.2008.02.005

Wayne, J. H, Casper, W. J., Matthews, R. A., & Allen, T. D. (2013). Family supportive organization perceptions and organizational commitment: The mediating role of work-family conflict and enrichment and partner attitudes. *Journal of Applied Psychology*, 44, 118-120.

Wayne, J. H., Randel, A. E., & Stevens, J. (2006). The role of identity and work family support in work family enrichment and its work-related consequences. *Journal of Vocational Behavior*, 69, 445-461

Wayne, S. J., Shore, L. M., Bommer, W. H., & Tetrick, L. E. (2002). The Role of fair Treatment and Rewards in Perceptions of Organisational Support and Leader-Member Exchange. *Journal of Applied Psychology*, 87(3), 590-598.

Wayne,S.,& Green,S.(1993). The Effects of Leader-Member Exchange on Employee Citizenship and Impression Management Behavior**. *Human Relations* 46 (12), 1431-1440

Weber, P. S., & Manning, M. R. (2001). Cause maps, sensemaking, and planned organizational change. *The Journal of Applied Behavioral Science*, 37, 227–251.

Weick, K. (1995). Sensemaking in Organizations (3rd edition). Thousand Oaks, CA: SAGE Publications.

Weiner, B. J. (2009). A theory of organizational readiness for change. *Implement Sci*, 4(1), 67.

Wellard, S., & Mckenna, L. (2001). Turning tapes into text: Issues surrounding the transcription of interviews. *Contemporary Nurse*, 11(2-3), 180-186.

Werner, E., & Smith, R. (1982). Vulnerable but invincible: a longitudinal study of resilient children and youth. New York: McGra-Hill.

West, S. G., Finch, J. F., & Curran, P. J. (1995). Structural equation models with nonnormal variables: Problems and remedies. In R. H. Hoyle (Ed.), Structural equation modeling: Concepts, issues and applications (pp. 56-75). Newbury Park, CA: Sage.

Weston, Cynthia & Gandell, Terry & Beauchamp, Jacinthe & McAlpine, Lynn & Wiseman, Carol & Beauchamp, Catherine. (2001). Analyzing Interview Data: The Development and Evolution of a Coding System. Qualitative Sociology. 24. 381-400. 10.1023/A:1010690908200.

Weyman, A. K., & Boocock, M. (2014). Forthcoming: Managing work-related musculoskeletal disorders - socio-technical 'solutions' and unintended psychosocial consequences. In Biron, C., & Karanika Murray, M. (Eds.), Derailed Organisational Interventions. Auckland, New Zealand: Auckland University of Technology.

Weyman, A., Meadows, P., & Buckingham, A. (2013). Extending Working Lives: Audit of research relating to impacts on NHS staff. University of Bath & The NHS Staff Council.

Weyman, A., Pidgeon, N., Jeffcott, S., & Walls, J. (2006). Organisational Dynamics and Safety Culture in UK Train Operating Companies: Health and Safety Executive Research Report 421.

Weyman, A., Wainwright, D., O'Hara, R., Jones, P., & Buckingham, A. (2012). Extending Working Life: Behaviour Change Interventions. *Department of Work and Pensions,* http://research.dwp.gov.uk/asd/asd5/rrs-index.asp

Wiesenfeld, B. M., Raghuram, S., & Garud, R.(1998). Communication patterns as determinants of organizational identification in a virtual organization. *J. Comput. Mediated Comm,*3(4).

Wiley, M. (1991). Gender, Work, and Stress: The Potential Impact of Role-Identity Salience And Commitment. *The Sociological Quarterly,* 32(4), 495-510.

Wilkinson, D. (2000). Planning the research. In D. Wilkinson (Ed.), The researcher's toolkit: The complete guide to practitioner research (pp. 15-23). London: Routledge.

Williams, P., (2001). Transnational criminal networks. In: Arquilla, J., Ronfeldt, D. (Eds.), Networks and Netwars: The Future of Terror, Crime and Militancy. RAND, Santa Monica, CA.

Williams, S. (2001). Increasing employees' creativity by training their managers. *Industrial and Commercial Training*, 33(2), 63–68

Williams, T., Gruber, D., Sutcliffe, K., Shepherd, D., & Zhao, E.Y. (2017). Organizational response to adversity: Fusing crisis management and resilience research streams. *Academy of Management Annals*, 11(2), 733–769.

Williamson, J. & Weyman, A.(2005). Review of the public perception of risk and stakeholder engagement. Health & Safety Laboratory, HSL/2005/16

Willig, C. (2000). A Discourse-Dynamic Approach to the Study of Subjectivity in Health Psychology. *Theory & Psychology,* 10(4), 547-570.

Wilson, S.M., & Ferch, S.R.(2005) Enhancing resilience in the workplace through the practice of caring relationships. Organization Development Journal 23(4), 45–60.

Wilson, J.R., & Corlett, E.N. (1995) Evaluation of Human Work: A Practical Ergonomics Methodology. 2 nd and Revised Edition. London: Taylor and Francis.

Winwood, P. C., Winefield, A. H., Dawson, D., & Lushington, K. (2005). Development and Validation of a Scale to Measure Work-Related Fatigue and Recovery: The Occupational Fatigue Exhaustion/Recovery Scale (OFER). *Journal of Occupational and Environmental Medicine*, 47(6), 594-606.

Wood, J. M., Tataryn, D. J., & Gorsuch, R. L. (1996). Effects of under- and overextraction on principal axis factor analysis with varimax rotation. Psychological Methods, I, 354-365

Wood, S., & de Menezes, L. M. (2011). High involvement management, high performance work systems and well-being. *The International Journal of Human Resource Management*, 22(07), 1586–1610.

Wood, SJ., & de Menezes, L. (2010) Family-friendly management, organizational performance and social legitimacy. *Journal of Human Resource Management* 21(10), 1575–1597.

Woodman, R. W., & Dewett, T. (2004). Organizationally relevant journeys in individual change. In M. S. Poole & A. H. Van de Ven (Eds.), Handbook of organizational change and innovation (pp. 32-49). New York, NY: Oxford University Press.

Woodman, R.W. & Dewett, T. A.H. (Eds.). (2004). Handbook of organizational change and innovation. Oxford, England: Oxford University Press.

Woolley, A.W., Chabris, C.F., Pentland, A., Hashmi, N., & Malone, T. (2010). Evidence for a Collective Intelligence Factor in the Performance of Human Groups. *Science (American Association for the Advancement of Science), 330*, 686-688

Wright, P., & McMahan, G. (2011). Exploring human capital: Putting human back into strategic human resource management. *Human Resource Management Journal*, 21, 93–104. http://dx.doi.org/10.1111/j.1748- 8583.2010.00165.x

Wright, T. A. (2003), Positive organizational behavior: an idea whose time has truly come. *Journal of Organizational Behaviour.*, 24: 437-442. doi:10.1002/job.197

Wrzesniewski, A., McCauley, C., Rozin, P. & Schwartz, B. (1997) Jobs, Careers, and Callings: People's Relations to Their Work. *Journal of Research in Personality*, 31, 21-33.

Xia, Y. (2016). Investigating the chi-square-based model-fit indexes for WLSMV and ULSMV estimators.

Yammarino, F., Skinner, S., & Childers, T. (1991). Understanding mail survey response behavior: A meta-analysis. *Public Opinion Quarterly*, 55, 613-639.

Yardley, L. (2000). "Dilemmas in qualitative health research." Psychology and Health. 15. pp. 215-228.

Yeatts, D. E., Cready, C., Swan, J., & Shen, Y. (2010). The Perception of "Training Availability" Among Certified Nurse Aides: Relationship to CNA Performance, Turnover, Attitudes, Burnout, and Empowerment. Gerontology & Geriatrics Education, 31(2), 115–132. doi:10.1080/02701961003795722

Yin, R. (2003). Case study research and applications: Design and methods. Thousand Oaks, California.: SAGE.

Yousef, D. A. (2017). Organizational commitment, job satisfaction and attitudes toward organizational change: A study in the local government. *International Journal of Public Administration*, 40(1), 77-88.

Youssef, C. M., & Luthans, F. (2007). Positive Organizational Behavior in the Workplace The Impact of Hope, Optimism, and Resilience. *Journal of Management*, 33(5), 774- 800.

Yu, C.-Y., & Muthen, B. (2002). Evaluation of model fit indices for latent variable models with categorical and continuous outcomes. In annual meeting of the American Educational Research Association, NewOrleans, LA.

Zautra, A. J., Hall, J. S., & Murray, K. E. (2010). Resilience: A new definition of health for people and communities. In Reich, J. W., Zautra, A. J., and Hall, J. S. (Eds.), Handbook of Adult Resilience (3-29). New York, NY: The Guilford Press.

Zemke, R; Raines, C., & Filipczak, B. (2000) Generations at work. New York, American Management Association.

Zwetsloot, G., & van Scheppingen, A.(2007). 'Towards a Strategic Business Case for Health Management', in U. Johansson, G. Ahonen and R. Roslander (editors), Work Health and Management Control, (Thomson Fakta, Stockholm), pp. 183-213.

Zwetsloot, G., Leka, S.,& Jain, A. (2008). Corporate social responsibility and psychosocial risk management. In Leka, S.,& Cox, T (eds), The European Framework for Psychosocial Risk Management. I-WHO Publications.

Zwick, W. R., & Velicer, W. F. (1986). Comparison of five rules for determining the number of components to retain. *Psychological Bulletin*, 17, 253-269.

Appendix A

OHP Journals used for Literature Review

- Journal of Occupational Health Psychology
- Occupational Health Science
- Work and Stress
- Stress and Health
- American Journal of Public Health
- American Journal of Industrial Medicine
- Applied Ergonomics
- Applied Psychology: Health and Well-Being
- Ergonomics
- Human Factors
- Journal of Applied Psychology
- Journal of Business and Psychology
- Journal of Occupational and Environmental Medicine
- Journal of Occupational and Organizational Psychology
- Safety Science
- Scandinavian Journal of Work Environment and Health

Appendix B

Ethical Approval for Project- **reference number 13-038**

Title: Resilience in a constant world of change - An employee perspective on workplace change.

1. Purpose and rational

1.1 Organisational and employee resilience

At the heart of modern workplace health and safety is the premise that reducing the risks associated with hazardous processes and activities, reduces the potential for negative outcomes and, by implication, the frequency of accidents and ill health. While identifying and trying to eliminate risk is important, in light of the unpredictable, uncertain and chaotic environment of today's working world, one can argue that not all risks can be eliminated. Therefore, the concept of resilience has become increasingly important in the workplace (Legnick-Hall, Beck & Legnick-Hall, 2011). Despite the importance of the concept, there is little consensus regarding what resilience is (Paton, 2011), what it means for organisations and, more importantly, how organisations might achieve greater resilience in the face of increasing risks (Stephenson, 2010).

In general, research on organisational resilience seems to be in its infancy stage (Braes & Brooks, 2010). Organisational resilience has been examined in the context of disasters, crises or dramatic change (e.g. 9/11, earthquakes, climate change; McManus, 2008). In contrast, Organisational resilience has not been examined in the context of cumulative change of a less dramatic nature. Furthermore, there is little consistency in the use of the term of Organisational Resilience and a lack of common understanding as to the essential concepts prevails (McManus, 2008; Braes & Brooks, 2010). This project is expected to contribute to the understanding of key concepts of organisational resilience in the context of organisational change.

System theory suggests an organisation can be viewed as a system comprised of the organisation, teams, and individuals in a given socio-technical context (Ashmos & Huber, 1987; Denhardt & Denhardt, 2010). According to system theory the relationship between the components of a system are more important than the individual agents themselves (Holden, 2005). This suggests that for an organisation to be resilient a good relationship needs to exist between the organisation and its

individual employees (Mallack, 1998). However, research proposes that few organisations consider their staff as stakeholders (Kay & Goldspink, 2012). Arguably, many organisations are too focused on the 'bottom line' and sustainability in terms their product, but often ignore the fact that in order to provide this and be profitable a healthy workforce is essential. Therefore, this project will aim to investigate the assumption that a resilient workforce implies a resilient organisation.

The question then remains how do you achieve employee resilience, if we assume it constitutes a fundamental component of organisational resilience? To date the perspective on employee resilience has focused on individuals as the unit of for intervention to achieve change; e.g. interventions aimed at changing workforce lifestyle-health have focused on individuals and strategies to make the individual more resilient in order to reduce absence and, logically by extension, increase / maintain productivity (see for example Tugade & Fredrickson, 2004; Jackson et al., 2007). This approach only addresses the individuals however there is a need to broaden the perspective on employee resilience; not just focusing on how to make people more resilient by changing their orientation to their work or thought style. Additionally, there is a need for the reorientation of resilience where not only individual dimensions (eg. Personality factors) help to explain differences in human agency, but the acknowledgement of broader social forces on human experience need to considered (Johnson & Down, -2009). Therefore, it is vital to understand how systems of work and managing any change process embodies the potential to erode the resilience of individuals. Understanding the organisational factors that can either enhance or erode employee residence is a pre-requisite for developing a prevention/mitigation strategy that seeks to address any negative impacts on staff.

In summary, there is a strong need to focus on providing the level of support for all staff to do their jobs rather than limiting the perspective on support to action in the event of individual failure. Employee resilience has implications for the organisation; staff absence / diminished capacity erodes the resilience of the organisation to deliver its services. If staff can't perform well then neither can the organisation; the organisation needs to find ways to manage this. It can be argued that an essential component to organisational resilience is to identify what culture, values and attitudes, systems and practices at an organisational level contribute to the resilience of employees. The research will aim to provide measures of the prevalence and profile of such influences that can be used inform management practice in mitigating any negative impacts on staff and organisational performance.

1.2   *New ways of working*

It has been suggested that working conditions characterised by high job demand, low control over decisions and low social support are associated with both mental and physical ill health (Joyce et al., 2010). Based on this policymakers are increasingly promoting legislation that enables flexible working conditions (e.g. teleworking, flexible workspaces, home working). Relying on the assumption that flexible working will have a positive impact on employee, flexible work conditions have become common practice (Joyce et al., 2010). However, in reality research is rather contradictory regarding the positive and/or negative impact of workplace flexibility on employee health and well-being (Golden & Veiga, 2005). Some studies show favourable effects, such as, increased autonomy (Gajendran & Harrison, 2007), while other studies show negative effects, e.g., increased negative affectivity, stress, health complaints (Mann & Holdsworth, 2003), and reduced job satisfaction (De Croon et al., 2005).

Therefore there is a need for clarification on the impact adapting to flexible working practices can have on employee health and wellbeing. Similarly, the impact flexible working has on employee and organisational resilience needs to be considered.

In crisis/change management literature one characteristic identified to generate organisational resilience is innovation in new ways of working (Stephenson, 2010). This might benefit the organisations 'bottom line' however no one has examined if this will benefit the staff. If we assume the link suggested above, employee resilience predicts organisational resilience, is correct then if new ways of working do not benefit employees, according to system theory this will act as a potential source of failure (decrease resilience of the organisation).

For example, new ways of working such as hot-desking might lead to more germs being spread through shared workspaces which will increase the risk of sickness absence. Another example comes from home working; home working has been found to counter-intuitively increase stress as work-home life boundaries become blurred (Bloom, Liang, Roberts, & Ying, 2012). The above intuitively erode the resilience of individuals to stress and viruses, therefore, employee absence/diminished capacity can also erode the resilience of the organisation to deliver its services.

Additionally, it is possible that new ways of working may have a direct impact on Organisational resilience. Just this month Marissa Mayer CEO of Yahoo! made the controversial decision to end remote working for her employees, "We need to be working side-by-side. That is why it is critical that we are all present in our offices. Some of the best decisions and insights come from hallway and cafeteria discussions, meeting new people, and impromptu team meetings. Speed and quality are often sacrificed when we work from home. We need to be one Yahoo!, and that starts with physically being together." It is necessary to examine if there is any evidence behind such a decision. Restricted research suggests new ways of working impact organizational identification (Knight & Haslam, 2010) and act as a barrier to concepts such knowledge sharing between employees (Bonsall, 2011). A greater understanding of such theories is needed to assess the direct impact on organisational resilience.

Furthermore, not much is known about how adaptation processes to new ways of working fluctuate during the change implementation (Van den Heuvel, 2013). Less is known about the specific individual variation (within-person effects) in how adaptation unfolds between the early stages and later stages of implementing changes such as hot desking, home working and mobile working.

2.0   Overview of Method and Analysis

The proposed empirical activity will involve a combined methods (qualitative and quantitative) approach.

- ➤ **Qualitative evidence**. Data will be gathered via focus groups and individual interviews with staff. Analysis will follow established precedents, and in relation to this study's aims is envisaged to take the form of a thematic analysis of transcript evidence derived from audio recordings of interactions with respondents. The qualitative analysis is viewed as affording insight in itself, but also providing a contextually grounded basis for the quantitative work.

- ➤ **Quantitative evidence.** Insight from qualitative data collected will inform the development of statements/questions for the survey. Data will be gathered in the form of a survey of a sample of staff at LA. The use of Principal

Components Analysis will contribute to the development of psychometric scales.

3.0   Study 1 - Development of Psychometric Measure of Resilience

3.1   *Aim*

To better understand variables impacting on employee resilience and the scope for developing a measure of organisational performance in this domain

To develop a bespoke measure of employee resilience that is tailored to address salient issues within LA. Data on both employee and managerial perspectives on what work/organisational variables impact employee resilience will be sought out. The vision is to use this data to develop a psychometric tool for benchmarking the profile of employee resilience in LA. The output from the tool is envisioned to be used by LA, to identify relative strengths and weakness in their practice, in managing/supporting individuals through conditions of stress and change.

3.2   Operational objectives

1. Gather qualitative evidence on employee perspectives on variables contributing to and impacts on resilience - via individual interviews and focus groups.

2. Use the product of (1) to inform the development of a quantitative staff survey that will produce output that can be analysed using principal components analysis.

3. Use the product of (2) to develop a set of psychometric scales, that when combined will form a barometer type benchmark measure of resilience.

4. Use the product of (3) to explore and test demographic differences by job role / function / grade on a representative sample of employees at LA (and possibly other public sector organisations).

4.0   Study 2 - Exploring impact of 'New ways of working' on Employee Well-being

4.1   *Aim*

To explore psychosocial impacts of new ways of working and implications for employee well-being

This cohort study sets out to examine the impact of new ways of working on the health and wellbeing of employees. It is expected that by following employees through the adaptation process insight into employee attitudes and beliefs towards new ways of working and towards factors that can support or erode their resilience in adjustment to the change can be understood. The qualitative data collected within this cohort study, which will be conducted in parallel with Study 1, will be analysed as a case study, but will also contribute to the development of the resilience psychometric measure.

4.2   Operational objectives

1. Gather qualitative data at the time (T1) when pending organizational changes are first announced to employees, in order to measure employee beliefs and attitudes towards the implementation of 'new ways of working', early on in the change process.

2. Follow employees through the change process (6 months in (T2) and 12 months in (T3) with individual interviews and focus groups.

3. Use product of (1) & (2) to inform our understanding of how adaptation unfolds between the early stages and later stages of implementing changes (hot desking; home working etc).

4. Use product of (1) & (2) to explore factors that can support or erode resilience in adjustment to the change and to inform development of resilience psychometric measure.

5. Participants and recruitment

5.1 Focus groups & interviews

All Participants involved will be employees from **** City Council; all will be over the age of 18. Recruitment will be via email, asking LA employees if they would like volunteer to be involved in focus groups/interviews. The allocation of respondents to either one-to-one interviews or focus groups will depend on the job grades being targeted. Focus groups will be principally formed from cohorts of individuals working at a common grade and /or department. One-to one interviews will be conducted with employees of a more senior position. Table 1 represents a breakdown of the target sample required.

Table1. *Sample Characteristics*

Job Grade	Type of Interaction
Senior Management	Interviews
Line(Team) Managers	Interviews/Focus Group
Trade Union Representatives	Interviews
Front Line Staff	Focus Group

5.2 Survey

Participants will be employees working for LA, over the age of 18 years. An email will be sent out across all LA asking staff if they would like to volunteer to complete the resilience survey.

6. Consent and participant information arrangements debriefing

Participants will be provided with a consent form prior to taking part in the study and will be fully debriefed after the focus groups are completed. The consent form

(*Appendix 1 & 2*) will detail an abridged version of the aims of the study so as not to influence participant responses. The consent form will also assure participants that their participation is entirely voluntary, they have the right to withdraw at any time for any reason and that any data collected will be kept confidential with no personal details attached to their responses. The debrief form (*Appendix 3*) will detail the full nature of the study and invite questions from the participant and provide details of ways to obtain additional information if they require it.

Ethical considerations

The principal ethical issues in this study will relate to voluntariness of participation and maintaining anonymity of respondents. It is possible that participants may have concerns about their privacy, and any personal information being used for other purposes.

6.1 *Qualitative phase* – Focus groups/Interviews

Recruitment- All participants will be volunteers. An email will be sent to a sample of staff setting out the background, aims and objectives of the study. The email will emphasise the voluntarily nature of participation and will ask those who are interested in the research to contact the researcher via email. It will be emphasised that they are under no obligation to participate and may withdraw at any time in the process. All participants will be informed of the purpose of the study and the fact that data is being gathered for research purposes only. Participants will be ensured that their name won't be attached to their data and that no-one outside of the investigation will view their responses

Data gathering & storage - Data will be gathered in the form of audio recordings.

Data collection and storage will be in compliance with the Data Protection Act 1998.

All personal data being used for research will be held securely (University servers) and access will be restricted to the staff and students engaged in the research. Additionally, this project will take into account the NHS Good Practice Guidelines for the conduct of psychological research; if the research is to be published, most scientific journals require original data (including videos and transcripts) to be kept for 5 years. If it is not to be published then the data should be kept for 1 year.

Protection of anonymity - No data or personal details will be made available to any third party (notably managers and other staff) in any attributable form. All participants will be given written assurance of their confidentiality prior to data gathering. The researcher will ensure that the results of the research will be anonymised when published and that no information published will enable the data subject to be identified.

Feedback - All participants to be debriefed after each session and to be given access to findings via a web-address on University of Bath (UoB) website.

6.2 *Quantitative phase-*Survey

Recruitment- Participants will be recruited via email; an email will be sent out across LA describing the nature of the study and providing a link to where they can access the survey on UoB webpage. The email will emphasise the voluntarily nature of participation; it will be emphasised that they are under no obligation to participate and may withdraw at any time in the process. All participants will be informed of the purpose of the study and the fact that data is being gathered for research purposes only.

Data gathering & storage - Data will be gathered in the form of questionnaires.

Data collection and storage will be in compliance with the Data Protection Act 1998.

All personal data being used for research will be held securely (University servers) and access will be restricted to the staff and students engaged in the research.

Protection of anonymity - No data or personal details will be made available to any third party (notably LA managers and other staff members) in any attributable form. Participants will be given written assurance that their personal details will remain confidential prior to data gathering. The researcher will ensure that the results of the research will be anonymised when published and that any information published will **not** allow for any participant to be identified.

Feedback - All participants to be given a debrief form after completing the questionnaire and will be provided with a link and email they can contact if they wish to be given access to findings of the study.

7.0 Estimated start and duration

Qualitative data to commence in April/May 2013

Quantitative data to commence in Autumn 2013-2015.

This study will aim to begin research upon ethical approval and it is estimate that data will be collected over the next two years.

Appendix 1

Focus Groups/Interview Consent Form

Names of researchers: Dr Andrew Weyman & Dina Themistocleous

Names of supervisors: Dr Andrew Weyman

Purpose of data collection: PhD

Supervisor Contact details: a.weyman@bath.ac.uk

What is the Research?

You have been asked to take part in a research study that aims to understand employees' perspective of the current organisational change. The purpose of this study is to find out the best ways to support employees through change and foster employee wellbeing.

Voluntary Participation

This discussion is *voluntary*—you do not have to take part if you do not want to.

If any questions make you feel uncomfortable, you do not have to answer them.

You may leave the group **at any time** for any reason.

Risks, Discomforts and Benefits

We do not think there are any risks associated with this study, and you are unlikely to suffer any undue discomfort during the discussion. Benefits of the study include the chance to express your beliefs and attitudes towards the current organizational changes.

Confidentiality

The data from the focus groups/interviews will be fully anonymised. Your name will not be used in any report that is published. The discussion will be kept *strictly confidential* and it will not be possible to identify individuals. The raw data will be owned by the University of Bath, and will be collected and stored in accordance with the Data Protection Act 1998.

Audiotape Permission

I have been told that the discussion will be tape recorded only if all participants agree.

If you have any questions about the above, please ask before you sign below.

Participation statement

By signing below, you are agreeing that: (1) you have read and understood the Participant Information Sheet, (2) questions about your participation in this study have been answered satisfactorily, (3) you are aware the discussion will be recorded (4) you are aware of the potential risks (if any), (5) you are taking part in this research study voluntarily, and (6) you can withdraw at any stage in the study.

Signature: _____

 Date: _____

Please note that this form will be kept separately from your completed questionnaire

Appendix 2

Questionnaire Written Consent Form

Names of researchers: Dr Andrew Weyman & Dina Themistocleous

Names of supervisors: Dr Andrew Weyman

Purpose of data collection: PhD

Supervisor Contact details: a.weyman@bath.ac.uk

Description of procedure

If you agree to participate you will be asked to complete a short questionnaire regarding organisational factors that impact resilience, which should take no longer than 20-25 minutes to complete. Thinking about your job, please rate the individual items on the questionnaire.

Please read the statements below and then sign and date the form if you consent to participate.

- All completed questionnaires will be stored securely and not seen by anyone outside the investigation.

- All responses will be confidential.

- No personally identifiable information will be used or attached to your questionnaire responses.

- Your participation is entirely voluntary.

- You have the right to withdraw from the investigation at any time and for any reason, without penalty.

If you have any questions about the above, please ask before you sign below.

Participation statement

By signing below, you are agreeing that: (1) you have read and understood the Participant Information Sheet, (2) questions about your participation in this study have been answered satisfactorily, (3) you are aware of the potential risks (if any), (4) you are taking part in this research study voluntarily, and (5) you can withdraw at any stage in the study.

Signature: _____

 Date: _____

Please note that this form will be kept separately from your completed questionnaire

Appendix 3

Debriefing Statement

Name of project: Resilience in a constant world of change - An employee perspective on workplace change

Names of researchers: Dr. Andrew Weyman & Dina Themistocleous

Contact details: a.weyman@bath.ac.uk, d.themistocleous@bath.ac.uk

Thank you for participating as a research participant in the present study investigating employee perspectives on what work/organisational variables impact employee resilience. This study aims to understand the organisational factors that can either enhance or erode employee resilience. Identifying such factors will allow for prevention/mitigation of any negative impacts on staff.

Current questions regarding the study

If you have any questions regarding the nature of the study you may ask one of the researchers now.

Further questions

If you have any further questions regarding the study that have not been addressed you can contact Dr Andrew Weyman or Dina Themistocleous via e-mail (a.weyman@bath.ac.uk, D.themistocleous@bath.ac.uk).

Summary of the results of the study

If you would like a summary of the results of this study, feel free to contact the researchers for details for when and where results will be published.

Personal issues

If taking part in this study has caused any personal or emotional distress the Counselling Service at the LA offers a supportive and confidential environment for the

discussion of personal problems or difficulties. Please contact
referrals.occupationalhealthandcounselling@*****.gov.uk

Thank you for your participation.

Appendix C

Study 1 – Interview Consent Form

Consent Form

Organisational Change

Researcher: Dina Themistocleous

Please ensure you have carefully read the Participant Information Sheet. Once you have done
this AND IF you have agree with the following statement please sign the consent form.

Please read the following statement carefully:

1. *I understand that my participation is completely voluntary and that I am free to withdraw at any time without giving any reason.*
2. *I give permission for any information I give to be securely stored at the University of Bath for 5 years after the study is completed.*
3. *I agree to the study report quoting my verbal or written comments directly, as long as any quotations used are made anonymous.*
4. *I have been given the opportunity to ask questions and have had any and all questions answered satisfactorily.*
5. *I confirm that I have read and understand the information sheet for the above study.*
6. *I agree to take part in the above study.*

_____ _____

Name of Researcher   Date

_____ _____

Signature of Participant   Date

Appendix D

Debriefing Statement

Name of project: Exploring work related factors that enhance or erode employee resilience

Names of researchers: Dr. Andrew Weyman & Dina Themistocleous

Contact details: a.weyman@bath.ac.uk, d.themistocleous@bath.ac.uk

Thank you for participating as a research participant in the present study investigating employee perspectives on what work/organisational variables impact employee resilience. This study aims to understand the organisational factors that can either enhance or erode employee resilience. Identifying such factors will allow for prevention/mitigation of any negative impacts on staff.

Current questions regarding the study

If you have any questions regarding the nature of the study you may ask one of the researchers now.

Further questions

If you have any further questions regarding the study that have not been addressed you can contact Dr Andrew Weyman or Dina Themistocleous via e-mail (a.weyman@bath.ac.uk, D.themistocleous@bath.ac.uk).

Summary of the results of the study

If you would like a summary of the results of this study, feel free to contact the researchers for details for when and where results will be published.

Personal issues

If taking part in this study has caused any personal or emotional distress the Counselling Service at the LA offers a supportive and confidential environment for the discussion of personal problems or difficulties. Please contact referrals.occupationalhealthandcounselling@*****.gov.uk

Thank you for your participation.

Appendix E

Interview question protocol- Organisational Change

Researcher Introduction

Introduce yourself and follow with something along the lines of " I would like to thank you for your time to come along and talk to me today. I am here to ask you about the organisational change you have been experiencing and how it is impacting your ability to do your job properly. I would like to assure you that there are no right or wrong answers in what we are going to discuss today, I am interested only in hearing about your personal experience of organisational change. Don't worry if you feel as though your comments are vague, I would still like to hear them.

Then provide participant with consent sheet and ask them to carefully read through statements and information relating to the study

To start off ask participants what job role/ job title is within the organisation?

1. Now I/we would like to hear a little about what it is like to work here?
- What is the workload like /job demands?
- Are there worries/uncertainty about your future here?
- Do employees and senior managers have a good relationship? Between team manager and staff (Team spirit)?
- Can you tell me about an experience/example that you think summarises what it generally feels like to work here?

2. How would you describe your employer/ this organisation?
-Would you describe your employer as caring / uncaring?
-Do people feel valued?
-How would you describe communication in this organisation - good / bad / indifferent?
-Do people feel safe to speak- team vs senior management levels?
- Do you trust your employer/organisation?
-How does this organisation differ with previous organisations you have worked in?

3. **** council is going through vast amounts of change- what has the process been like for you?
-what are the biggest changes as you see them

- have the changes made sense/ in line with your job purpose or vision you have for the organisation?
- What has gone well in the change process?
- What have people found most challenging through the change process?

4. If I had to ask you to characterise a healthy workforce what would describe it as?
- What does being healthy at work mean to you as a person?
- Mean for the organisation?
- In your opinion who is responsible for supporting staff wellbeing?

5. In your opinion, what are the biggest factors that impact LA staff wellbeing/ health?
- What do you think helps support employees?
- What do you think reduces resilience? the risks to..? (do these risks apply they to everyone)
- Are there any long term vs short term influences
- What do you think the implications for health and wellbeing might be?

6. If you had the chance to give advice on how to support staff through change OR manage change, what advice/suggestions would you offer?

7. There is a lot of focus in many organisations on sickness absence.
-Is this the case here? Has it increased in recent times, decreased or stayed about the same?
-Tell me about what happens when people take sickness absence - what do they have to do (a) short term (b) long terms
- How would managers/ organisation react to you being off sick?
- How do people feel able to take time off due to ill health (sick leave)?
-Do people worry about their SA record?

8. Can you tell me about a time you or someone you know came into work despite feeling unwell/ill? What were the key drivers/ motivated you to come into work?
- What would happen to your workload if you were off sick/ Time pressure to finish work?
- Relationship to colleagues
- Perceived health status/ impact on your health?
- As an individual what motivates to come into work while ill?
- What about the organisation drives you to come into work whilst ill?

9. If you could change one thing working for LA what would it be?

Appendix F

Study five- Interview Consent Form

Consent Form

New ways of working and its impact on employee resilience

Researcher: Dina Themistocleous

Please ensure you have carefully read the Participant Information Sheet. Once you have done
this AND IF you have agree with the following statement please sign the consent form.

Please read the following statement carefully:

1. *I understand that my participation is completely voluntary and that I am free to withdraw at any time without giving any reason.*
2. *I give permission for any information I give to be securely stored at the University of Bath for 5 years after the study is completed.*
3. *I agree to the study report quoting my verbal or written comments directly, as long as any quotations used are made anonymous.*
4. *I have been given the opportunity to ask questions and have had any and all questions answered satisfactorily.*
5. *I confirm that I have read and understand the information sheet for the above study.*
6. *I agree to take part in the above study.*

_____ _____

Name of Researcher   Date

_____ _____

Signature of Participant   Date

Appendix G

Debriefing Statement

Name of project: Exploring work related factors that enhance or erode employee resilience

Names of researchers: Dr. Andrew Weyman & Dina Themistocleous

Contact details: a.weyman@bath.ac.uk, d.themistocleous@bath.ac.uk

Thank you for participating as a research participant in the present study investigating employee experience of new ways of working. This study aims to understand how the move to flexible and boundaryless work conditions impact employee resilience at work.

Current questions regarding the study

If you have any questions regarding the nature of the study you may ask one of the researchers now.

Further questions

If you have any further questions regarding the study that have not been addressed you can contact Dr Andrew Weyman or Dina Themistocleous via e-mail (a.weyman@bath.ac.uk, D.themistocleous@bath.ac.uk).

Summary of the results of the study

If you would like a summary of the results of this study, feel free to contact the researchers for details for when and where results will be published.

 Personal issues

If taking part in this study has caused any personal or emotional distress the Counselling Service at the LA offers a supportive and confidential environment for the discussion of personal problems or difficulties. Please contact referrals.occupationalhealthandcounselling@*****.gov.uk

Thank you for your participation.

Appendix H

Interview question protocol- New ways of working and its impact on employee resilience

Researcher Introduction

Introduce yourself and follow with something along the lines of " I would like to thank you for your time to come along and talk to me today. I am here to ask you about the introduction of flexible work conditions experiencing and how it is impacting your ability to do your job properly. I would like to assure you that there are no right or wrong answers in what we are going to discuss today, I am interested only in hearing about your personal experience of the change in work conditions. Do not worry if you feel as though your comments are vague, I would still like to hear them.

Then provide participant with consent sheet and ask them to carefully read through statements and information relating to the study

To start off ask participants what job role/ job title is within the organisation?

1. The council is going through vast amounts of change in relation to the way people work

> -what has the process of the introduction of NWoW been like for you
> -what are the biggest changes as you see them
> - have the changes made sense/ in line with your job purpose

2. Tell me what a normal day is like for you now that you work flexibly?

3. Are there technological advances in place to aid NWoW?

4. What are the benefits of working flexibly?

5. What are the drawbacks?

6. What is your opinion on NWoW in relation to new members of staff?

Appendix I

Detailed job description breakdown for study one and five

Study one

Job Description	Number of Participants
Trade union representative	2
Occupational Health Counsellor	1
Housing Advisor	2
Strategic housing Manager	1
Allotments Officer	1
Museum Learning Officer	1
HR Manager	1
Public Health Officer	1
Social Worker	1
Communications Officer	1
Urban Design Manager	1
Pollution Control Officer	1
Litigation Officer	1
Operational mental health Manager	1
Internal communications officer	1
Childrens Commissioning Manager	1
Community Development Officer	1
Safeguarding adult care Manager	1

Study five

Job Description	Number of Participants
Public Health Officer	1
Public Health Manager	1
Social Worker	1
Pollution Control Officer	1
Litigation Officer	1
Environmental Health Manager	1
Children's commissioning Manager	1
Business support Manager	1
Legal services Manager	1
Agile work implementation officer	1
Social Work Manager	1
Social Care Officer	1
Corporate Finance Officer	1
Housing Officer	1
Housing Advisor	1
Health & Wellbeing Officer	1

Appendix J

Breakdown of Directorates participants were recruited from.

Children and Young People's Services (CYPS)
Includes: Statutory responsibility for Learning, Achievement and Schools; Access
Engagement and Skills; Health Partnership and Commissioning; and Safeguarding and
Specialist Services.

Corporate Services (CS)
Includes: Finance (including Corporate Finance, Performance, Corporate Property and
Internal Audit), HR and Shared Transactional Services (STS), Legal Services
(including
Democratic Services and Scrutiny), ICT, Integrated Customer Services (including
Customer
Contact Centre and Revenues & Benefits), and Corporate Commissioning and
Procurement.

Health and Social Care (HSC)
Includes: Commissioning (Statutory) of all adult social care, Safeguarding, supporting
people and promoting independent living.

Neighbourhoods and City Development (NCD)
Includes: Safer ***** (including YOTs), Housing, Community Development, Street
Scene,
Parks and Open Spaces (including cemeteries and crematoria), Major Projects,
Neighbourhood Enforcement (including Trading Standards), Environmental Health,
Waste
and Recycling, Licensing, Planning Services, Strategic Highways Transport, Libraries,
Museums, Galleries and Archives as well as Leisure and Sport.

Public Health

Includes: Director of Public Health, Health Strategy (Health and Wellbeing Board,
Joint
Strategic Needs Assessment and Joint Health and Wellbeing Strategy, HealthWatch
development), Health Improvement Team and the Healthy Urban Team.

Appendix K

Scanned copy of study one transcript extract from initial coding

I: How would you describe for a healthy workforce? *Participation / Involvement / being heard*

low sickness absence

P: Low sickness, um people being able to voice their ideas and be listened to and have an impact on how things are delivered. People who don't want to leave, we have had a lot of staff leaving. I think its good people move on and develop but they are just leaving cause they don't like what they are doing. *Not happy with work / job.*

Staff turnover

I: Who do you think is responsible for a healthy workforce?

management

P: I think the manager of the team I would say and the head of the organisation because the — *org. Culture* culture comes down from the top. So I will tell you one bad thing about this organisation is

management
expectation
the number of hours that senior managers work, they work a good, you are contracted to work 8 hrs a day I would say they work 12-14 hours a day. I get emails at 2 o'clock in the morning and there is an expectation to work longer hours, that is very very different from the NHS

work life balance
where there is not that expectation, there is that expectation here. I don't see that as being a long term healthy so I say not moaning *} team morale*
but when you have a team meeting and people are constantly talking about what is not right. People do tend to say all the things that are not right *Focus on negative*

I: What sort of things are they complaining about?

P: Mainly to do with the change over from AWP, its funny though as some teams are *management support*
healthier than others, this team here has very low sickness and no one leaving so the manger must be doing something right or the staff. I don't know, it must be, I don't know, and I am based here more. It is just historic that you have got teams together from AWP and they have *low SA* been dysfunctional. But generally I think a healthy team would be one that has a low sickness records and wanting to train, progress and develop *Skills & development.*

I: Why do you think some teams have high sickness? *team morale ↑*

P: We do have a lot of long term conditions, it could be to do with morale issues. I mean a lot of people that come into mental health services have metal health issues themselves, half our *Reason for SA* workforce has quite significant mental health issues and that means they do take time off.

I: Do you think they are supported by the organisation? *no organisational support*

lack of understanding around mental health
P: Now that is the bit I am trying to do, no I don't think they are. Well I don't think there is the understanding necessarily in this organisation in ****** about mental health about you know that it is ok to be off with a broken arm but not ok to be off with depression and really the two are equal it is just the one is hidden and the one is not *equal importance*

Appendix L

Initial codes and sub themes for study five example extracts

Theme	Sub Theme	Initial codes	Extracts quotes from interview transcripts
Social Connectivity	Sense of belonging	Work identity lost Human Capital Productive when belonging to group	"I am not happy in my work anymore and that is because I don't have that *identity* of familiarity with my team…It feels like you are living in a *virtual* world and to think that as an organisation people are your biggest resource and people work best when they feel *interconnected* then are you actually getting the best out of the workforce?"
	Free floaters/ social support	Work is more than the job Need for social interaction Social aspects of work important to some	"I understand I am in a professional role and you have to make customers and colleagues happy but I find it strange when people have the mentality that you just go to work to work. We are *human* after all and you need those *social interactions*. You don't know what home life is like for some the *social part* of work is important."
	Free floaters/social support	Unsettling nature of feeling like free floater Coping strategy/social network to avoid isolation Isolation of new comers	"This utter flexibility is *unsettling* I feel like a *free floater* but what I often do is call up with people I have met *over the years* and see where they are going

			to be so I don't feel so *isolated* but I think what if you are *new* you would be completely *abandoned* with no one around you."

Appendix M

Final coding framework and definitions for Study One

Occupational/Job Structure	

Theme relates to the employees' perception that they are able to balance work life in terms of the length of working day and the amount of work they have to do. It also includes the degree to which they identify with their role at work.

Meaning and purpose	Does the value an employee places on their work/ pride in the job buffer the effects of any perceived stressor at work?

Work Intensification	Do employees feel they can cope with the amount of work and the work hours they have at work?

Team Cohesion	

Theme relates to employee perceptions regarding team relationships and a sense of support from their colleagues

Enabling Leaders	

Theme relates to the quality of the relationship between the employee and their manager. Positive role models occur where employees feel that their wellbeing is a priority and no unrealistic expectations are placed on them.

Model Leaders	Does management expect employees to model their behaviour in relation to working long hours and time taken off sick? Do employees feel pressured to replicate their manager's attitude towards sickness absence and a culture of over working?

Unsupportive Leaders	Do employees feel supported by their managers? Specifically, do employees feel their manager's care about their wellbeing and are managers actually equipped to manage people?

Organisational Commitment to learning and efficiency

Theme relates to systems that are in place to promote efficiency and learning. Are employees provided with the training opportunities? Are the right procedures/rules/ regulations are in place to make the job as efficient as possible alongside the right equipment/ technology to support this efficiency.

Investment in staff/ training and development	Does the organisation invest in its employees in a way that employees feel supported? Are employees offered training opportunities that are meaningful to them and their job?
Operating procedures and structures	Do employees feel that way work is configured both in terms of the physical environment and the rules and regulations enhance their working lives?

Communication

Theme relates to the employee's perception that they are appropriately communicated with. One of the main facet is the degree of transparency employees perceive the communication to be about what is going on within the organisation. Additionally, the degree of involvement employees feel like they have in the change process.

Transparency and Openness	Do employees feel they are being taken along the change journey and communicated to openly and transparently.
Participative Decision Making	Do employees feel they are trusted by management to be consulted about changes within the work place? To what

	degree do employees feel frustrated that they are not listened to by management? Are employees encouraged to get involved in important decisions and aspects of working life and organisational change?

Organisational Fairness and Appreciation

Theme relates to the employee's perception of feeling they are being treated in the same way compared to others and an equal opportunity is open to all? Do employees feel that their skills are evaluated and valued in a fair way?

Final coding framework and definitions for study five

Blurred home/work boundaries

Theme relates to the blurring of boundaries from work into non-work life and the degree to which work interferes with ones home life

Free from home life burdens	Can employees meet personal needs, and family responsibilities such as caring duties? Do they incur any other costs from location flexibility?
Working hours	Do employees have a sufficient balance between Work and Home Life in relation to hours worked and travel time?

Workplace Health

Theme relates to new trends in health concerns and how Health and wellbeing can be managed in the context of flexible work conditions.

Management of workplace health	Are managers equipped to dealing with wellbeing issues from afar? How can they know if their employees are unwell?

New workplace health concerns	Does working at any time and from anywhere come with new occupational health concerns?

Professional Network

Themes relates to informal learning, mentoring and informal networking that employees view as essential for performance at work

Network for collaboration	Do employees feel they can maintain team identity in NWoW? Does complete work become more challenging when teams are no longer located together?
Informal Learning	Is the way work is organised in relation to the workspace efficient to promote collaboration and learning?

Flexible conditions as a privilege

Theme relates to increased control in when and how to work that comes with NWoW. It also relates to the notion if employees would consent to NWoW on their own or if they feel forced to utilise flexible work practices.

Autonomy	Do employees feel they have autonomy over when, where and how they do their job?
Preferred versus Forced flexible conditions	Do employees feel that way work is configured enhance their working lives and their personal lives?

Social Connectivity

Theme relates to employee perceptions regarding team relationships and a sense of 'belonging'.

Free Floaters	Do employees feel they have good working relationships, friendship and support from their team mates with NWoW?

Sense of community	Do employees often feel isolated or feel a sense of connectedness with their team with NWoW?

Appendix N

Welcome

This survey aims to quantify what aspects of work have an impact on employee well-being and ability to work effectively.

Before you complete the survey, please read the following:
1. You are a volunteer and do not have to complete the survey.
2. If you decide at any point that you no longer want to continue with the survey you can simply
shut down the browser and your answers will not be submitted. Answers will only be submitted
once you finish the entire survey.
3. Your responses are confidential - there is no way that your answers can be traced back to you
and you do not need to enter your name at any point during the survey.
4. All responses are optional, but it would be helpful if you try to respond to all statements

The survey should take you approximately 20 minutes to complete. You save
your response and return to complete it at a later data.

Data Protection

Please note your answers are anonymous and individual responses will be kept confidential. Additionally, all data collected in this survey will be held anonymously and securely on University of Bath servers.

Please be assured that NO questions asked regarding demographics can be used to identify individuals.

Demographic Information

1. What is your gender?

○ Male

○ Female

5. What is your age?

○ 18 - 24

○ 25 - 34

○ 35 - 44

○ 45 - 54

○ 55 - 64

○ 65 - 69

○ 70 or over

3. What type of employment contract do you have?

☐ Full-time

☐ Part-time

☐ Shift work

☐ Working from home

☐ Job sharing

☐ Term time

4. Which directorate do you work in?

- ○ Business Change
- ○ City Director
- ○ Neighbourhoods
- ○ People
- ○ Place
- ○ I do not know

5. Which best describes your job function?

- ○ Senior management
- ○ Middle management
- ○ Supervisor/line manager
- ○ Public facing front line staff
- ○ Office based front line staff
- ○ Administrative staff
- ○ Other

5.a. If you selected Other, please specify:

_____

6. How long have you worked at your organisation?

- ○ less than 1 year
- ○ 1-3 years
- ○ 4-10 years
- ○ 11-20 years
- ○ 21+ years

Employee Well-being Survey

Survey Instructions

This survey contains a number of statements in a randomised order about common work experiences. When responding to these statements, please keep the following in mind:

Answer based on your own personal experiences in your current job.

Choose the answer that is true most of the time.

This survey is concerned with your thoughts, opinions and feelings. If you are unsure of an answer, please select the option that you believe is most likely to be true.

These statements use the terms 'employee', 'staff', 'manager', 'management', 'organisation' and 'supervisor', however your workplace may use different language to describe these roles. Please respond keeping in mind the terms appropriate for your workplace e.g. 'manager' might represent your supervisor or line manager in your team.

While all questions are optional a greater response on all questions will enable further research to be carried out with a greater sense of reliability. Please indicate whether you strongly agree, moderately agree, mildly agree, mildly disagree, moderately disagree, or strongly disagree with each statement.

Statements

7. I feel the work I do makes a difference

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

8. I feel a strong attachment to what my team is trying to achieve

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

9. My supervisor encourages me to develop new competencies and skills

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

10. I am proud to tell others that I am a part of this organisation

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

11. I often spend time thinking about work when I am at home

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

12. I feel a strong attachment to this organisation

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

13. I often work more hours than I am paid for

○ Strongly agree   ○ Moderately agree   ○ Mildly agree

7 / 19

○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

14. There is a high level of trust between the people in my team

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

15. I feel under pressure to work long hours

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

16. I feel my work is socially important

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

17. I regularly stay late, or take work home in order to get everything that I need to do done

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

18. There is a genuine sense of cooperation between people I work with to reach common goals

○ Strongly agree   ○ Moderately agree   ○ Mildly agree

○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

19. I am informed about important changes at work in a timely manner

○ Strongly agree   ○ Moderately agree   ○ Mildly agree

○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

20. There is a strong sense of teamwork in my department

○ Strongly agree   ○ Moderately agree   ○ Mildly agree

○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

21. This organisation always provides staff with the skills and expertise needed to the their job properly

○ Strongly agree   ○ Moderately agree   ○ Mildly agree

○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

22. People in this organisation always know what is going on

○ Strongly agree   ○ Moderately agree   ○ Mildly agree

○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

23.   My colleagues are willing to listen to my work-related problems

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

24.   There is a strong emphasis on staff development in this organisation

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

25.   I have regular meetings with my manager to discuss my personal development/ training needs

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

26.   I am informed of important changes that may impact how my work is done

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

27.   I can usually rely on other members of my team for help when I need it

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

28. This organisation provides me with all the information needed to do my job properly

○ Strongly agree   ○ Moderately agree   ○ Mildly agree

○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

29. This organisation provides clear, effective communication

○ Strongly agree   ○ Moderately agree   ○ Mildly agree

○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

Statements

30. Staff are respected in this organisation

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

31. I can always rely on my supervisor to defend me if things go wrong

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

32. This organisation appreciates employees who go the extra mile

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

33. People in my team trust our manager

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

34. Dedication and hard work is never recognised in this organisation

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

35. I trust this organisation to do what is right for its employees

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

36. The decisions management make about employees are usually fair

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

37. The staff appraisal system is fair and just

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

38. My manager provides me with support regarding work related problems

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

39. Staff are treated fairly regardless of their position at work

○ Strongly agree   ○ Moderately agree   ○ Mildly agree

○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

40. My manager is interested in my viewpoint/ opinion on important issues relating to work

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

41. My manager cares about my emotional well-being

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

42. I have a clear understanding of my responsibilities at work

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

43. My supervisor recognises my contributions through supportive feedback

○ Strongly agree   ○ Moderately agree   ○ Mildly agree
○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

44. This organisation is caring towards its staff

○ Strongly agree ○ Moderately agree ○ Mildly agree
○ Mildly disagree ○ Moderately disagree ○ Strongly disagree

45. In my job, I know what is expected of me

○ Strongly agree ○ Moderately agree ○ Mildly agree
○ Mildly disagree ○ Moderately disagree ○ Strongly disagree

46. Staff are rarely involved in important decisions regarding the work they do

○ Strongly agree ○ Moderately agree ○ Mildly agree
○ Mildly disagree ○ Moderately disagree ○ Strongly disagree

47. This organisation is committed to minimizing unnecessary stress at work

○ Strongly agree ○ Moderately agree ○ Mildly agree
○ Mildly disagree ○ Moderately disagree ○ Strongly disagree

48. This organisation supports its staff

○ Strongly agree ○ Moderately agree ○ Mildly agree
○ Mildly disagree ○ Moderately disagree ○ Strongly disagree

49. I have a clear idea of the purpose of my job

○ Strongly agree   ○ Moderately agree   ○ Mildly agree

○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

50.   Senior management are primarily concerned with employess' needs and wants

○ Strongly agree   ○ Moderately agree   ○ Mildly agree

○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

51.   This organisation makes and effort to create a trusting and supportive environment

○ Strongly agree   ○ Moderately agree   ○ Mildly agree

○ Mildly disagree   ○ Moderately disagree   ○ Strongly disagree

Thank you

Thank you for completing the survey. Your time is greatly appreciated.

If you have any questions or comments please do not hesitate to contact the researcher at dt250@bath.ac.uk.

If taking part in this study has caused any personal or emotional distress please contact ***** City Council's EAP service.

Appendix O

<div align="center">Descriptive Statistics</div>

	N	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
I feel the work I do makes a difference	146	1	6	2.00	1.034	1.070	1.351	.081	2.537	.162
I feel a strong attachment to what my team is trying to achieve	146	1	6	2.05	1.227	1.505	1.404	.081	1.738	.162
My supervisor encourages me to develop new competencies and skills	146	1	6	2.86	1.549	2.401	.714	.081	-.473	.163
I am proud to tell others that I am a part of this organisation	146	1	6	3.01	1.471	2.165	.440	.081	-.668	.162
I feel a strong attachment to this organisation	146	1	6	3.12	1.503	2.260	.504	.082	-.681	.163
I have a high level of trust the people I work with in my team	146	1	6	2.35	1.265	1.600	.977	.082	.551	.163
I feel my work is socially important	146	1	6	2.32	1.313	1.725	1.072	.082	.730	.163
There is a genuine sense of cooperation between people I work with to reach common goals	146	1	6	2.63	1.379	1.903	.797	.082	-.094	.163
I am informed about important changes at work in a timely manner	146	1	6	3.46	1.533	2.350	.305	.082	-1.015	.164

Statement	N	Min	Max	Mean	Std. Dev	Variance	Skew	Std. Err	Kurtosis	Std. Err
There is a strong sense of teamwork in my department	146	1	6	2.86	1.493	2.228	.647	.082	-.546	.163
This organisation always provides staff with the skills and expertise needed to the their job properly	146	1	6	3.79	1.468	2.156	.007	.082	-1.030	.163
People in this organisation always know what is going on	146	1	6	4.31	1.375	1.891	-.311	.082	-1.010	.163
My colleagues are willing to listen to my work-related problems	146	1	6	2.40	1.259	1.586	.966	.082	.610	.163
There is a strong emphasis on staff development in this organisation	146	1	6	4.01	1.517	2.301	-.172	.082	-1.093	.163
I have regular meetings with my manager to discuss my personal development/ training needs	146	1	6	3.42	1.702	2.895	.154	.082	-1.237	.163
I am informed of important changes that may impact how my work is done	146	1	6	3.36	1.518	2.303	.345	.082	-.970	.163
I can usually rely on other members of my team for help when I need it	146	1	6	2.18	1.197	1.433	1.148	.082	1.158	.163
This organisation provides me with all the information needed to do my job properly	146	1	6	3.44	1.429	2.041	.340	.081	-.865	.162

	N	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error
This organisation provides clear, effective communication	146	1	6	4.01	1.473	2.170	-.096	.081	-1.149	.162
Staff are respected in this organisation	146	1	6	3.74	1.451	2.105	.062	.081	-1.070	.162
I can always rely on my supervisor to defend me if things go wrong	146	1	6	2.71	1.452	2.107	.807	.081	-.120	.163
This organisation appreciates employees who go the extra mile	146	1	6	3.92	1.470	2.161	-.083	.081	-1.039	.162
People in my team trust our manager	146	1	6	2.86	1.591	2.532	.664	.081	-.656	.162
Dedication and hard work is never recognised in this organisation	146	1	6	3.17	1.463	2.141	.194	.081	-.873	.162
I trust this organisation to do what is right for its employees	146	1	6	4.21	1.374	1.887	-.236	.081	-.967	.162
The decisions management make about employees are usually fair	146	1	6	3.91	1.339	1.792	.057	.081	-.972	.163
The staff appraisal system is fair and just	146	1	6	3.81	1.347	1.816	.141	.082	-.902	.163
My manager provides me with support regarding work related problems	146	1	6	2.62	1.414	2.001	.927	.082	.228	.163
Staff are treated fairly regardless of their position at work	146	1	6	3.45	1.546	2.389	.276	.081	-1.001	.163

	N	Min	Max	Mean	Std. Dev	Variance	Skewness	Std. Error	Kurtosis	Std. Error
My manager is interested in my viewpoint/ opinion on important issues relating to work	146	1	6	2.60	1.403	1.968	.946	.082	.234	.163
My manager cares about my emotional well-being	146	1	6	2.69	1.500	2.250	.844	.082	-.136	.163
I have a clear understanding of my responsibilities at work	146	1	6	2.12	1.235	1.526	1.379	.081	1.636	.163
My supervisor recognises my contributions through supportive feedback	146	1	6	2.78	1.466	2.150	.740	.082	-.253	.163
This organisation is caring towards its staff	146	1	6	3.90	1.453	2.113	-.015	.082	-1.052	.163
In my job, I know what is expected of me	146	1	6	2.23	1.263	1.596	1.267	.081	1.279	.163
Staff are rarely involved in important decisions regarding the work they do	146	1	6	2.97	1.405	1.974	.284	.081	-.840	.163
This organisation is committed to minimizing unnecessary stress at work	146	1	6	4.16	1.451	2.105	-.279	.081	-1.011	.163
This organisation supports its staff	146	1	6	3.86	1.454	2.115	.030	.081	-1.086	.163
I have a clear idea of the purpose of my job	146	1	6	2.08	1.235	1.526	1.431	.081	1.793	.162
Senior management are primarily concerned with employess' needs and wants	146	1	6	4.67	1.320	1.741	-.657	.081	-.624	.162

This organisation makes and effort to create a trusting and supportive environment	146	1	6	4.08	1.408	1.983	-.133	.082	-1.064	.163
Valid N (listwise)	146									

Appendix P

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	I feel the work I do makes a difference	.456	2.192
	I feel a strong attachment to what my team is trying to achieve	.418	2.395
	My supervisor encourages me to develop new competencies and skills	.335	2.983
	I am proud to tell others that I am a part of this organisation	.348	2.875
	I feel a strong attachment to this organisation	.387	2.582
	I have a high level of trust the people I work with in my team	.450	2.222
	I feel my work is socially important	.636	1.573
	There is a genuine sense of cooperation between people I work with to reach common goals	.388	2.580
	I am informed about important changes at work in a timely manner	.345	2.895
	There is a strong sense of teamwork in my department	.364	2.750
	This organisation always provides staff with the skills and expertise needed to the their job properly	.282	3.546
	People in this organisation always know what is going on	.317	3.157
	My colleagues are willing to listen to my work-related problems	.443	2.257

There is a strong emphasis on staff development in this organisation	.314	3.180
I have regular meetings with my manager to discuss my personal development/ training needs	.417	2.396
I am informed of important changes that may impact how my work is done	.279	3.583
I can usually rely on other members of my team for help when I need it	.449	2.230
This organisation provides me with all the information needed to do my job properly	.268	3.730
This organisation provides clear, effective communication	.252	3.963
Staff are respected in this organisation	.254	3.940
I can always rely on my supervisor to defend me if things go wrong	.292	3.424
This organisation appreciates employees who go the extra mile	.425	2.351
People in my team trust our manager	.343	2.914
Dedication and hard work is never recognised in this organisation	.738	1.355
I trust this organisation to do what is right for its employees	.234	4.277
The decisions management make about employees are usually fair	.333	3.005
The staff appraisal system is fair and just	.466	2.148
My manager provides me with support regarding work related problems	.226	4.418

Staff are treated fairly regardless of their position at work	.368	2.714
My manager is interested in my viewpoint/ opinion on important issues relating to work	.270	3.710
My manager cares about my emotional well-being	.260	3.853
I have a clear understanding of my responsibilities at work	.311	3.219
My supervisor recognises my contributions through supportive feedback	.273	3.667
This organisation is caring towards its staff	.225	5.251
In my job, I know what is expected of me	.259	3.867
Staff are rarely involved in important decisions regarding the work they do	.744	1.343
This organisation is committed to minimizing unnecessary stress at work	.316	3.164
This organisation supports its staff	.190	4.215
I have a clear idea of the purpose of my job	.334	2.990
Senior management are primarily concerned with employess' needs and wants	.366	2.732
This organisation makes and effort to create a trusting and supportive environment	.240	4.165

a. Dependent Variable: I effectively collaborate with others to handle challenges at work

Appendix Q

Pattern Matrix^a

	Factor						
	1	2	3	4	5	6	7
I feel the work I do makes a difference	-.022	-.041	-.014	-.018	.270	-.072	.640
I feel a strong attachment to what my team is trying to achieve	-.018	.030	.104	.084	.135	-.040	.610
My supervisor encourages me to develop new competencies and skills	-.141	.601	-.017	-.112	-.069	.270	.322
I am proud to tell others that I am a part of this organisation	.313	-.096	-.100	.058	-.081	.047	.644
I often spend time thinking about work when I am at home	-.049	.095	.558	-.078	-.064	.020	.231
I feel a strong attachment to this organisation	.333	-.115	.045	.090	-.071	-.037	.616
I often work more hours than I am paid for	.039	-.001	.812	-.002	.032	-.019	.016
I have a high level of trust the people I work with in my team	-.011	.109	.100	.726	-.059	-.188	.165
I feel under pressure to work long hours	-.080	-.072	.787	.046	-.003	-.015	-.004
I feel my work is socially important	-.007	.035	.124	-.004	.075	-.003	.475
I regularly stay late, or take work home in order to get everything that I need to do done	.034	.014	.909	-.038	.024	.072	-.052
There is a genuine sense of cooperation between people I work with to reach common goals	-.086	.060	-.001	.697	-.047	.068	.139
I am informed about important changes at work in a timely manner	.190	-.005	.087	.117	-.010	.685	-.193
There is a strong sense of teamwork in my department	.014	.079	-.004	.580	-.026	.146	.132

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This organisation always provides staff with the skills and expertise needed to the their job properly	.180	-.049	-.046	.005	.015	.611	.147
People in this organisation always know what is going on	.398	-.188	.098	.038	-.011	.620	-.045
My colleagues are willing to listen to my work-related problems	-.075	.179	-.063	.585	.043	.071	-.006
There is a strong emphasis on staff development in this organisation	.143	.104	-.013	-.043	-.082	.566	.192
I have regular meetings with my manager to discuss my personal development/ training needs	-.188	.468	-.019	-.165	-.057	.568	.117
I am informed of important changes that may impact how my work is done	.144	.091	.002	.028	.070	.688	-.125
I can usually rely on other members of my team for help when I need it	-.049	.019	-.091	.770	.068	.064	-.150
This organisation provides me with all the information needed to do my job properly	.230	-.097	-.065	.044	.143	.609	.022
This organisation provides clear, effective communication	.407	-.100	.005	.053	.023	.582	-.065
Staff are respected in this organisation	.757	-.018	-.028	.054	.009	.044	.098
I can always rely on my supervisor to defend me if things go wrong	.115	.769	.030	.128	-.007	-.068	-.082
This organisation appreciates employees who go the extra mile	.654	.005	-.006	.064	-.020	-.049	.157
People in my team trust our manager	.139	.693	.018	.119	-.064	-.006	-.049
Dedication and hard work is never recognised in this organisation	-.400	-.016	.085	.098	.007	.021	-.168
I trust this organisation to do what is right for its employees	.894	-.005	.035	-.034	-.041	.011	.034

The decisions management make about employees are usually fair	.764	.084	.069	-.013	-.016	.034	-.046
The staff appraisal system is fair and just	.428	.223	-.034	-.050	.017	.149	.007
My manager provides me with support regarding work related problems	.029	.846	-.028	-.006	.048	.035	-.034
Staff are treated fairly regardless of their position at work	.551	.241	.006	-.027	.062	.110	-.069
My manager is interested in my viewpoint/ opinion on important issues relating to work	.068	.855	.049	.010	.056	-.037	-.072
My manager cares about my emotional well-being	.112	.851	-.023	.070	-.022	-.078	-.085
I have a clear understanding of my responsibilities at work	-.023	.082	.004	.033	.758	.066	.029
My supervisor recognises my contributions through supportive feedback	-.047	.790	-.002	.011	.059	.030	.064
This organisation is caring towards its staff	.907	.053	-.008	-.058	.044	-.101	.061
In my job, I know what is expected of me	.004	-.023	-.023	-.013	.867	.054	.067
Staff are rarely involved in important decisions regarding the work they do	-.327	-.044	-.020	.067	.062	-.087	-.110
This organisation is committed to minimizing unnecessary stress at work	.833	-.003	-.052	-.012	.057	-.035	-.105
This organisation supports its staff	.922	.048	-.035	-.065	.040	-.076	.012
I have a clear idea of the purpose of my job	.001	.004	.030	-.019	.803	-.065	.187
Senior management are primarily concerned with employess' needs and wants	.759	-.033	.031	-.035	-.081	.117	-.003
This organisation makes and effort to create a trusting and supportive environment	.848	.041	.002	.027	-.009	.002	-.038

Extraction Method: Maximum Likelihood.

 Rotation Method: Promax with Kaiser Normalization.[a]

a. Rotation converged in 7 iterations.

Appendix R

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	11.596	38.655	38.655	11.195	37.315	37.315	8.468
2	3.475	11.585	50.240	3.083	10.275	47.590	7.748
3	2.390	7.967	58.207	2.045	6.816	54.406	7.614
4	1.435	4.782	62.989	1.074	3.581	57.988	2.876
5	1.128	3.762	66.750	.690	2.301	60.289	7.516
6	1.002	3.341	70.091	.650	2.165	62.454	8.396
7	.786	2.620	72.711				
8	.643	2.143	74.854				
9	.599	1.996	76.850				
10	.547	1.824	78.674				
11	.505	1.684	80.358				
12	.487	1.623	81.981				
13	.441	1.469	83.450				
14	.420	1.401	84.850				
15	.393	1.309	86.159				
16	.377	1.257	87.416				
17	.364	1.213	88.629				
18	.351	1.171	89.800				
19	.331	1.104	90.904				
20	.312	1.042	91.945				
21	.300	1.001	92.946				
22	.286	.953	93.899				
23	.269	.896	94.795				
24	.253	.845	95.640				
25	.248	.827	96.467				
26	.242	.805	97.272				
27	.230	.766	98.038				
28	.224	.747	98.785				
29	.201	.669	99.453				
30	.164	.547	100.000				

Extraction Method: Maximum Likelihood.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

	Factor					
	1	2	3	4	5	6
I feel the work I do makes a difference					.551	
I feel a strong attachment to what my team is trying to achieve					.537	
I am proud to tell others that I am a part of this organisation					.838	
I feel a strong attachment to this organisation					.842	
I have a high level of trust the people I work with in my team			.755			
I feel my work is socially important						
There is a genuine sense of cooperation between people I work with to reach common goals			.670			
I am informed about important changes at work in a timely manner						.775
There is a strong sense of teamwork in my department						
This organisation always provides staff with the skills and expertise needed to the their job properly						
People in this organisation always know what is going on						.600
My colleagues are willing to listen to my work-related problems			.605			
I am informed of important changes that may impact how my work is done						.828
I can usually rely on other members of my team for help when I need it			.864			
This organisation provides me with all the information needed to do my job properly						.620
Staff are respected in this organisation	.649					
I can always rely on my supervisor to defend me if things go wrong		.799				
This organisation appreciates employees who go the extra mile	.600					
People in my team trust our manager		.714				
The decisions management make about employees are usually fair	.674					
My manager is interested in my viewpoint/ opinion on important issues relating to work		.893				
My manager cares about my emotional well-being		.881				
My supervisor recognises my contributions through supportive feedback		.802				
This organisation is committed to minimizing unnecessary stress at work	.944					
This organisation supports its staff	.974					
Senior management are primarily concerned with employeess' needs and wants	.707					
I often work more hours than I am paid for				.774		
I feel under pressure to work long hours				.792		
I often spend time thinking about work when I am at home				.545		
I regularly stay late, or take work home in order to get everything that I need to do done				.930		

Extraction Method: Maximum Likelihood.

Rotation Method: Promax with Kaiser Normalization.

Appendix S

Employee Resilience Scale (EmpRes)

The EmpRes Scale has nine items and uses a 5-point response scale from 1= almost never to 5 =almost always.

Items:

1. I effectively collaborate with others to handle challenges at work

2. I successfully manage a high workload for long periods of time

3. I resolve crises competently at work

4. I effectively respond to feedback, even criticism

5. I re-evaluate my performance and continually improve the way I do my work

6. I approach managers when I need their support

7. I learn from mistakes at work and improve the way I do my job

8. I use change at work as an opportunity for growth

9. I seek assistance at work when I need specific resources

Appendix T

Output form Mplus 5 factor model

Mplus VERSION 7.31

 DATA:
  FILE = __000001.dat ;
 VARIABLE:
  NAMES =
    Q7 Q8 Q10 Q12 Q11 Q13 Q15 Q17 Q14 Q18 Q23 Q27 Q31 Q33 Q40 Q41 Q43
Q30 Q32 Q36 Q47 Q48 Q50 ;
  MISSING ARE ALL (-9999) ;
  CATEGORICAL =
   Q7
   Q8
   Q10
   Q12
   Q11
   Q13
   Q15
   Q17
   Q14
   Q18
   Q23
   Q27
   Q31
   Q33
   Q40
   Q41
   Q43
   Q30
   Q32
   Q36
   Q47
   Q48
   Q50
   ;
 ANALYSIS:
 estimator=WLSMV ;

 OUTPUT:
  STANDARDIZED ;
  RESIDUAL ;
 modindices(3.84) ;

 MODEL:
 PM by Q7 Q8 Q10 Q12 ;
 WLB by Q11 Q13 Q15 Q17 ;
 TC by Q14 Q18 Q23 Q27 ;
 MS by Q31 Q33 Q40 Q41 Q43 ;
 OVS by Q30 Q32 Q36 Q47 Q48 Q50 ;

SUMMARY OF ANALYSIS

Number of groups   1
Number of observations   911

Number of dependent variables   23
Number of independent variables   0
Number of continuous latent variables   5

Observed dependent variables

  Binary and ordered categorical (ordinal)
   Q7   Q8   Q10   Q12   Q11   Q13
   Q15   Q17   Q14   Q18   Q23   Q27
   Q31   Q33   Q40   Q41   Q43   Q30
   Q32   Q36   Q47   Q48   Q50

Continuous latent variables
   PM   WLB   TC   MS   OVS

Estimator   WLSMV
Maximum number of iterations   1000
Convergence criterion   0.500D-04
Maximum number of steepest descent iterations   20
Maximum number of iterations for H1   2000
Convergence criterion for H1   0.100D-03
Parameterization   DELTA

Input data file(s)
  __000001.dat

Input data format FREE

SUMMARY OF DATA

    Number of missing data patterns   55

COVARIANCE COVERAGE OF DATA

Minimum covariance coverage value   0.100

THE MODEL ESTIMATION TERMINATED NORMALLY

MODEL FIT INFORMATION

Number of Free Parameters   148

Chi-Square Test of Model Fit

      Value   1701.848*

Degrees of Freedom   220
        P-Value   0.0000

*   The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used
    for chi-square difference testing in the regular way. MLM, MLR and WLSM
    chi-square difference testing is described on the Mplus website. MLMV, WLSMV,
    and ULSMV difference testing is done using the DIFFTEST option.

RMSEA (Root Mean Square Error Of Approximation)

        Estimate   0.086
        90 Percent C.I.   0.082 0.090
        Probability RMSEA <= .05   0.000

CFI/TLI

        CFI   0.954
        TLI   0.947

Chi-Square Test of Model Fit for the Baseline Model

        Value   32432.835
        Degrees of Freedom   253
        P-Value   0.0000

WRMR (Weighted Root Mean Square Residual)

        Value   1.949

MODEL RESULTS

		Estimate	S.E.	Two-Tailed Est./S.E.	P-Value
PM	BY				
Q7		1.000	0.000	999.000	999.000
Q8		1.223	0.054	22.603	0.000
Q10		1.364	0.057	23.823	0.000
Q12		1.265	0.055	22.983	0.000
WLB	BY				
Q11		1.000	0.000	999.000	999.000
Q13		1.203	0.035	33.907	0.000
Q15		1.155	0.035	32.866	0.000
Q17		1.315	0.038	34.660	0.000
TC	BY				
Q14		1.000	0.000	999.000	999.000
Q18		1.040	0.030	34.313	0.000
Q23		1.051	0.032	33.135	0.000
Q27		0.995	0.030	33.706	0.000
MS	BY				
Q31		1.000	0.000	999.000	999.000
Q33		0.966	0.014	69.096	0.000

Q40	1.014	0.014	70.151	0.000
Q41	1.006	0.014	73.636	0.000
Q43	0.967	0.014	68.439	0.000

OVS   BY

Q30	1.000	0.000	999.000	999.000
Q32	0.888	0.016	54.018	0.000
Q36	0.909	0.017	53.285	0.000
Q47	0.938	0.015	61.012	0.000
Q48	1.043	0.012	83.940	0.000
Q50	0.893	0.018	50.377	0.000

WLB   WITH

PM	-0.149	0.017	-8.971	0.000

TC   WITH

PM	0.322	0.020	15.825	0.000
WLB	-0.052	0.019	-2.675	0.007

MS   WITH

PM	0.274	0.021	13.287	0.000
WLB	0.021	0.021	0.979	0.328
TC	0.496	0.021	23.936	0.000

OVS   WITH

PM	0.352	0.021	16.795	0.000
WLB	0.064	0.022	2.895	0.004
TC	0.366	0.022	16.812	0.000
MS	0.461	0.020	22.568	0.000

Thresholds

Q7$1	-2.157	0.106	-20.447	0.000
Q7$2	-1.851	0.081	-22.716	0.000
Q7$3	-1.548	0.066	-23.445	0.000
Q7$4	-0.654	0.045	-14.499	0.000
Q7$5	0.357	0.043	8.363	0.000
Q8$1	-1.917	0.086	-22.363	0.000
Q8$2	-1.522	0.065	-23.449	0.000
Q8$3	-1.267	0.056	-22.469	0.000
Q8$4	-0.612	0.045	-13.713	0.000
Q8$5	0.218	0.042	5.179	0.000
Q10$1	-1.439	0.062	-23.286	0.000
Q10$2	-0.891	0.048	-18.467	0.000
Q10$3	-0.474	0.043	-10.918	0.000
Q10$4	0.254	0.042	6.040	0.000
Q10$5	0.954	0.049	19.349	0.000
Q12$1	-1.232	0.056	-22.157	0.000
Q12$2	-0.818	0.047	-17.303	0.000
Q12$3	-0.446	0.043	-10.296	0.000
Q12$4	0.279	0.042	6.592	0.000
Q12$5	1.126	0.053	21.256	0.000
Q11$1	-0.692	0.046	-15.201	0.000
Q11$2	0.025	0.042	0.599	0.549
Q11$3	0.713	0.046	15.582	0.000
Q11$4	0.923	0.049	18.899	0.000
Q11$5	1.297	0.057	22.634	0.000
Q13$1	-0.587	0.044	-13.199	0.000

Q13$2	-0.105	0.042	-2.498	0.012
Q13$3	0.441	0.043	10.192	0.000
Q13$4	0.714	0.046	15.574	0.000
Q13$5	0.951	0.049	19.246	0.000
Q15$1	-1.167	0.054	-21.597	0.000
Q15$2	-0.577	0.044	-12.967	0.000
Q15$3	0.018	0.042	0.434	0.664
Q15$4	0.483	0.044	11.070	0.000
Q15$5	0.892	0.048	18.394	0.000
Q17$1	-0.928	0.049	-18.933	0.000
Q17$2	-0.376	0.043	-8.779	0.000
Q17$3	0.100	0.042	2.400	0.016
Q17$4	0.499	0.044	11.413	0.000
Q17$5	0.787	0.047	16.808	0.000
Q14$1	-1.896	0.085	-22.391	0.000
Q14$2	-1.434	0.062	-23.169	0.000
Q14$3	-1.007	0.051	-19.930	0.000
Q14$4	-0.306	0.043	-7.197	0.000
Q14$5	0.555	0.044	12.537	0.000
Q18$1	-1.675	0.072	-23.235	0.000
Q18$2	-1.150	0.054	-21.415	0.000
Q18$3	-0.757	0.047	-16.255	0.000
Q18$4	-0.125	0.042	-2.974	0.003
Q18$5	0.779	0.047	16.631	0.000
Q23$1	-1.864	0.083	-22.574	0.000
Q23$2	-1.404	0.061	-23.069	0.000
Q23$3	-1.030	0.051	-20.209	0.000
Q23$4	-0.251	0.042	-5.934	0.000
Q23$5	0.621	0.045	13.836	0.000
Q27$1	-1.988	0.091	-21.778	0.000
Q27$2	-1.592	0.068	-23.359	0.000
Q27$3	-1.190	0.055	-21.788	0.000
Q27$4	-0.455	0.043	-10.478	0.000
Q27$5	0.400	0.043	9.289	0.000
Q31$1	-1.445	0.062	-23.250	0.000
Q31$2	-1.062	0.052	-20.614	0.000
Q31$3	-0.759	0.046	-16.354	0.000
Q31$4	-0.036	0.042	-0.866	0.387
Q31$5	0.789	0.047	16.853	0.000
Q33$1	-1.241	0.056	-22.268	0.000
Q33$2	-0.889	0.048	-18.424	0.000
Q33$3	-0.538	0.044	-12.237	0.000
Q33$4	-0.028	0.042	-0.665	0.506
Q33$5	0.791	0.047	16.899	0.000
Q40$1	-1.516	0.065	-23.299	0.000
Q40$2	-1.155	0.054	-21.464	0.000
Q40$3	-0.862	0.048	-17.928	0.000
Q40$4	-0.156	0.042	-3.709	0.000
Q40$5	0.753	0.047	16.192	0.000
Q41$1	-1.357	0.059	-22.814	0.000
Q41$2	-1.046	0.051	-20.331	0.000
Q41$3	-0.770	0.047	-16.460	0.000
Q41$4	-0.069	0.042	-1.640	0.101
Q41$5	0.711	0.046	15.448	0.000
Q43$1	-1.403	0.061	-23.039	0.000
Q43$2	-1.048	0.051	-20.389	0.000
Q43$3	-0.678	0.046	-14.881	0.000

	Estimate	S.E.	Est./S.E.	P-Value
Q43$4	0.014	0.042	0.334	0.738
Q43$5	0.831	0.048	17.460	0.000
Q30$1	-1.025	0.051	-20.216	0.000
Q30$2	-0.432	0.043	-10.011	0.000
Q30$3	0.078	0.042	1.862	0.063
Q30$4	0.710	0.046	15.519	0.000
Q30$5	1.766	0.076	23.094	0.000
Q32$1	-0.858	0.048	-17.964	0.000
Q32$2	-0.317	0.042	-7.467	0.000
Q32$3	0.194	0.042	4.618	0.000
Q32$4	0.878	0.048	18.265	0.000
Q32$5	1.728	0.074	23.233	0.000
Q36$1	-1.005	0.050	-19.953	0.000
Q36$2	-0.361	0.043	-8.439	0.000
Q36$3	0.142	0.042	3.395	0.001
Q36$4	1.067	0.052	20.667	0.000
Q36$5	2.078	0.098	21.130	0.000
Q47$1	-0.718	0.046	-15.638	0.000
Q47$2	-0.096	0.042	-2.298	0.022
Q47$3	0.345	0.043	8.079	0.000
Q47$4	1.056	0.051	20.541	0.000
Q47$5	1.865	0.083	22.604	0.000
Q48$1	-0.887	0.048	-18.360	0.000
Q48$2	-0.348	0.043	-8.145	0.000
Q48$3	0.093	0.042	2.232	0.026
Q48$4	0.879	0.048	18.240	0.000
Q48$5	1.820	0.080	22.832	0.000
Q50$1	-0.330	0.042	-7.760	0.000
Q50$2	0.249	0.042	5.908	0.000
Q50$3	0.785	0.047	16.820	0.000
Q50$4	1.455	0.062	23.328	0.000
Q50$5	2.373	0.130	18.248	0.000

Variances
PM	0.414	0.032	12.910	0.000
WLB	0.488	0.027	17.812	0.000
TC	0.601	0.027	22.045	0.000
MS	0.769	0.017	45.030	0.000
OVS	0.783	0.016	49.632	0.000

STANDARDIZED MODEL RESULTS

STDYX Standardization

			Two-Tailed	
	Estimate	S.E.	Est./S.E.	P-Value

PM   BY
Q7	0.644	0.025	25.820	0.000
Q8	0.787	0.021	37.852	0.000
Q10	0.878	0.015	60.312	0.000
Q12	0.814	0.016	51.473	0.000

WLB   BY
Q11	0.698	0.020	35.624	0.000

Q13	0.840	0.013	63.059	0.000
Q15	0.806	0.014	56.867	0.000
Q17	0.918	0.010	93.159	0.000

TC   BY

Q14	0.776	0.018	44.090	0.000
Q18	0.806	0.017	47.621	0.000
Q23	0.815	0.017	47.498	0.000
Q27	0.771	0.017	44.109	0.000

MS   BY

Q31	0.877	0.010	90.061	0.000
Q33	0.847	0.012	72.826	0.000
Q40	0.889	0.010	88.591	0.000
Q41	0.882	0.009	93.383	0.000
Q43	0.848	0.011	74.311	0.000

OVS   BY

Q30	0.885	0.009	99.264	0.000
Q32	0.786	0.015	53.371	0.000
Q36	0.804	0.014	57.055	0.000
Q47	0.830	0.012	67.819	0.000
Q48	0.923	0.008	115.863	0.000
Q50	0.791	0.015	51.665	0.000

WLB   WITH

PM	-0.332	0.032	-10.463	0.000

TC   WITH

PM	0.644	0.022	28.867	0.000
WLB	-0.095	0.035	-2.702	0.007

MS   WITH

PM	0.485	0.028	17.389	0.000
WLB	0.034	0.035	0.980	0.327
TC	0.730	0.019	38.150	0.000

OVS   WITH

PM	0.618	0.023	27.120	0.000
WLB	0.104	0.036	2.929	0.003
TC	0.534	0.026	20.350	0.000
MS	0.594	0.022	26.566	0.000

Thresholds

Q7$1	-2.157	0.106	-20.447	0.000
Q7$2	-1.851	0.081	-22.716	0.000
Q7$3	-1.548	0.066	-23.445	0.000
Q7$4	-0.654	0.045	-14.499	0.000
Q7$5	0.357	0.043	8.363	0.000
Q8$1	-1.917	0.086	-22.363	0.000
Q8$2	-1.522	0.065	-23.449	0.000
Q8$3	-1.267	0.056	-22.469	0.000
Q8$4	-0.612	0.045	-13.713	0.000
Q8$5	0.218	0.042	5.179	0.000
Q10$1	-1.439	0.062	-23.286	0.000
Q10$2	-0.891	0.048	-18.467	0.000
Q10$3	-0.474	0.043	-10.918	0.000

Q10$4	0.254	0.042	6.040	0.000
Q10$5	0.954	0.049	19.349	0.000
Q12$1	-1.232	0.056	-22.157	0.000
Q12$2	-0.818	0.047	-17.303	0.000
Q12$3	-0.446	0.043	-10.296	0.000
Q12$4	0.279	0.042	6.592	0.000
Q12$5	1.126	0.053	21.256	0.000
Q11$1	-0.692	0.046	-15.201	0.000
Q11$2	0.025	0.042	0.599	0.549
Q11$3	0.713	0.046	15.582	0.000
Q11$4	0.923	0.049	18.899	0.000
Q11$5	1.297	0.057	22.634	0.000
Q13$1	-0.587	0.044	-13.199	0.000
Q13$2	-0.105	0.042	-2.498	0.012
Q13$3	0.441	0.043	10.192	0.000
Q13$4	0.714	0.046	15.574	0.000
Q13$5	0.951	0.049	19.246	0.000
Q15$1	-1.167	0.054	-21.597	0.000
Q15$2	-0.577	0.044	-12.967	0.000
Q15$3	0.018	0.042	0.434	0.664
Q15$4	0.483	0.044	11.070	0.000
Q15$5	0.892	0.048	18.394	0.000
Q17$1	-0.928	0.049	-18.933	0.000
Q17$2	-0.376	0.043	-8.779	0.000
Q17$3	0.100	0.042	2.400	0.016
Q17$4	0.499	0.044	11.413	0.000
Q17$5	0.787	0.047	16.808	0.000
Q14$1	-1.896	0.085	-22.391	0.000
Q14$2	-1.434	0.062	-23.169	0.000
Q14$3	-1.007	0.051	-19.930	0.000
Q14$4	-0.306	0.043	-7.197	0.000
Q14$5	0.555	0.044	12.537	0.000
Q18$1	-1.675	0.072	-23.235	0.000
Q18$2	-1.150	0.054	-21.415	0.000
Q18$3	-0.757	0.047	-16.255	0.000
Q18$4	-0.125	0.042	-2.974	0.003
Q18$5	0.779	0.047	16.631	0.000
Q23$1	-1.864	0.083	-22.574	0.000
Q23$2	-1.404	0.061	-23.069	0.000
Q23$3	-1.030	0.051	-20.209	0.000
Q23$4	-0.251	0.042	-5.934	0.000
Q23$5	0.621	0.045	13.836	0.000
Q27$1	-1.988	0.091	-21.778	0.000
Q27$2	-1.592	0.068	-23.359	0.000
Q27$3	-1.190	0.055	-21.788	0.000
Q27$4	-0.455	0.043	-10.478	0.000
Q27$5	0.400	0.043	9.289	0.000
Q31$1	-1.445	0.062	-23.250	0.000
Q31$2	-1.062	0.052	-20.614	0.000
Q31$3	-0.759	0.046	-16.354	0.000
Q31$4	-0.036	0.042	-0.866	0.387
Q31$5	0.789	0.047	16.853	0.000
Q33$1	-1.241	0.056	-22.268	0.000
Q33$2	-0.889	0.048	-18.424	0.000
Q33$3	-0.538	0.044	-12.237	0.000
Q33$4	-0.028	0.042	-0.665	0.506
Q33$5	0.791	0.047	16.899	0.000

Q40$1	-1.516	0.065	-23.299	0.000
Q40$2	-1.155	0.054	-21.464	0.000
Q40$3	-0.862	0.048	-17.928	0.000
Q40$4	-0.156	0.042	-3.709	0.000
Q40$5	0.753	0.047	16.192	0.000
Q41$1	-1.357	0.059	-22.814	0.000
Q41$2	-1.046	0.051	-20.331	0.000
Q41$3	-0.770	0.047	-16.460	0.000
Q41$4	-0.069	0.042	-1.640	0.101
Q41$5	0.711	0.046	15.448	0.000
Q43$1	-1.403	0.061	-23.039	0.000
Q43$2	-1.048	0.051	-20.389	0.000
Q43$3	-0.678	0.046	-14.881	0.000
Q43$4	0.014	0.042	0.334	0.738
Q43$5	0.831	0.048	17.460	0.000
Q30$1	-1.025	0.051	-20.216	0.000
Q30$2	-0.432	0.043	-10.011	0.000
Q30$3	0.078	0.042	1.862	0.063
Q30$4	0.710	0.046	15.519	0.000
Q30$5	1.766	0.076	23.094	0.000
Q32$1	-0.858	0.048	-17.964	0.000
Q32$2	-0.317	0.042	-7.467	0.000
Q32$3	0.194	0.042	4.618	0.000
Q32$4	0.878	0.048	18.265	0.000
Q32$5	1.728	0.074	23.233	0.000
Q36$1	-1.005	0.050	-19.953	0.000
Q36$2	-0.361	0.043	-8.439	0.000
Q36$3	0.142	0.042	3.395	0.001
Q36$4	1.067	0.052	20.667	0.000
Q36$5	2.078	0.098	21.130	0.000
Q47$1	-0.718	0.046	-15.638	0.000
Q47$2	-0.096	0.042	-2.298	0.022
Q47$3	0.345	0.043	8.079	0.000
Q47$4	1.056	0.051	20.541	0.000
Q47$5	1.865	0.083	22.604	0.000
Q48$1	-0.887	0.048	-18.360	0.000
Q48$2	-0.348	0.043	-8.145	0.000
Q48$3	0.093	0.042	2.232	0.026
Q48$4	0.879	0.048	18.240	0.000
Q48$5	1.820	0.080	22.832	0.000
Q50$1	-0.330	0.042	-7.760	0.000
Q50$2	0.249	0.042	5.908	0.000
Q50$3	0.785	0.047	16.820	0.000
Q50$4	1.455	0.062	23.328	0.000
Q50$5	2.373	0.130	18.248	0.000

Variances
PM	1.000	0.000	999.000	999.000
WLB	1.000	0.000	999.000	999.000
TC	1.000	0.000	999.000	999.000
MS	1.000	0.000	999.000	999.000
OVS	1.000	0.000	999.000	999.000

R-SQUARE

Observed Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value	Residual Variance
Q7	0.414	0.032	12.910	0.000	0.586
Q8	0.619	0.033	18.926	0.000	0.381
Q10	0.770	0.026	30.156	0.000	0.230
Q12	0.663	0.026	25.737	0.000	0.337
Q11	0.488	0.027	17.812	0.000	0.512
Q13	0.706	0.022	31.529	0.000	0.294
Q15	0.650	0.023	28.434	0.000	0.350
Q17	0.843	0.018	46.579	0.000	0.157
Q14	0.601	0.027	22.045	0.000	0.399
Q18	0.650	0.027	23.810	0.000	0.350
Q23	0.664	0.028	23.749	0.000	0.336
Q27	0.595	0.027	22.055	0.000	0.405
Q31	0.769	0.017	45.030	0.000	0.231
Q33	0.717	0.020	36.413	0.000	0.283
Q40	0.791	0.018	44.296	0.000	0.209
Q41	0.777	0.017	46.692	0.000	0.223
Q43	0.719	0.019	37.155	0.000	0.281
Q30	0.783	0.016	49.632	0.000	0.217
Q32	0.617	0.023	26.686	0.000	0.383
Q36	0.647	0.023	28.528	0.000	0.353
Q47	0.689	0.020	33.910	0.000	0.311
Q48	0.852	0.015	57.932	0.000	0.148
Q50	0.625	0.024	25.833	0.000	0.375

Residuals for Covariances/Correlations/Residual Correlations

	Q7	Q8	Q10	Q12	Q11
Q7					
Q8	0.174				
Q10	-0.104	-0.161			
Q12	-0.090	-0.082	0.044		
Q11	-0.083	-0.121	0.033	-0.160	
Q13	-0.056	-0.131	0.089	-0.053	-0.025
Q15	0.057	-0.015	0.224	0.103	-0.022
Q17	-0.029	-0.107	0.180	0.019	-0.004
Q14	0.023	0.136	-0.006	0.025	-0.127
Q18	0.063	0.082	0.024	0.018	-0.094
Q23	-0.036	0.001	-0.083	-0.090	0.000
Q27	-0.034	-0.021	-0.108	-0.108	0.057
Q31	-0.003	0.034	0.003	-0.026	-0.042
Q33	-0.040	0.010	0.039	-0.039	-0.030
Q40	0.033	0.040	-0.007	-0.010	-0.121
Q41	-0.066	-0.038	-0.021	-0.079	-0.015
Q43	0.068	0.064	0.023	-0.010	-0.099
Q30	-0.029	-0.089	0.137	0.094	-0.052
Q32	-0.009	-0.033	0.092	0.079	-0.097
Q36	-0.097	-0.104	0.037	-0.003	-0.059
Q47	-0.146	-0.197	-0.035	-0.057	0.076
Q48	-0.106	-0.169	0.023	-0.027	0.023
Q50	-0.081	-0.058	0.096	0.038	-0.031

Residuals for Covariances/Correlations/Residual Correlations

	Q13	Q15	Q17	Q14	Q18
Q15	0.009				
Q17	-0.002	0.014			
Q14	-0.152	-0.060	-0.097		
Q18	-0.091	0.000	-0.066	0.033	
Q23	0.074	0.158	0.089	-0.054	-0.127
Q27	0.062	0.181	0.098	0.018	-0.023
Q31	-0.037	0.106	-0.031	-0.007	0.004
Q33	-0.036	0.102	-0.012	0.034	0.023
Q40	-0.099	0.083	-0.060	-0.028	-0.027
Q41	0.022	0.171	0.059	-0.041	-0.065
Q43	-0.061	0.095	-0.031	-0.017	0.004
Q30	-0.036	0.089	-0.025	-0.001	0.058
Q32	-0.104	0.034	-0.070	0.017	0.094
Q36	-0.052	0.031	-0.072	-0.002	0.036
Q47	0.021	0.197	0.031	-0.156	-0.044
Q48	-0.036	0.129	0.005	-0.111	-0.043
Q50	-0.078	0.059	-0.083	-0.054	0.024

Residuals for Covariances/Correlations/Residual Correlations

	Q23	Q27	Q31	Q33	Q40
Q27	0.083				
Q31	0.022	-0.007			
Q33	0.015	-0.002	0.012		
Q40	0.029	-0.041	-0.020	-0.019	
Q41	0.043	-0.022	-0.021	-0.002	0.026
Q43	0.030	-0.006	0.007	-0.051	0.009
Q30	0.065	0.045	0.042	0.042	-0.005
Q32	0.065	0.044	0.064	0.028	0.024
Q36	0.038	0.003	0.059	0.078	0.033
Q47	-0.043	-0.020	-0.055	-0.059	-0.049
Q48	-0.029	-0.027	-0.030	-0.011	-0.026
Q50	-0.028	-0.024	0.010	0.020	-0.015

Residuals for Covariances/Correlations/Residual Correlations

	Q41	Q43	Q30	Q32	Q36
Q43	0.016				
Q30	0.000	-0.012			
Q32	-0.003	0.012	0.023		
Q36	0.027	-0.011	0.006	-0.017	
Q47	-0.032	-0.067	-0.075	-0.071	-0.049
Q48	-0.011	-0.039	-0.041	-0.064	-0.014
Q50	-0.020	-0.049	-0.006	-0.012	0.029

Residuals for Covariances/Correlations/Residual Correlations

	Q47	Q48	Q50
Q48	0.077		
Q50	0.011	-0.012	

MODEL MODIFICATION INDICES

NOTE: Modification indices for direct effects of observed dependent variables
regressed on covariates and residual covariances among observed dependent
variables may not be included. To include these, request MODINDICES (ALL).

Minimum M.I. value for printing the modification index   3.840

M.I.   E.P.C. Std E.P.C. StdYX E.P.C.

BY Statements

		M.I.	E.P.C.	Std E.P.C.	StdYX E.P.C.
PM	BY Q11	64.709	-0.186	-0.120	-0.120
PM	BY Q13	38.644	-0.154	-0.099	-0.099
PM	BY Q15	218.147	0.355	0.228	0.228
PM	BY Q14	24.561	0.248	0.160	0.160
PM	BY Q18	52.935	0.361	0.232	0.232
PM	BY Q23	29.529	-0.282	-0.182	-0.182
PM	BY Q27	55.959	-0.393	-0.253	-0.253
PM	BY Q41	29.170	-0.192	-0.123	-0.123
PM	BY Q30	50.677	0.273	0.176	0.176
PM	BY Q32	56.096	0.293	0.188	0.188
PM	BY Q47	119.361	-0.444	-0.286	-0.286
PM	BY Q48	39.876	-0.251	-0.162	-0.162
WLB	BY Q7	15.900	-0.122	-0.085	-0.085
WLB	BY Q8	79.655	-0.274	-0.191	-0.191
WLB	BY Q10	160.372	0.408	0.285	0.285
WLB	BY Q14	91.492	-0.286	-0.200	-0.200
WLB	BY Q18	27.995	-0.157	-0.110	-0.110
WLB	BY Q23	57.512	0.235	0.164	0.164
WLB	BY Q27	59.725	0.240	0.168	0.168
WLB	BY Q40	10.768	-0.096	-0.067	-0.067
WLB	BY Q41	28.934	0.157	0.110	0.110
WLB	BY Q43	7.366	-0.078	-0.054	-0.054
WLB	BY Q30	12.849	-0.103	-0.072	-0.072
WLB	BY Q32	35.300	-0.167	-0.117	-0.117
WLB	BY Q47	75.570	0.247	0.172	0.172
WLB	BY Q48	18.637	0.124	0.087	0.087
WLB	BY Q50	5.711	-0.070	-0.049	-0.049
TC	BY Q8	11.603	0.141	0.109	0.109
TC	BY Q12	18.732	-0.186	-0.144	-0.144
TC	BY Q11	60.154	-0.138	-0.107	-0.107
TC	BY Q13	36.435	-0.115	-0.089	-0.089
TC	BY Q15	207.374	0.264	0.205	0.205
TC	BY Q33	3.944	0.090	0.070	0.070
TC	BY Q41	17.217	-0.194	-0.151	-0.151
TC	BY Q30	40.909	0.185	0.144	0.144
TC	BY Q32	55.618	0.220	0.171	0.171
TC	BY Q36	11.444	0.099	0.077	0.077
TC	BY Q47	97.739	-0.301	-0.233	-0.233
TC	BY Q48	43.775	-0.198	-0.154	-0.154
MS	BY Q7	6.488	-0.068	-0.059	-0.059
MS	BY Q10	30.992	0.161	0.141	0.141
MS	BY Q12	11.442	-0.094	-0.082	-0.082
MS	BY Q11	56.741	-0.114	-0.100	-0.100

MS	BY Q13	36.389	-0.098	-0.086	-0.086
MS	BY Q15	214.245	0.229	0.201	0.201
MS	BY Q14	23.108	-0.216	-0.190	-0.190
MS	BY Q23	37.778	0.275	0.241	0.241
MS	BY Q30	16.775	0.106	0.093	0.093
MS	BY Q32	27.553	0.138	0.121	0.121
MS	BY Q36	18.379	0.109	0.096	0.096
MS	BY Q47	57.771	-0.205	-0.180	-0.180
MS	BY Q48	22.983	-0.127	-0.111	-0.111
OVS	BY Q7	46.033	-0.206	-0.182	-0.182
OVS	BY Q8	104.767	-0.321	-0.284	-0.284
OVS	BY Q10	175.152	0.415	0.368	0.368
OVS	BY Q11	47.784	-0.103	-0.091	-0.091
OVS	BY Q13	38.877	-0.100	-0.088	-0.088
OVS	BY Q15	212.910	0.225	0.199	0.199
OVS	BY Q17	4.207	-0.034	-0.030	-0.030
OVS	BY Q14	28.553	-0.160	-0.142	-0.142
OVS	BY Q18	9.162	0.089	0.079	0.079
OVS	BY Q23	6.962	0.079	0.070	0.070
OVS	BY Q31	3.883	0.052	0.046	0.046
OVS	BY Q33	5.094	0.059	0.052	0.052

Appendix U

Cognitive Pilot Paired Comparisons Items Response Sheet One

Please read the following seven items and describe what that item means to
you. This study is about your interpretation of the items, so that I can understand if they are
the right terms to use in my final study. There are no right or wrong answers, I am interested
in your views.

1. Work life balance

2. Meaningful work

3. Staff training and development

4. Team support and collaboration

5. Organisational and supervisor support

6. Involvement and transparency

7. Respect, equity and recognition

Paired Comparisons Items Response Sheet Two

Please read the following seven descriptions of different work environments. In
each case, I would like you to write down what you would title/name each description.There
are no right or wrong answer, I am interested in hearing your interpretation of each
description.

1. A work environment where there is recognition of the need for balance between the
demands of work, family and personal life.

2. A work environment where employees value the job they are doing and feel proud of
the work the organisation/ their team is trying to accomplish. Overall employees feel
connected to their work.

3. A work environment where employees receive encouragement and support in the
development of their interpersonal, emotional and job skills.

4. A work environment where colleagues are supportive of each other and where employees' within a team work/ cooperate to reach a common goal. Overall there are positive social relations within the team.

5. A work environment where employees know that both their supervisor and organisation support them through challenges and change. Additionally, employees feel they can approach their supervisor for work related advice or support.

6. A work environment that is characterised by trust, honesty, and inclusion/engagement. Employees are included in discussions about how their work is done and how important decisions are made. Additionally, leadership is honest and open about impending changes.

7. A work environment where there is appropriate acknowledgement and appreciation of employees' efforts in a fair and timely manner. Additionally, Leadership express appreciation to employees for hard work and achievement as a means of encouraging the employee to perform well.

Appendix V

Case V Formulae

Calculation of (within respondent) Internal Consistency (K)

K value formula:

Sum of squares of row sums

$$(R-r)^2 = \sum R^2 \frac{N(N-1)^2}{4}$$

Where R = row sum (the number of times an item was selected as more salient that its comparison item), r = mean of R, N = number of items in set which then relates to the coefficient of consistence k calculation:

$$K = \frac{12\sum(R-r)^2}{N(N^2-1)}$$

***Chi²* test formula:**

$$\chi^2 = \frac{8}{N-4}\left[\frac{4C^N_3 - d + 1}{2}\right] + df$$

Where;
$N=9$
$df = \frac{N(N-1)(N-2)}{(N-4)^2}$
$C^N_3 = \frac{N!}{3!N-3!}$

Calculation of Between Respondent Concordance (W)

Tied ranks* T *formula:

$$T = \frac{\sum(t^3-t)}{12}$$

Sum of squares of rank sums S formula:
$$S = \sum R_j - \frac{\sum R_j}{N}^2$$

Where:

R_j = the rank sum of the jth individual

Coefficient of concordance W formula:

$$W = S1/12m^2(N3-N) - m\sum T$$

Where:

m= number of respondents

Chi² formula to test for significance:

$$\chi^2 = mN-1W$$

Where;

m= number of response sets
N=Number of items
W=concordance